Sakata, Shozo ed. New Trends and Challenges for Agriculture in the Mekong Region: From Food Security to Development of Agri-Businesses, BRC Research Report, Bangkok Research Center, JETRO Bangkok/IDE-JETRO, 2019.

Chapter 2
Factors and challenges for export promotion of Japanese agricultural products and food

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Abstract

The aim of this paper is to consider the factors and challenges for export promotion of Japanese agricultural products and food. At present, the Japanese agricultural sector has been regarded as a sort of declining industry because it represents only 1% of GDP and 4% of the employment. However, we can find a bright movement in agriculture in terms of its exports in recent years. The export of agricultural products and food by Japan recorded the highest ever level for 5 consecutive years since 2013. This movement was promoted by the government's comprehensive policies and the rapid expansion of the East Asian market in the quality and quantity demand in recent years. Furthermore, by using digital technology, the potential for the expansion of export will increase. Since Japanese agricultural products and food have been regarded as having weak competitiveness, it is useful to examine the factors and challenges for export expansion of Japanese agricultural products and food, when considering the export promotion by the countries in Indochina, including Thailand and Vietnam.

1. Introduction: Why should we pay attention to the export performance of Japanese agricultural products and food?

This paper examines the factors and challenges for export promotion of Japanese agricultural products and food. As generally known, the GDP share by the agricultural sector has decreased with economic development, and Japan's agricultural sector has significantly reduced its share since the war. Now the share of GDP is only 1% (Figure 1). Similarly in Thailand and Vietnam, although their shares are still at a higher level, it is also on a downward trend. Employment by the agricultural sector in Japan has decreased to less than 2 million people in 2016, 3.5% of the total employment level. This trend is similar in Thailand and Vietnam (Figure 2). Figure 3, shows the breakdown of

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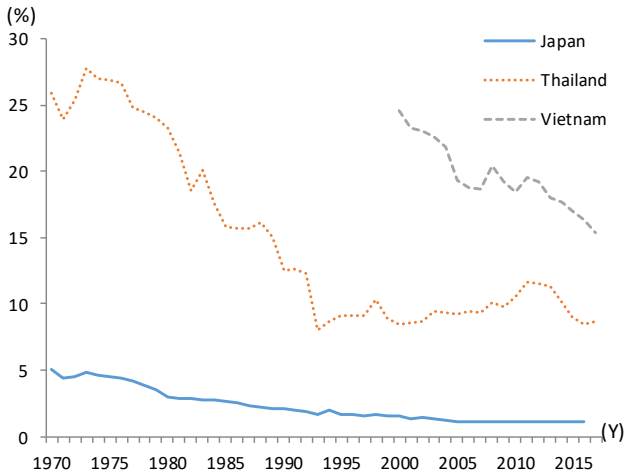
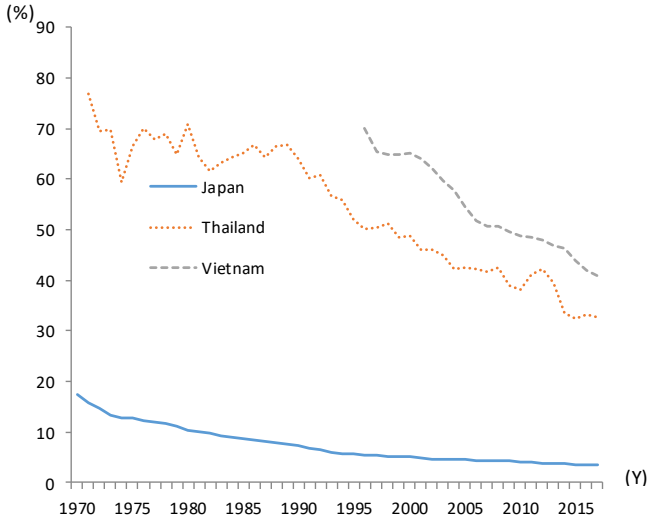
agricultural employment by age group. We see that more than half of the labor force is elderly people aged 65 and older. It is not an exaggeration to say that agriculture in Japan is supported by the elderly.

Figure 1 Agriculture, value added (% of GDP)



Source: World Development Indicators, ADB Key Indicators

Figure 2 Employment in agriculture (% of total employment)



Source: World Development Indicators, ADB Key Indicators

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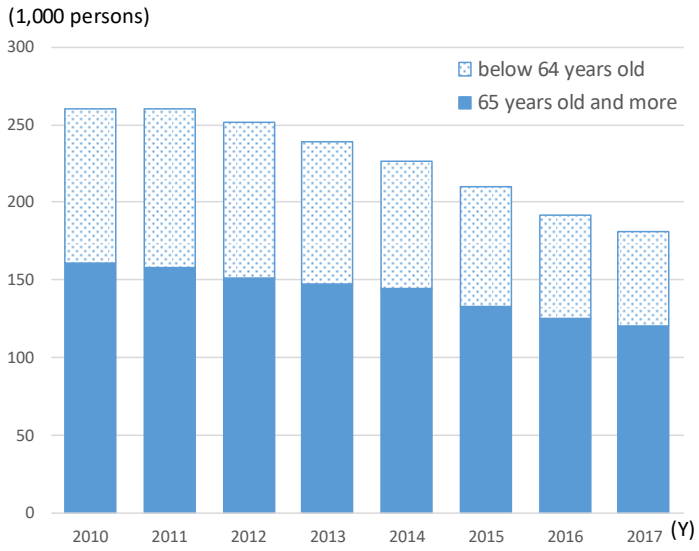
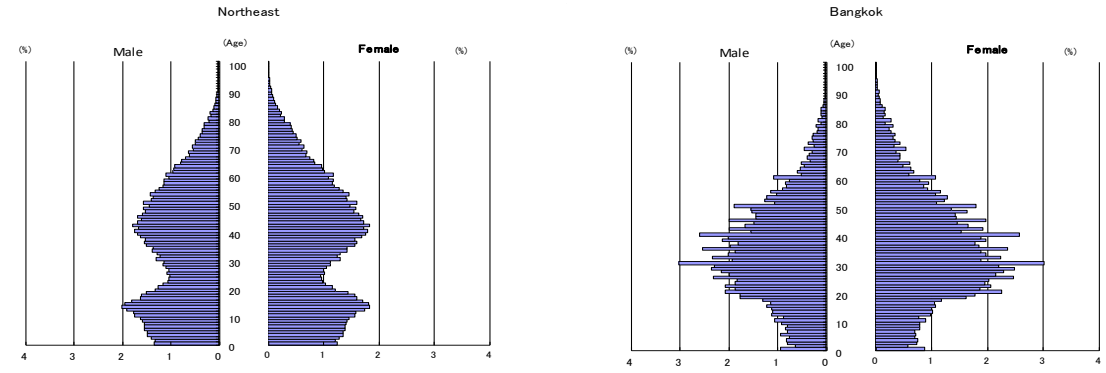
Figure 3 Labor force in agriculture by age groups



Source: Ministry of Agriculture, Forestry and Fishers, Japan

However, the aging of the agricultural labor force should not be regarded as a problem peculiar to Japan. In Thailand and Vietnam as well, it is thought that the remarkable movement of young people to the cities will create rural areas' aging in the future. Figure 4 shows the population pyramid in Bangkok and northeast Thailand. We can find the population composition in northeast Thailand is aging because the younger population is migrating from there to Bangkok.

