Republic of Indonesia
Ministry of Agriculture

Republic of Indonesia

Data Collection Survey on

Public-Private-Partnership for Activating Agricultural Promotion

Final Report

February 2017

Japan International Cooperation Agency (JICA)

International Development Center of Japan Inc. (IDCJ)

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17-010

Currency Exchange Rate

September 2016	October 2016	November 2016	3 months average
USD1=JUY102.129	USD1=JPY100.606	USD1=JPY104.758	USD1=JPY102.498
IDR1=JPY0.007701	IDR1= JPY 0.007777	IDR1= JPY 0.008023	IDR1=JPY0.007833

Abbreviations

ADD	Village Allocation Fund (*Alokasi Dana Desa)*
API-P	production importer number *(Angka Pengenal Importir Produsen)*
API-U	general impoter number *（Angka Pengenal Importir Umum）*
BAPPEDA	Organization of Regional Development Planning Board *（Badan Perencanaan Pembangunan Daerah）*
BKPM	Investment Coordination Board *(Badan Koordinasi Penanaman Modal)*
BOP	Base of the Economic Pyramid
BOS	Fund for primary and junior high school management *(Bantuan Operasional Sekolah)*
BP3K	Counseling Center for Agriculture, Fisheries and Forestry *(Balai Penyuluhan Pertanian, Perikanan dan Kehutanan)*
BPTP	Institute for Agricultural Technology *(Balai Pengkajian Teknologi Pertanian)*
BUMN	State Owned Company *(Badan Usaha Milik Negara)*
BWR	Batu Wisata Resources
DAK	Special Allocation Fund *(Dana Alokasi Khusus)*
DAU	General Allocation Fund *(Dana Alokasi Umum)*
DID	Regional Incentive Fund *(Dana Insentif Daerah)*
DOA	District Office of Agriculture and Food Crops (in Central Aceh District)
EC	E-Commerce
EPA	Economic Partnership Agreement
GAP	Good Agricultural Practice
GDP	Gross Domestic Product
GHP	Good Handling Practices
GI	Geographical Indication
GMO	Genetically Modified Organism
GMP	Good Manufacturing Practice
GRDP	Gross Regional Domestic Product
HACCP	Hazard Analysis & Critical Control Point
HRD	Human Resource Development
ICSFRI	Indonesian Citrus and Semi Tropical Fruits Research Institute
ICT	Information and Communication Technology
IJEPA	Indonesia-Japan Economic Partnership Agreement
IP	Principle Permit *(Izin Prinsip)*
ITPGR	International Treaty on Plant Genetic Resources for Food and Agriculture
JA	Japan Agricultural Cooperatives
JBIC	Japan Bank for International Cooperation
JETRO	Japan External Trade Organization
JGAP	Japan Good Agricultural Practice
JICA	Japan International Cooperation Agency

JPP	JICA Partnership Program
JTA	Japan Tourism Agency
KBI	West Indonesia *(Kawasan Barat Indonesia)*
KPTR	Sugarcane Farmer's Cooperatives *(Koperasi Petani Tebu Rakyat)*
KTI	East Indonesia *(Kawasan Timur Indonesia)*
MAFF	Ministry of Agriculture, Forestry and Fisheries
METI	Ministry of Trade, Economy and Industry
MLIT	Ministry of Land, Infrastructure, Transport and Tourism
MoA	Ministry of Agriculture
NEDO	New Energy and Industrial Technology Development Organization
NEXI	Nippon Export and Investment Insurance
ODA	Official Development Assistance
OVOP	One Village One Product
PAD	local financial resource *(Pendapatan Asli Daerah)*
PNPM	National Project on Empowerment of People *(Proyek Nasional Pemberdayaan Masyarakat)*
POS	Point of Sale
PPP	Public-Private Partnership
RIPH	Import Recommendation of Horticulture *(Rekomendasi Impor Produk Hortikultura)*
RKP	Annual Government Working Plan *(Rencana Kerja Pemerintah)*
RKPD	Annual Local Government Working Plan *(Rencana Kerja Pemerintah Daerah)*
RPJMD	Regional Medium-term Development Plan *(Rencana Pembangunan Jangka Menengah Daerah)*
RPJMN	National Medium-term Development Plan *(Rencana Pembangunan Jangka Menengah Nasional)*
RPJPN	National Long-term Development Plan *(Rencana Pembangunan Jangka Panjang Nasional)*
SL-PHT	integrated pest management field schools *(Sekolah Lapang Pengendalian Hama Terpadu)*
SME	Small and Medium-Sized Enterprise
STA	Sub Terminal of Agribusiness
TICAD	Tokyo International Conference on African Development
TPP	Trans-Pacific Strategic Economic Partnership Agreement
UNESCO	United Nations Educational, Scientific and Cultural Organization
UPOV	International Union for the Protection of New Varieties of Plants
USAID	United States Agency for International Development

Summary

1. Background and Objectives of the Study

Indonesia has marked an average annual growth rate of 5.8% during the last ten years between 2004 and 2013. With the recent economic development, the wealthy and middle-income population is expected to expand. On the other hand, poverty still prevails in rural areas, and the widening gap between the rich and the poor is one of the major challenges of the country.