Figure 4 Population Pyramids in North East and Bangkok in Thailand



Source: The *2010 Population and Housing Census, Thailand*

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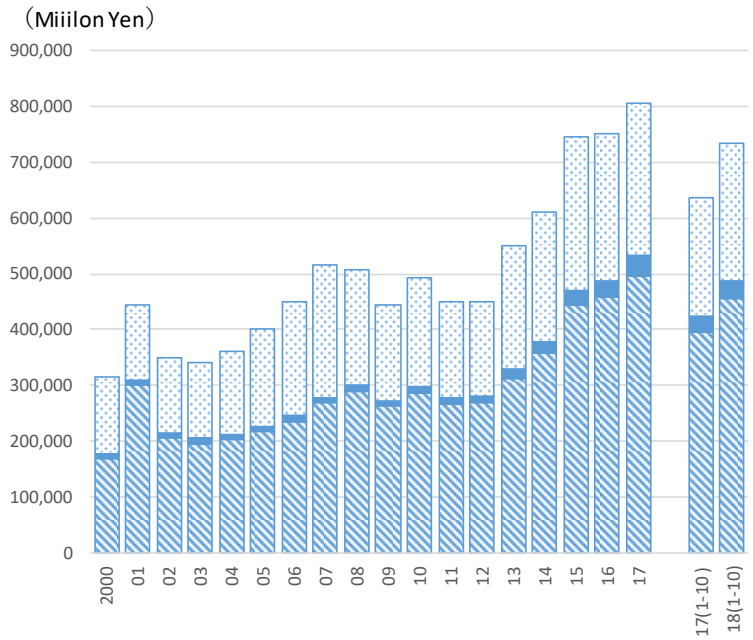
Taking these points into account, understanding what has happened in the agricultural sector in Japan is effective when considering the potential of agriculture in Indochina, including Thailand and Vietnam. That is why this paper focuses on the export of agricultural products and food by Japan. Japanese exports have been regarded to have weak international competitiveness for a long time, but it is worth noting that such exports are increasing.

Figure 5 shows the export of agricultural products and food. This has been on an increasing trend since 2013, and the latest update shows a record high for the fifth consecutive year. In 2017, it increased by 7.6% from the previous year to 807.1 billion yen. As the figures shows, the trend since 2013 is different from the previous years.

Figure 5 Export of Agricultural Products and Foods of Japan



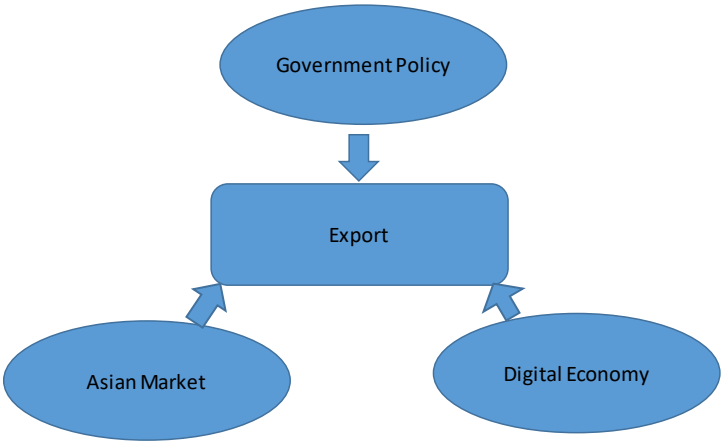
Source: Ministry of Agriculture, Forestry and Fishers, Japan

In response to this trend, the Japanese government has rescheduled the target year from the initial 2020 to 2019, when the export value will exceed 1 trillion yen. Promoting agricultural and rural development through the export of agricultural products and food from Japan is an important viewpoint for both the developed and developing countries, and is widely debated as a food value chain[2].

[2] http://www.fao.org/sustainable-food-value-chains/home/en/, http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/TC/CA/WP(201

This paper examines the factors and challenges for export expansion of Japanese agricultural products and food from the following three viewpoints (Figure 6). First, is that the Japanese Government has actively begun to strengthen the competitiveness of the agriculture sector. Second, the East Asian markets surrounding Japan have expanded rapidly. Third, the digital technology contributing to agricultural development has developed rapidly.

Figure 6 Three Factors to Promote Exports



Source: Author

2. Government Policy

2.1 Measures for promoting agricultural products and food

Expansion of exports of agricultural products and food by Japan is an essential element for the sustainable growth of the Japanese economy, not to mention related business. Under such perception, the Japanese Government has implemented various export promotion initiatives using the expression "Aggressive agriculture" since 2013 (Table 1).

8)2/FINAL&docLanguage=En, (2019 February, 7th access)

Table 1 Policies of Export Promotion of Agriculture products and Foods in Japan

Year	
2013	・"FBI Strategy": To promote agricultural exports from points of view as made in Japan, maid from Japan and maid by Japan.
2014	・ "Global Food Value Strategy".
2016	・"Strategy for strengthening export of agriculture, forestry and fishery industry". ・ "Agriculture, Forestry and Fisheries Export Infrastructure Development Program".
2017	・Establish "Japan Food Overseas Promotion Center (JFOODO)"
2018	・Establishment of a website "GFP (Global, Farmers / Fishermen / Foresters / Food Manufacturers / Project)": through the Internet, to communityizing related producers, provide optimal information, support the formation of production areas and match with suppliers and so on. ・Establish a joint team for promoting agricultural products and foods Japan by Misnistry of Agriculture, Forestry and Fishery and Ministry of Economy, Trade and Industry.

Source: Minisitry of Agriculture, Forestry and Fishers, Japan

The Japanese Government's policies to promote the export of agricultural products and food started with the policy named the "FBI strategy" in April 2013. This covers the export of agricultural products and food (made in Japan) in terms of the utilization of Japanese ingredients in the world's cooking field (made from Japan), overseas expansion of Japan's "food culture and food industry" (made by Japan). The FBI is the acronym for From, By, and In among them.

These measures were subsequently handed over to the "Global Food Value Chain Strategy" (June 2014). This is intended to link the production of agricultural products and food to enhance the added value at each stage of production, processing, distribution, and consumption. This was learned from the value chain of competitive manufacturing industries (Ministry of Agriculture, Forestry and Fisheries 2017)[3].

2.2 Aggressive Agiriculture

Thereafter, as the negotiations of the TPP (Pacific Rim Partnership Agreement) progressed, strengthening export competitiveness has been actively discussed from the

[3] Ministry of Agriculture, Forestry and Fisheries, 2017, Global Food Value Chain Strategy, http://www.maff.go.jp/e/policies/inter_relate/gfvc/attach/pdf/180606-17.pdf, (2019 February, 7th access)

standpoint that the agricultural policy should shift from defensive to aggressive. In May 2016, the government compiled the "Strategy to Strengthen the Export Capability of the Agriculture, Forestry and Fishery Industries"[4]. This divides the fields that the public and private sectors will address into the following five categories, in order to formulate and implement detailed measures:

1) Market information gathering and maintenance
2) Development of sales channels
3) Improvement and facilitation of the physical distribution system
4) Development of the export environment
5) Establishment of a promotion system

At the same time, the time schedule was published. On the other hand, regarding overseas markets, the government released data for the market conditions of major exporting countries and regions on its official website as the "Strategies for Expansion of Agriculture, Forestry, Fisheries and Food by Country and Region" and "Direction for Strengthening Export Capabilities by Item". For example, regarding the export of rice, some ideas are described, such as "Diversification of export routes to China, diversification of products such as high value-added rice and packed rice, and efforts to create export production areas through the introduction of high-yield varieties". In November 2016, the "Agriculture, Forestry and Fisheries Export Infrastructure Development Program" was formulated for development of the infrastructure for hardware and software to support implementation of the strategy.

2.3 Create a network of export entities

In April 2017, the "Japan Food Overseas Promotion Center (JFOODO)" was established to strengthen the branding and promotion for the export of agricultural products and foods[5]. This project aims to narrow down the items and overseas markets, implement various measures to improve local consumers' recognition and purchasing motivation, and encourage the related entities to participate in promotional events. For example, in fiscal 2018, the government encouraged participation at various product promotional events, such as for 1) Japanese beef, 2) Marine products, 3) Japanese tea, 4) Rice flour, 5) Sake, 6) Japanese wine and 7) Craft beer.

[4] http://www.kantei.go.jp/jp/singi/nousui/yushutsuryoku.html, (2019 February 7th access)
[5] https://www.jetro.go.jp/en/jfoodo/, (2019 February 7th access)

In 2018, export promotion measures were further embodied. In order to export agricultural products and food, it is required to comply with the regulations and business practices of the country concerned. However, this is a difficult task for small agricultural, forestry, fishery, and food manufacturers and distributors to handle. To cope with this, the Ministry of Agriculture, Forestry, and Fisheries launched a site called GFP, which stands for Global Farmers / Fishermen / Foresters / Food Manufacturers Project[6]. Individual players can find and negotiate appropriate business partners through the web. At the same time, the government will provide a one-stop service for these related community members.

In July 2018, the "Agriculture, Forestry and Fisheries and Food Export Promotion Joint Team", consisting of staff at the Ministry of Agriculture, Forestry and Fisheries and the Ministry of Economy, Trade, and Industry was established. It aims to facilitate collaboration and sharing of support measures for export promotion and holds meetings as needed in addition to regular meetings for that purpose. At the 2nd joint meeting held in September 2018, the following policy matters were discussed.

1) Strengthen matching according to overseas local demand
2) Strengthen efforts to expand sales channels utilizing EC (electronic commerce)
3) Prepare a guidebook for the export support measures
4) Share best practices for the collaboration between the Agriculture Bureau and Bureau of Economy, Trade, and Industry.

Furthermore, at the December meeting, the following matters were discussed.
1) Publication of the export support measures guide
2) Strengthening of the export consultation window
3) Status of collaboration between the Agriculture Bureau and the Bureau of Economy, Trade, and Industry,
4) Report on the effort of exports utilizing electronic transactions and the result
5) Electronic conversion of applications and issuance procedures for origin certificates

The export support policy guide is a summary of the agricultural products and food export measures implemented so far. Thus, since 2013, the Japanese Government's policies promoting agricultural products and food exports are being accelerated over time.

[6] http://www.gfp1.maff.go.jp/, (2019 February, 7th access)

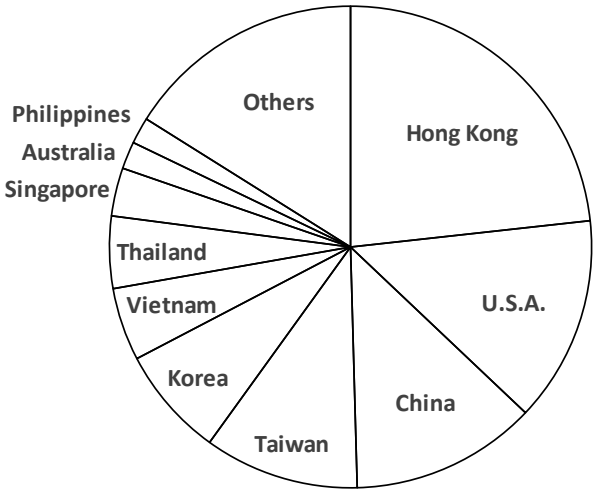
It is unfortunate that most of the information is published only in Japanese, as these are for the related persons in Japan, but these are also important for foreign governments to consider export promotion.

3. Expansion of the East Asian market

3.1 Major export destinations and export items

Japanese exports of agricultural products and food have been supported by increasing demand by the East Asian countries. According to the statistics of the Ministry of Agriculture, Forestry, and Fisheries, the largest destination of Japanese exports in 2017 was Hong Kong at 187.7 billion yen (23.3% of the total). Second was the USA (111.5 billion yen, 13.8%), third was China (100.7 billion yen, 12.5%), fourth was Taiwan (83.8 billion yen, 10.4%) and fifth was Korea (597 billion yen, 7.4%). Vietnam, Thailand, Singapore, Australia, and the Philippines followed (Figure 7). Agricultural products and foods exports to East Asia account for more than 70% of the total. What can be mentioned as a feature in 2017 is that 1) The growth rate of countries excluding Hong Kong, the US, Taiwan was in double digits year-on-year, 2) Only Taiwan showed a negative growth year-on-year, and 3) China has emerged in third place.

Figure 7 Main markets of Agricultural products and foods of Japan Export in 2017



Source: Ministry of Agriculture, Forestry and Fisheries, Japan

Looking at the top 20 export commodities of agricultural products and food in 2017, alcohol drinks accounted for the largest sector at 54.6 billion yen, an increase of 26.8% over the previous year. Second is scallops (46.3 billion yen), third is pearls (32.3 billion yen), fourth is sauces and mixed seasonings (29.6 billion yen), fifth is soft drinks (21.9 billion yen) (Table 2). In terms of the year on year growth rate, logs (61.6% compared to the previous year), potted plants (57.2%) are high in forest products, and bonito and tuna (45.6% increase) and beef (41.4% increase). On the other hand, scallops (-15.6%), tobacco (- 36.8%), and apples (-17.7%) are intensifying their decrease.

Table 2 Export of Agricultural Products and Foods in 2017

	Items	Value	Growth Rate	First	Second	Third	4th	5th
		million Yen	%					
1	Alcoholic beverages	54,503	26.8	U.S.	Korea	Taiwan	Hong Kong	China
2	Scallops (fresh, chilled, frozen, salted, dried)	46,254	▲ 15.6	China	U.S.	Hong Kong	Korea	Taiwan
3	Pearls	32,331	6.4	Hong Kong	U.S.	China	Thailand	India
4	Sauces and mixed seasonings	29,590	8.1	U.S.	Taiwan	Korea	Hong Kong	Australia
5	Soft Drinks	24,505	26.1	Hong Kong	U.A.E.	U.S.	Australia	China
6	Mackerels (fresh, chilled, frozen)	21,885	21.7	Nigeria	Egypt	Ghana	Thailand	Vietnam
7	Trepang (preparation)	20,740	14.1	Hong Kong	China	Vietnam	Singapore	Korea
8	Meat of bovine animals	19,156	41.4	Hong Kong	Cambodia	U.S.	Taiwan	Singapore
9	Confectionery (excluding rice products)	18,222	0.3	Hong Kong	Korea	Taiwan	U.S.	China
10	Yellow tail (fresh, chilled, frozen)	15,380	14.2	U.S,	Hong Kong	China	Thailand	Canada
11	Seeds, fruits and spores	15,166	3.7	China	Hong Kong	Korea	Denmark	U.S.
12	Green tea	14,357	24.3	U.S.	Taiwan	Germany	Hong Kong	Singapore
13	Skipjacks, frigate mackerels, tunas (fresh, chilled	14,262	45.6	Thailand	Vietnam	Hong Kong	Gam	China
14	Tobacco	13,820	▲ 36.8	Hong Kong	Taiwan	Singapore	China	Korea
15	Wood in the rough	13,683	61.6	China	Korea	Taiwan	Vietnam	Malaysia
16	Garden tree and other	12,632	57.2	China	Vietnam	Hong Kong	Taiwan	Italy
17	Apples	10,948	▲ 17.7	Taiwan	Hong Kong	Thailand	Vietnam	China
18	Raw hides of pig	10,842	11.4	Thailand	Taiwan	Korea	Vietnam	Hong Kong
19	Mashed products (such as fish paste sausage)	9,520	2.7	Hong Kong	U.S.	China	Taiwan	Korea
20	Soup	9,498	14.0	Korea	U.S.	Taiwan	Hong Kong	Singapore

Source: Ministry of Agriculture, Forestry and Fisheries, Japan

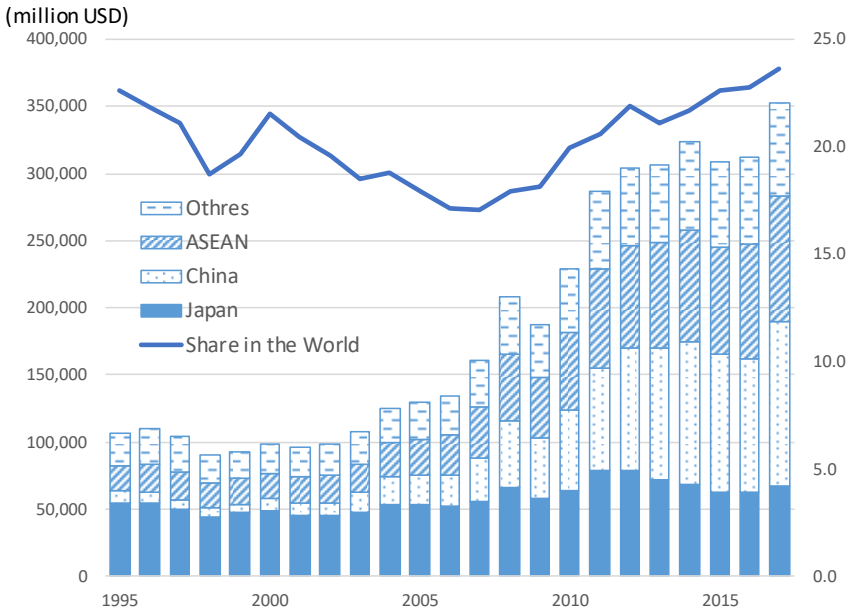
3.2 Current situation of the East Asia market and positioning of Japanese exports

Next, using the United Nations international trade data, we check the current state of agricultural products and food imports by East Asia, and see how Japan's position has changed. In this paper, we use the classification of UNCTAD STAT as "all food items" for agricultural products and food imports.