Agricultural sector accounts for 40% of the workforce and 14% of (Gross Domestic Product) GDP of the country. It plays an important role to supply food, rural income, and employment to the population. The National Long-term Development Plan (RPJPN2005-2025) of Indonesia aims for establishment of a solid structure in which the agricultural economy forms the basis of an economy. Based on this objective, the new administration which started in October 2014 puts a high priority on food security. Also, the National Medium-term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional*: RPJMN2015-2019) aims at equitable growth and focuses on narrowing income and regional gaps. It also mentions the needs for development of agribusiness, sustainable agriculture and benefits for farmers, especially strengthening rural area for small-sized agricultural processing, improvement of competitiveness of agricultural products and value addition.

JICA (Japan International Cooperation Agency) has implemented projects centered on partnership between Japanese and Indonesian local governments and proposal-based projects by Japanese local governments and private companies. Japanese local governments and private entities possess know-how in promotion of local industry and sophisticated agricultural technology. Therefore, it is expected that partnership between local governments of the two countries and utilization of technology that private companies have can contribute to strengthening competitiveness of and adding value to agricultural products of Indonesia.

The present study (hereinafter called “the study”) aimed to collect necessary information to consider future cooperation projects for agricultural development in Indonesia through promotion of partnership between local governments and technology expansion by Japanese private companies. The information to be collected included the following:

1) To collect information on the latest Indonesian government’s policies on agriculture and food security and priority issues in this sector

2) To examine the Indonesian needs for cooperation in promotion of local agriculture and livestock industry, value addition, agricultural promotion through agricultural-commercial-industrial integration[1], etc. of which Japanese local governments and private actors have experience.

3) To analyze the issues that would emerge when the Japanese stakeholders collaborate with or enter

[1] Agricultural promotion through agricultural-commercial-industrial integration is currently named *sixth industrialization*,in Japan that combines primary (production), secondary (processing) and tertiary (marketing) industries at the local level.

Indonesia.

4) To analyze the potential of agricultural products and processed goods of Indonesia, and possibilities to utilize Japanese knowledge and technology in this area.

5) To consider possible JICA cooperation projects in the agriculture and livestock sector through partnership between local governments based on the findings from the steps described above.

2. Guiding Principles

First, it is imperative to develop partnership between Indonesian and Japanese local governments in a way that becomes a win-win solution for both sides. If there is little merit in the partnership for either side, it would not be sustainable. Four types of merits; 1) Export to Indonesia, 2) Import from Indonesia, 3) Business Expansion, and 4) Knowledge & Experience Sharing, were assumed. Second, this study carefully analyzed the international situation related to agriculture in Indonesia and promoted partnership between Indonesian and Japanese stakeholders in a way that prioritized areas of Japanese comparative advantage. Third, the study targeted partnerships at two levels: between private companies of Indonesia and Japan on one hand and between local governments on the other. In other words, while partnering private entities was promoted on a trial basis, it was equally important to obtain knowledge and lessons on how local governments should support such a partnership.

3. Schedule

The study was conducted from March to December, 2016. During the 1st Survey in Japan (March-April), selection of Japanese local governments was implemented, studying their agricultural situation, agricultural promotion policies, and needs in collaboration with Indonesia. In the 1st Survey in Indonesia (May-June), based on the recommendation by the Ministry of Agriculture of Indonesia, selection of Indonesian local government was made, visiting each candidate local government. Study Team interviewed on their agricultural situation, agricultural promotion policies, and needs in collaboration with Japan, and shared the information on Japanese candidate local governments. Based on the expressed interest of Indonesian local governments, in the 2nd Survey in Japan, the Study Team visited candidate Japanese local governments to share the information of Indonesian candidate local governments. By this time, four potential partners were identified.