Imports of agricultural products and food in the world increased from US$468.7 billion in 1995 to US$1,148.4 billion in 2010, and US$1,493 billion in 2017. The most imported in 2017 was USA at $146.5 billion (9.8% of the total) , then China, Germany, Japan, the Netherlands, the UK, France, Italy, Spain, and Belgium follow, and most of the

main importers are the developed countries. Regionally, the East Asia market is enhancing its importance. Imports of agricultural products and food by East Asia have increased sharply from US$98 billion in 2000 to US$229 billion in 2010, and US$353 billion in 2017 (Figure 8). As a result, the share by East Asia in the world as a whole was 23.6% in 2017. Furthermore, excluding Japan, the import of agricultural products and food by East Asia increased sharply from US$49 billion in 2000 to US$164 billion in 2010, and US$285 billion in 2017. Currently, the largest regional market in the world is the EU15. Although the import value of agricultural products and food has doubled from US$180 billion in 2000 to US$483 billion in 2017, the share of the global trade has declined from 39.6% to 32.4%.

Figure 8 Import of Agricultural Products and Foods in East Asia



Source: UNCTAD STAT

Looking at the breakdown of the imports by East Asia, China is the largest market, accounting for 42.8% of East Asia (excluding Japan). South Korea (9.9%), Hong Kong (9.9%) are also significant. On the other hand, considering the annual growth rate from 2010 to 2017, Myanmar was highest at 21.3%, Laos (18.6%), Vietnam (13.2%), China (10.8%) and Cambodia (10.4%) (Table 3).

Table3 Import Agriculture Products and Food in East Asia (from World and Japan)

Country/ Region	World				From Japan			
	Value		Annual Growth Rate	Share (2017)	Value		Annual Growth Rate	Share (2017)
	2010	2017			2010	2017		
	1, 000 USD	1, 000 USD	%	%	1, 000 USD	1, 000 USD	%	%
East Asia, exc. Japan	164,534,389	285,020,497	8.2	100.0	3,455,388	4,461,987	3.7	100.0
China	59,556,203	121,914,061	10.8	42.8	516,169	643,209	3.2	14.4
Korea	19,175,974	28,319,565	5.7	9.9	518,519	497,984	▲ 0.6	11.2
Hong Kong	18,012,855	28,004,108	6.5	9.8	1,064,899	1,334,425	3.3	29.9
Vietnam	7,285,831	17,316,873	13.2	6.1	56,297	158,649	16.0	3.6
Indonesia	11,459,359	17,492,702	6.2	6.1	41,388	49,528	2.6	1.1
Malaysia	12,785,785	15,456,921	2.7	5.4	83,577	112,832	4.4	2.5
Thailand	8,595,633	14,117,360	7.3	5.0	244,843	289,428	2.4	6.5
Singapore	9,799,235	13,368,545	4.5	4.7	189,443	264,710	4.9	5.9
Philippines	6,449,850	11,284,018	8.3	4.0	22,557	40,676	8.8	0.9
Taiwan	9,535,627	13,003,294	4.5	4.6	714,058	1,031,959	5.4	23.1
Myanmar	556,745	2,145,369	21.3	0.8	353	3,520	38.9	0.1
Cambodia	771,665	1,541,370	10.4	0.5	2,294	31,368	45.3	0.7
Brunei	351,477	403,277	2.0	0.1	900	850	▲ 0.8	0.0
Laos	198,150	653,032	18.6	0.2	92	2,849	63.3	0.1
Japan	64,103,699	67,483,564	0.7	-	-	-	-	-

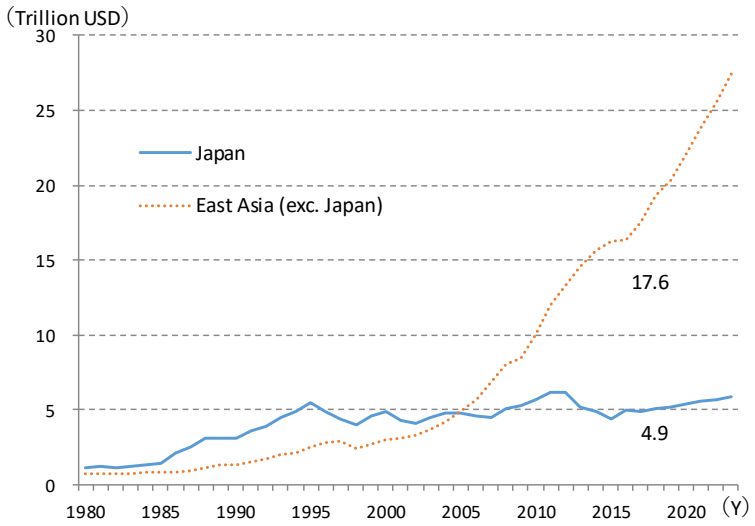
Source: UNCTAD STAT

The increase in imports of agricultural products and food by East Asia is accompanied by the expansion of the economic scale and increase of income level in the region. Nominal GDP in East Asia, excluding Japan, has increased rapidly from US$3.0 trillion in 2000, to US$10.1 trillion in 2010 and to US$17.6 trillion in 2017 (IMF 2018). As a result, its share in the world has increased from 8.6% to 14.9% during the same period, to 21.6%. In 2017, the scale of East Asia is more than three times that of Japan (Figure 9).

The IMF's outlook shows that the economic scale of East Asia is expected to reach US$29.2 trillion by 2023, which will be about five times that of Japan. If this trend continues, the imports of agricultural products and food by East Asia is expected to exceed US$450 billion by 2023, which is almost equal to the import size of the EU15 in 2017. However, the import market did not expand totally.

What we must pay attention to is the diversity of imported items. Annual growth rate of the imports of agricultural products and food from 2010 to 2017 was 8.4%, Meat of bovine animals, fresh, chilled, or frozen was 18.1%, fish, aquatic invertebrates, prepared and preserved was 22.8%, coffee and coffee substitutes 14.3%, fruit, preserved, and fruit preparations (not juice) was 15.0%. This seems to be affected by people’s lifestyle and the rising income level.

Figure 9 Nominal GDP of East Asia and Japan



Note: Figures: 2017, after 2018 prospects
East Asia: Korea, Taiwan, Hongkong, China, ASEAN10
Source: IMF, World Economic Outlook, October 2018

Using the UNCTAD data, we compare the growth rate of the import value of each agricultural product and food with growth of the income level. Responding accurately to the expansion of the East Asian market is an important viewpoint for export expansion.

The calculation formulae are as follows.

$$\text{Income elastic rate of import of item “A”} = \frac{\text{Annual average growth rate of item “A” imported from 2010 to 2017}}{\text{Annual average growth rate of nominal GDP from 2010 to 2017}}$$

If the growth of imports against income growth is large, this value exceeds 1. We can regard that item A that can be expected to expand its import along with the rising income level in the future.

The result is shown in Table 4. Here, items with an elastic rate exceeding 2 (items with an import value exceeding 2% if GDP grows by 1%) are indicated by ◎. Similarly, items with an elastic rate of more than 1.3 and 2.0 or less, are indicated by ○, items with an elastic rate of more than 0.7 and 1.3 or less, are indicated by Δ, and those with an

elastic rate of 0.7 or less by ×. Items corresponding to ◎ and ○ are items that can be expected to expand the import market due to the rising income level.

Table 4 Income elastic rate of agriculture products and food of Import in East Asia

Commodity		EA	PRC	KOR	TAP	HKG	SIN	THA	MAL	INO	PHI	BRU	CAM	LAO	MYA	VIE
001	Live animals other than animals of division 03	△	×	○	○	×	×	◎	×	△	×	–	△	◎	◎	◎
011	Meat of bovine animals, fresh, chilled or frozen	◎	◎	◎	◎	◎	○	◎	◎	△	○	–	◎	◎	◎	◎
012	Other meat and edible meat offal	△	○	◎	◎	×	×	◎	◎	△	◎	–	◎	◎	◎	◎
016	Meat, edible meat offal, salted, dried; flours, meals	△	○	◎	◎	◎	△	◎	○	○	×	–	◎	◎	◎	◎
017	Meat, edible meat offal, prepared, preserved, n.e.s.	△	×	○	◎	△	△	◎	◎	◎	◎	–	◎	◎	◎	◎
022	Milk, cream and milk products (excluding butter, cheese)	△	△	○	○	◎	×	△	○	×	×	–	×	△	×	◎
023	Butter and other fats and oils derived from milk	○	◎	◎	◎	○	×	◎	◎	◎	○	–	◎	◎	◎	◎
024	Cheese and curd	○	◎	◎	◎	×	△	◎	◎	◎	◎	–	◎	◎	◎	◎
025	Birds' eggs, and eggs' yolks; egg albumin	×	×	◎	○	△	×	◎	△	△	×	–	◎	◎	◎	◎
034	Fish, fresh (live or dead), chilled or frozen	×	×	△	◎	△	×	△	△	×	◎	–	○	○	◎	◎
035	Fish, dried, salted or in brine; smoked fish	×	◎	◎	×	×	×	◎	◎	×	◎	–	◎	△	◎	◎
036	Crustaceans, mollusks and aquatic invertebrates	×	△	△	◎	×	×	◎	×	×	◎	–	×	△	◎	◎
037	Fish, aqua. invertebrates, prepared, preserved, n.e.s.	◎	◎	◎	○	◎	○	◎	◎	◎	◎	–	○	◎	◎	◎
041	Wheat (including spelt) and meslin, unmilled	○	○	×	×	○	×	○	×	◎	◎	–	△	△	◎	◎
042	Rice	×	◎	×	×	×	×	○	×	×	×	–	×	◎	◎	◎
043	Barley, unmilled	◎	○	○	×	×	×	◎	×	◎	×	–	◎	×	◎	◎
044	Maize (not including sweet corn), unmilled	×	△	×	×	×	×	×	×	×	△	–	◎	△	◎	◎
045	Cereals, unmilled (excluding wheat, rice, barley, maize)	◎	◎	×	×	◎	△	◎	◎	◎	×	–	×	×	◎	◎
046	Meal and flour of wheat and flour of meslin	×	◎	×	△	×	×	×	△	×	△	–	×	△	◎	×
047	Other cereal meals and flour	△	△	○	◎	×	×	◎	◎	○	◎	–	×	○	◎	◎
048	Cereal preparations, flour of fruits or vegetables	○	◎	○	○	△	×	○	◎	○	◎	–	○	○	◎	◎
054	Vegetables	△	×	△	◎	○	×	◎	△	△	△	–	×	×	◎	◎
056	Vegetables, roots, tubers, prepared, preserved, n.e.s.	△	△	○	○	△	×	◎	◎	○	◎	–	×	◎	◎	◎
057	Fruits and nuts (excluding oil nuts), fresh or dried	○	○	◎	◎	○	△	◎	◎	○	◎	–	×	×	◎	◎
058	Fruit, preserved, and fruit preparations (no juice)	○	○	◎	◎	◎	◎	△	◎	◎	◎	–	○	◎	◎	◎
059	Fruit and vegetable juices, unfermented, no spirit	△	△	△	○	◎	×	△	×	×	○	–	○	△	◎	◎
061	Sugar, molasses and honey	×	×	×	×	×	×	△	△	◎	×	–	×	○	◎	◎
062	Sugar confectionery	△	○	◎	△	×	×	◎	◎	◎	◎	–	×	△	◎	◎
071	Coffee and coffee substitutes	○	◎	○	○	◎	×	◎	◎	◎	◎	–	△	×	◎	◎
072	Cocoa	×	×	×	×	×	×	×	×	◎	×	–	×	×	◎	◎
073	Chocolate, food preparations with cocoa, n.e.s.	△	△	○	△	◎	△	△	○	◎	◎	–	△	×	◎	◎
074	Tea and mate	○	◎	◎	◎	○	△	◎	◎	○	×	–	◎	△	◎	◎
075	Spices	△	△	×	△	◎	△	◎	×	◎	◎	–	◎	◎	◎	◎
081	Feeding stuff for animals (no unmilled cereals)	△	×	×	△	○	×	△	△	○	○	–	○	○	◎	◎
091	Margarine and shortening	○	◎	△	◎	×	○	△	○	△	◎	–	○	◎	◎	◎
098	Edible products and preparations, n.e.s.	○	◎	○	◎	△	△	○	○	○	○	–	△	○	◎	◎
111	Non-alcoholic beverages, n.e.s.	○	◎	◎	◎	△	○	◎	◎	△	◎	–	◎	◎	◎	◎
112	Alcoholic beverages	△	○	○	◎	△	△	◎	◎	◎	◎	–	△	×	◎	◎
222	Oil seeds and oleaginous fruits (excluding flour)	△	×	×	×	×	×	△	△	△	○	–	◎	◎	◎	◎
223	Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	△	○	○	◎	○	△	◎	◎	×	○	–	△	◎	◎	◎
411	Animals oils and fats	△	×	×	×	×	◎	○	◎	△	○	–	◎	○	◎	◎
421	Fixed vegetable fats & oils, crude, refined, fractio.	×	×	×	△	×	×	◎	◎	◎	◎	–	×	◎	◎	◎
422	Fixed vegetable fats & oils, crude, refined, fract.	×	×	×	△	×	×	◎	×	×	◎	–	○	△	×	◎
431	Animal or veg. oils & fats, processed, n.e.s.; mixt.	◎	○	○	×	×	◎	△	◎	◎	◎	–	×	△	◎	◎

Note 1：EA: East Asia, PRC: China, KOR: Korea、 TAP: Taiwan, HKG: Hong Kong, SIN: Singapore, THA: Thailand, MAL: Malaysia, INO: Indonesia, PHI: Philippines, BRU: Brunei, CAM: Cambodia, LAO: Laos, MYA: Myanmar, VIE: Vietnam

Note 2: ◎: Income elastic rate > 2, ○: 1.3-2、△: 0.7-1.3, × : < 0.7

Note 3: Colored cells: Top 10 commodities with high import value

Source: UNCTAD STAT, IMF

Countries that have items for which the elastic rate exceeds 2 are Vietnam (43 items), Myanmar (42 items), Thailand (26 items), Philippines (23 items), and Malaysia (22 items). These are countries where the food style is changing significantly due to the rising income level. Observing them by item, among the 130 items (shaded items) which have a large value of imports, 76 items are evaluated as ◎ or ○, and 26 items as ×. This shows that growth of items with a large value of imports does not necessarily achieve a high score.

On the other hand, even if the import value is small, many items are evaluated with ◎ or ○, which are items showing a high income elastic rate. There are 264 items evaluated as ◎. This indicates that import items of agricultural products and food by East Asia are diversifying, suggesting that new markets are expanding. For reference, 8 are items evaluated as ◎ in more than nine countries and regions.

3.3 Japan's status in the East Asia market

Has Japan been responding effectively to expansion of the import market in East Asia? Next, we look at Japan's status in the East Asian import market from the viewpoint of change in market share. Generally speaking, the response by Japan seems has been inadequate. Certainly, although the import value of agricultural products and food from Japan by East Asia has increased from US$3.46 billion in 2010 to US$4.46 billion in 2017, the market share has declined from 2.1% to 1.6%.

For example, China's imports have increased from US$520 million to US$640 million during this period, but the share by Japan fell from 0.9% to 0.5%. In Korea, it decreased from US$520 million to US$500 million, and the Japanese share also declined from 2.7% to 1.8%. Given that China and South Korea are huge markets occupying 43% and 10% respectively of East Asian imports, it is urgent to investigate the cause of the downturn and implement suitable measures to increase the market share. Of course, there are many countries where the import share from Japan is increasing. In Vietnam, Malaysia, Singapore, the Philippines, Taiwan, Myanmar, Cambodia and Laos, the market share is expanding slightly. In Laos and Cambodia, although the value is small, imports from Japan are increasing rapidly.

Has Japan's export of agricultural products and food corresponded to changes in the import market in East Asia? In order to evaluate this, we calculate the income elastic rate of imports from Japan for each item, and then look at the relationship (difference) with the income elastic rate of each country's imports. That is, by subtracting the income elastic rate of the import of item A from the world from the income elastic rate of the

import of item A from Japan, if it is 0 or more, the Japanese export can be evaluated as responding to item A's market.

Table 5 shows the calculation results. Here, the result of "0" or more is indicated by "◯", and less than "0" is represented by "×". Items whose import elastic rate exceeds 1.3 (items show as ◎, ○ in Table 4) are shaded. Among this, items shown as "◯" and shaded mean items with a rapidly increasing import value that Japan's exports have also respond to.

Table 5 Response of Japanese Export to East Asia Market

Item	EA	PRC	KOR	TAP	HKG	SIN	THA	MAL	INO	PHI	BRU	CAM	LAO	MYA	VIE
001 Live animals other than animals of division 03	○	○	×	◯	○	○	×	−	○	−	-	−	◯	◯	◯
011 Meat of bovine animals, fresh, chilled or frozen	◯	−	−	−	×	◯	○	◯	○	◯	-	◯	◯	−	○
012 Other meat and edible meat offal	○	×	×	×	○	○	×	◯	−	◯	-	◯	−	◯	×
016 Meat, edible meat offal, salted, dried; flours, meals	×	−	×	◯	×	−	×	◯	−	×	-	−	−	−	×
017 Meat, edible meat offal, prepared, preserved, n.e.s.	○	×	◯	×	○	×	×	×	×	×	-	◯	−	◯	×
022 Milk, cream and milk products (excluding butter, chees	×	○	◯	◯	×	○	○	◯	○	○	-	○	−	×	×
023 Butter and other fats and oils derived from milk	×	×	−	◯	◯	×	×	◯	×	−	-	−	−	◯	×
024 Cheese and curd	×	×	×	◯	×	○	×	◯	◯	×	-	◯	−	◯	×
025 Birds' eggs, and eggs' yolks; egg albumin	○	×	×	×	○	○	×	○	×	−	-	−	−	−	○
034 Fish, fresh (live or dead), chilled or frozen	×	×	×	◯	○	○	×	○	×	×	-	◯	−	◯	×
035 Fish, dried, salted or in brine; smoked fish	×	×	×	×	×	×	×	◯	○	◯	-	×	−	◯	×
036 Crustaceans, mollusks and aquatic invertebrates	×	○	×	×	×	○	×	○	○	×	-	○	−	−	×
037 Fish, aqua. invertebrates, prepared, preserved, n.e.s.	×	◯	×	×	×	×	◯	×	◯	×	-	◯	◯	◯	×
041 Wheat (including spelt) and meslin, unmilled	×	−	−	−	−	×	−	×	◯	−	-	−	−	−	−
042 Rice	○	◯	−	○	○	○	◯	○	○	×	-	○	×	◯	◯
043 Barley, unmilled	◯	−	−	○	○	○	×	−	−	−	-	◯	−	−	−
044 Maize (not including sweet corn), unmilled	○	×	−	−	○	×	○	—	−	−	-	◯	−	−	◯
045 Cereals, unmilled (excluding wheat, rice, barley, maize)	×	×	○	×	◯	○	×	—	−	−	-	○	−	−	◯
046 Meal and flour of wheat and flour of meslin	○	×	○	○	○	×	×	○	○	○	-	○	−	◯	×
047 Other cereal meals and flour	×	×	×	◯	×	○	×	◯	×	◯	-	○	◯	◯	×
048 Cereal preparations, flour of fruits or vegetables	◯	◯	×	◯	○	○	◯	◯	◯	◯	-	◯	◯	◯	×
054 Vegetables	○	×	○	◯	×	○	◯	○	×	×	-	○	−	×	×
056 Vegetables, roots, tubers, prepared, preserved, n.e.s.	×	×	×	◯	×	×	×	×	◯	×	-	○	−	◯	×
057 Fruits and nuts (excluding oil nuts), fresh or dried	◯	×	×	◯	◯	○	×	◯	×	◯	-	○	−	◯	×
058 Fruit, preserved, and fruit preparations (no juice)	×	×	×	◯	×	×	○	◯	◯	◯	-	◯	◯	◯	×
059 Fruit and vegetable juices, unfermented, no spirit	○	×	×	◯	◯	○	○	○	×	◯	-	◯	○	◯	×
061 Sugar, molasses and honey	×	×	×	○	○	×	×	×	×	×	-	○	−	×	×
062 Sugar confectionery	×	×	◯	○	○	○	◯	◯	◯	◯	-	○	○	◯	×
071 Coffee and coffee substitutes	×	×	×	◯	×	×	×	×	×	◯	-	○	−	◯	×
072 Cocoa	×	×	×	○	×	×	○	×	×	−	-	○	−	−	○
073 Chocolate, food preparations with cocoa, n.e.s.	×	×	◯	×	×	×	×	◯	×	×	-	○	○	◯	×
074 Tea and mate	×	×	×	◯	◯	○	×	◯	◯	×	-	×	○	◯	×
075 Spices	×	×	×	×	×	×	×	○	×	×	-	◯	−	◯	×
081 Feeding stuff for animals (no unmilled cereals)	×	×	◯	×	×	×	×	×	×	◯	-	◯	−	◯	×
091 Margarine and shortening	×	×	×	◯	×	×	×	×	○	−	-	◯	−	−	×
098 Edible products and preparations, n.e.s.	×	×	×	◯	×	○	×	◯	◯	◯	-	○	◯	◯	×
111 Non-alcoholic beverages, n.e.s.	◯	×	×	◯	○	◯	◯	×	○	◯	-	◯	◯	×	×
112 Alcoholic beverages	○	×	◯	×	×	○	◯	×	◯	◯	-	○	○	×	×
222 Oil seeds and oleaginous fruits (excluding flour)	○	×	○	×	×	○	×	×	○	◯	-	◯	◯	◯	×
223 Oil seeds & oleaginous fruits (incl. flour, n.e.s.)	×	×	×	×	◯	×	×	◯	○	×	-	○	−	−	×
411 Animals oils and fats	×	○	○	×	×	×	×	×	×	◯	-	−	−	×	×
421 Fixed vegetable fats & oils, crude, refined, fractio.	○	×	×	○	○	○	×	◯	◯	◯	-	○	◯	◯	×
422 Fixed vegetable fats & oils, crude, refined, fract.	×	×	×	×	○	○	×	×	○	×	-	◯	−	○	×
431 Animal or veg. oils & fats, processed, n.e.s.; mixt.	×	×	×	×	○	◯	×	×	×	×	-	○	−	×	×

Note 1：EA: East Asia, PRC: China, KOR: Korea、TAP: Taiwan, HKG: Hong Kong, SIN: Singapore, THA: Thailand, MAL: Malaysia, INO: Indonesia, PHI: Philippines, BRU: Brunei, CAM: Cambodia, LAO: Laos, MYA: Myanmar, VIE: Vietnam
Note 2: ○：Income Elastic Rate of Import from Japan - Income Elastic Rate of Import from World >0, ×：0<0. -: Not Avialable
Note 3: Colored cells: Growth market indicated by ◎ or ○ in Table 4
Source: UNCTAD STAT, IMF

The preferred products imported from Japan are cereal preparations, flour, fruit or vegetables (11 countries / region), sugar confectionery (11 countries / region), rice (10 countries / region), milk, cream and milk products (excluding butter, cheese) (9 countries / regions), mixed vegetable fats & oils, crude, refined, fractions (9 countries / regions). By country and region, Cambodia (36 items) is the largest, followed by Myanmar (26 items), Malaysia (25 items), Singapore (25 items), Taiwan (25 items), Indonesia (23 items), and Hong Kong (22 items).

There are cases where Japanese products are competing well in the markets where imports by that country do not react (○, but not colored). In China, imports of milk cream from the world have not increased as a whole, but imports from Japan are increasing. This is the result of evaluating the safety of powdered milk made in Japan. In Singapore and Hong Kong, meat from Japan is favorably imported. This is a result indicating that high-income people prefer Japanese high-quality meat. The increase in rice exports from Japan is also included, and is the result of Japanese food becoming very popular in each country and region.

Despite the products for which growth rate of import is high, we can find many items from Japan that have not increased (indicates by "×" and colored). For these items, investigating the cause and measures to tackle them are urgent tasks. The trend is strongest in the China and Korea import market. This is considered to be due to the influence of import restrictions. Hachiya (2018) classified the restriction for import of Japanese agricultural products and food as follows (Table 6).

Table 6 Restrictions of quarantine for Japanese items in East Asia

	Hongkong	Taiwan	Thailand	Singapore	Malaysia	China	Korea	Vietnam	Phillipines	Indonesia
Persimmon	◎	Q	Q	◎	◎	×*2	×*5	×*2	×*2	Q
Kiwifruit	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Cherry	◎	Q	Q	◎	◎	×*2	×*5	×*2	×*2	Q
Japanese Pear	◎	☆	Q	◎	◎	PQ	×*1	☆	PQ	Q
Pear	◎	☆	Q	◎	◎	×*2	×*1	×*2	PQ	Q
Eriobotrya japonica	◎	Q	×*1	◎	◎	×*2	×*1	×*2	×*2	Q
Grape	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Wenzhou oranges	◎	Q	☆	◎	PQ	×*2	×*5	×*2	×*2	Q*4
Peach	◎	☆	Q	◎	◎	×*2	×*1	×*2	×*2	Q
Apple	◎	☆	Q	◎	◎	PQ	×*1	☆	PQ	Q
Strawberry	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Pumpkin	◎	Q	Q	◎	◎	×*2	×*7	×*2	×*2	Q*4
Cucumber	◎	Q	Q	◎	◎	×*2	×*1	×*2	×*2	Q*4
Watermelon	◎	Q	Q	◎	◎	×*2	×*1	×*2	×*2	Q
Pepper	◎	Q	Q	◎	PQ	×*2	×*1	×*2	×*2	Q
Tomato	◎	×*1	Q	◎	◎	×*2	×*5	×*2	×*2	Q
Green pepper	◎	Q	Q	◎	PQ	×*2	×*1	×*2	×*2	Q
Melon	◎	Q	Q	◎	◎	×*2	×*5	×*2	×*2	Q
Cabbage	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Green onions	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Zingiber mioga	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Lettuce	◎	Q	Q	◎	◎	×*2	Q	Q	×*2	Q
Sweet Potato	◎	Q*6	Q	◎	◎	×*2	×*1	×*2	×*2	Q
Ginger	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Japanese white radish	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Onion	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q*4
Chinese yam	◎	Q	Q	◎	◎	×*2	Q*3	×*2	×*2	Q
Carrot	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Wasabi	◎	Q	Q	◎	◎	×*2	Q	×*2	×*2	Q
Polished rice	◎	◎	Q	◎	◎	☆	Q	Q	PQ	Q
Brown rice	◎	Q	×*2	◎	◎	×*1	Q	×*2	PQ	Q
	◎	◎	Q	◎	◎	Q	◎	Q	◎	Q

◎：Exportable without phytosanitary certificate

Q：Exportable if a phytosanitary certificate is attached

P：It is necessary to acquire "import permit" of export partner country

☆：Only those that meet special quarantine conditions based on bilateral agreement can be exported×：Not exportable

*1 The exporting country prohibits import in principle

*2 Quarantine condition of export partner country is unset or unknown

*3 Exports made in the Southwestern Islands, Ogasawara Islands, Daito Islands south of the latitude of 30 degrees north are not allowed

*4 Disinfection required

*5 The export partner suspends the import

*6 Exports made in the Nansei Shoto and Ogasawara archipelagos are not allowed

*7 Confirming to export partner

Source: Plant protection station, List of quarantine conditions when exporting plants etc to foreign countries（2018 April 1st）

Most imports by Hong Kong, Singapore, and Malaysia, whose import from Japan are expanding steadily, are exempted from quarantine, whereas in Taiwan and Thailand many items must be accompanied by quarantine certificates. Furthermore, the import of most items is forbidden by China, Korea, Vietnam, and the Philippines. Besides that, non-tariff barriers, such as quantity restrictions, are also high, and there are import restrictions by foreign countries after the nuclear accident due to the Great East Japan Earthquake. In order to promote the export of agricultural products and food, the government requires to change not only the tariff rate of the country and region but also the quarantine system to favor Japan through bilateral negotiations, and the negotiation with RCEP currently under consultation.

4. Using Digital Technology

4.1 The Digital Era

In recent years, the economy and society have been changing dramatically due to the improvement of computer processing capability, the development of communication technology and its infrastructure, and the spread of inexpensive smartphones. The World Bank considers such an environmental change as a new era, in which it is possible to solve various economic and social issues through digital tools. In 2016, the World Bank published the World Development Report "Digital Dividend" and discussed its possibilities (World Bank 2016)[7].

On the other hand, UNCTAD issued its annual report for 2017 with the subtitle of "Investment and the digital economy". The report insisted that the digital economy is supported not only by the digital industry as the information and communication industry, but also by all industries introducing digital technology to boost productivity. It also points out that the developing countries can achieve dramatic growth by utilizing digital technology (UNCTAD 2017).

Attempts to increase the productivity of agriculture by using digital technology are also beginning in the emerging and developing countries. It has been advanced with a new framework called "e-Agriculture", and the FAO (Food and Agriculture

[7] This is a big policy change by the World Bank, because until then it was considering whether availability of the Internet or not is a problem likely to create various gaps called the "Digital Divide".

Organization of the United Nations) actively supports this initiative[8]. The exchange of information on digitalization of agriculture is important to improve productivity of agriculture in each country.

4.2 Smart Agriculture in Japan

In Japan, the use of big data, IoT, AI, drones, and robots is being studied in various fields currently under the influence of German Industry 4.0. The government has named the society utilizing digital technology "Society 5.0 (Super Smart Society)" and has implemented various support measures. Under this concept, efforts towards "smart agriculture" projects have started in the agricultural field.

According to Miwa, Ikuma and Kidoshi (2016), "Smart Agriculture" is activities related to agriculture, such as 1) Seedlings, 2) Land creation, seeding and nurseries, 3) Cultivation, 4) Harvesting, 5) Shipping, 6) Distribution and processing, 7) Sales, and 8) Consumption, by introducing digital technology to each sector to enhance the productivity of the agricultural production value chain as a whole. Such digitization of agriculture acts to enhance the competitiveness of the agricultural products and food exports.

As one of the important tasks to realize "Smart Agriculture", the Ministry of Agriculture, Forestry and Fisheries is working to make it possible for agricultural players to create an environment that can challenge the improvement in productivity and management by using big data. It plans to build an "Agricultural data linkage foundation" (data platform) combining data linkage and data provision functions. This will include data on weather, agricultural land, maps, production forecasts, soil data, and market conditions.

How should agriculture in Japan digitize for the short- and middle-term? According to the "Construction of Agriculture Food Chain by Using Information" published by the 21st Century Policy Research Institute in June 2018, digitization of agriculture is divided into three stages[9] The first stage, is to realize improvement of agricultural production and management through visualization of the agricultural production process through ICT conversion. The second stage, is working on improving the management system while reviewing the overall food value chain. In this stage, collecting and organizing market data plays an important role. Thirdly, it is expected that not only agriculture related data but also the style of agriculture itself will change at the

[8] http://www.fao.org/e-agriculture/, (2019 February, 7th access)
[9] http://www.21ppi.org/pdf/thesis/180622.pdf ,(2019 February, 7th access)

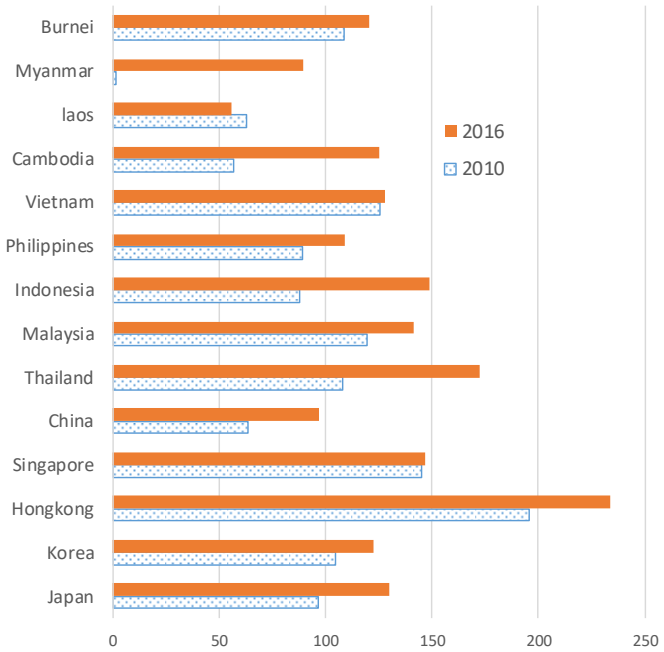
stage of building a database generated from the whole society and using AI to create new added value.

What is emphasized in the second stage, is the formation of "market-in" agriculture using digital technology. This is a movement that has already been made by the manufacturing industry. Specifically, the use of EC (electronic commerce) is representative. In East Asia including Japan, the purchase of goods through the Internet is spreading rapidly. It is vital to make use of such mail-order sales to export agricultural products and food.

For a long time, how to access local wholesalers and retailers was the biggest challenge for overseas market exploitation. Since then, in the 21st century, the modern distribution facilities, such as large supermarkets and convenience stores have become popular, and the method of developing and securing the market has changed somewhat. Now, it is about to change completely through the dissemination of net sales through EC.

In East Asia, diffusion of mobile phones is driving EC. Figure 10, shows the number of mobile phone contracts in East Asia. Except for Laos and Myanmar, we can see that the number of contracts exceeds the total population. Currently, these mobile phones are rapidly replacing cheap smartphones, which are small PCs, and make it easy for many people to access the Internet.

Figure 10 Mobile phone's contracts in 2016 (per 100 people)



Source: World Bank, World Development Indicators

There is a movement to link cross-border EC of agricultural products and food with other business in Japan. For example, there are EC sites linked to the global development of logistical companies and the increase of domestic foreign tourists. Yamato Transport and ANA Cargo, both Japanese logistics companies, have been searching for businesses using Okinawa as a hub for international logistics since 2014. Furthermore, in 2016, they launched "ISETAN JAPAN DIRECT" at the EC site of Isetan Singapore, and started delivering Japanese agricultural products and food directly to consumers in Singapore and Hong Kong. This business model is currently spreading throughout Southeast Asia. In addition, in July 2017, Yamato Transport announced plans to develop the China market in partnership with the Jing Dong Group, a major China Internet company, subject to the provision of refrigeration technology.

There is also a cross-border EC that will link foreign tourist attractions with agricultural products and food exports. For example, JTB, a travel agency, began cross-border EC sites from 2015 in “Food and agricultural tourism” to promote agricultural products and food. From September 2017, JTB opened a website named "J's Agri", and began selling products such as Okayama's Shine Muscat and Kyotango's 20th Century Pears to Hong Kong[10]. Their aim is to promote the increase of tourists to Japan through sales of agricultural products and food, as shown by the "J's Agri" concept "From the origin of production in Japan to the production area".

Utilization of cross-border EC for sales agricultural products and food has just started, and there are many issues to overcome. How to ensure freshness, how to combine small orders with mass transit, how to mitigate the producers' risk (shipping and return risk of orders) and how to avoid the foreign exchange risk.

Distribution of agricultural products in Japan has been exclusively managed by agricultural cooperatives in Japan and overseas. For the export of agricultural products and food, holding exhibitions and trade fairs in the country has become the main marketing tool. However, in the Internet age, marketing cost is drastically reduced by utilizing digital tools like SNS, and new distribution channels are being opened by utilizing EC. Building a new distribution channel is an activity that can be regarded as open innovation.

Use of overseas EC sites may be useful. Through China's largest EC site, Alibaba, it is famous that Thailand received an order of 80,000 Durian from China in only one day.

[10] https://www.js-agri.jp/, (2019 February, 7th access)

Alibaba is building business not only in Thailand but also building a cooperation system for the export and import of agricultural products with many countries. For example, in May 2017, the Argentina Investment and Trade Agency agreed with Alibaba of China to build a cooperative structure to export the Argentine's agricultural products [11]. Collaboration with the local EC will be an important marketing tool in satisfying the needs in the market and improving awareness through ratings. Considering that various EC sites will be launched in East Asia in the future, collaboration with local EC leads to open innovation to uncover new needs in the country concerned.

4.3. Branding promotion in the digital era

To sustain the expansion of Japanese exports of agricultural products and food, it is important for them to be attractive overseas and to keep the Japanese brand. Recently, discussions on strengthening the branding of agricultural products and food have become active in Japan.

In this regard, having "Washoku, traditional dietary cultures of the Japanese" registered as a UNESCO intangible cultural heritage in 2013, is an opportunity to raise interest in Japanese food and Japanese food culture around the world. In addition, it is also necessary to devise ideas such that the brand of Japanese food is recognized by foreign travelers, who are rapidly increasing in recent years. Actually, one of the tourists' purpose for visiting from East Asia is to enjoy Japanese food.

Efforts to link these opportunities to export expansion will lead to the formation of branding. In fact, many observers have pointed out that the increase in exports of consumer goods including food to China, has resulted from the fact that Chinese tourists who visited Japan became repeaters for Japanese products after returning home. The above-mentioned initiatives by the JTB are also aimed at linking the export of agricultural products and food to tourism promotion.

The important thing is not only to improve the quality of the agricultural products and food but also to appeal to the area imaged by the brand power. Furthermore, the development and promotion of new foods grown in the special market environment of Japan will lead to improvement of brand power. For example, health foods for the elderly will be one of the products of great interest.

As globalization and digitization progress, "Intellectual property strategy" is becoming more important year by year. For Japanese producers so far, there is a strong

[11] https://www.jetro.go.jp/biznews/2017/05/65df986168be82ab.html, (2019 February, 7th access)

belief that if they can produce products with high quality, it makes it possible to sell them automatically. However, now that information related to production instantaneously jumps over the border, it is increasingly recognized that the know-how to make good products should be kept confidential.

The Ministry of Agriculture, Forestry and Fisheries established the "Intellectual Property Strategy 2020, of the Ministry of Agriculture, Forestry and Fisheries 2020" in May 2015[12]. In this strategy, the importance has been pointed about promoting branding by utilizing geographical indication, counterfeiting measures in overseas markets, and strengthening competitiveness of seeds and the seed industry

In addition to establishing an agricultural, forestry, and fishery intellectual property conservation consortium to promote intellectual property policy in the agricultural field, valuable information, such as know-how that was converted into data in the agricultural field, must be adequately protected as intellectual property. The Secretariat is responsible for;

1) Overseas trademark monitoring
2) Surveying counterfeit goods (including Internet shopping sites)
3) Consulting on infringement cases
4) Holding local seminars and providing related information to the members[13]

Furthermore, it is necessary to improve the system to maintain the branding power of Japan. For example, spreading the Geographical Indication (GI) protection system, and the promotion of registration are relevant. GI is a system that protects regional brands as intellectual property, based on the recognition that such agricultural products and food are associated with the characteristics of the production area, such as climate, soil, and other natural environments and traditional production methods, it is in accordance with the EU's name-of-origin protection system[14]. In order to make GI effective, it is important to secure and maintain the safety of food in a single stage, and disseminate domestic efforts abroad.

Besides that, the same as with other products, understanding the needs of the local markets, reflecting them in improving the quality of agricultural products and food, and improving the reliability will lead to strengthening of the brand. These are effective

[12] http://www.maff.go.jp/j/kanbo/tizai/brand/b_senryaku/ （2018 October, 2nd access）
[13] http://www.maff.go.jp/j/kanbo/tizai/brand/b_conso/ （2018 December, 20th access）
[14] http://www.maff.go.jp/e/policies/intel/gi_act/, (2019 February, 7th access)

for strengthening the relationships with local ECs and local distribution companies.

The value chains spreading across East Asia will soon be entering the stage of merely improving productivity to create new value added in the future. In order to respond to the new stage, it is desirable to build mutual collaboration with overseas partners and allow them to exchange experiences and skills, and link with them to develop new "value creation".

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