In the 2nd Survey in Indonesia (July-August), stakeholders of candidate Japanese local governments visited their prospective partner Indonesian local governments to examine the way to collaborate. During the 3rd Survey in Japan (August-September), stakeholders of candidate Indonesian local governments visited Japanese local governments, and learned agricultural/regional promotion policies implemented at each Japanese local government. In the 3rd Survey in Indonesia (September-November), stakeholders of Japanese local governments again visited their prospective partner local governments, and they discussed concrete contents of partnership. During the 4th Survey in Japan (October-December), Final Report was prepared.

4. Overview of Strategies of Agriculture and Livestock Sector in Indonesia

Development of agriculture and livestock sector in Indonesia is conducted by the Ministry of Agriculture. Current Strategic Plan of this sector puts emphasis on; 1) production and productivity improvement (especially, rice, maize, soybeans, sugarcane, and meat), 2) food diversification, 3) improvement of competitiveness and value addition, 4) provision of raw materials for bioenergy and bioindustry, and 5) farmers' welfare.

Based on the current strategies, situations on agriculture and lovestock sector in Indonesia, and interviews and discussions in this study, the needs to collaborate with Japanese local government and private sector are assumed to be in production and productivity improvement, post-harvest, freshness-keeping, food processing, and 6th industrialization, utilizing Japanese technology and knowhow.

Although there are needs in Indonesia, there are some bottlenecks for Japanese small and medium-sized enterprises to set up business in agriculture and lovestock sector in Indonesia. First, 100% foreign capital ratio in this sector is not allowed, so it is essential for Japanese enterprises to find Indonesian partner upon starting business in Indonesia. Second, there are complicated procedures to have the recommendation letter from the Ministry of Agriculture which is necessary to obtain the the Principle Permit from the Investment Coordination Board. Also, Japanese enterprises need to pay attention to Good Agricultural Practice (GAP), Good Handling Practices (GHP), and Good Manufacturing Practice (GMP) that are not yet common in Japan.

5. Value Adding on Agricultural and Livestock Products /Rural and Regional Development by PPP in Japan

Efforts made in Japan through PPP for value adding include "Agriculture-Commerce-Industry Collaboration", "6th industrialization", and "brand establishment". Efforts for rural and regional development include "Local Production for Local Consumption/direct selling of agricultural products", "harmonious coexistence and communications between urban and rural areas/Green Tourism", "Roadside Station", "One Village One Product", and "Global Food Value Chain Strategy". Some of these were introduced to overseas through local governments and JICA.

6. Matchmaking Results and Future Direction of Collaboration

The results of matchmaking (and exchange) of five cases are summarized in the table below.

Table 1 Summary of Results of Matchmaking and Exchange

	Local Government Theme for partnership	Contents	Future prospect
1	Fukushima City-Malang City and Batu City Theme: Agriculture-commerce-industry collaboration for fruit products	• Introducing "Fukushima Model" for stable provision of high quality raw materials, and developing Fukushima-Batu brand targeting domestic and international markets, which streamlines value chain and shares higher values among stakeholders. HRD for business partner in the course of the programs. • Batu/Malang: Contributing to increasing and stabilize farmers' income and regional economic promotion. Can be a model of collaboration in Indonesia. • Benefiting Fukushima with brand label usage fee and import of raw materials: can be a model of JA to export know-how.	• JICA's Proposal Based PPP Program (2017-18)
2	Minamiboso City - Tomohon City Theme: Roadside station for agriculture and tourism development	• Developing a roadside station with 4 functions: flower market, organic vegetable farmers market, tourist information center, and evacuation shelter. • Contributing to increasing and stabilizing in farmers' income; and agriculture and tourism promotion • Can be a model combined roadside station and traditional markets.	• JICA Partnership Program (JPP) (2017-19)
3	Ochi town, Kochi Pref. -Central Aceh District, Aceh Prov. Theme: Sixth industrialization utilizing local citrus resources	• Aiming at future business partnership utilizing unused local resources, paying attention to the local value. • Components: 1) HRD for administrators for regional planning; 2) Fair Trade; 3) HRD for future business partner; 4) Institution building of farmers' groups; 5) Partnership planning by volunteers; and 6) Business development. • C.Aceh: Business development by introducing technologies and know-how; increasing and stabilizing farmers' income; and HRD of administrators for regional development. • Ochi: Future business development by HRD of business partners; and promoting "local production for trading" policy.	• Several programs including JICA Partnership Program (JPP) (2018-20)
4	Kobe City- Semarang City Theme: Suburban agriculture promotion through "Gastropolis" concept	• Starting from exchange of human resources; considering partnership for the future utilizing the similarity of both cities. • 1) Marketing and branding Semarang products to urban consumers in Jakarta; 2) conserving and refining Kota Lama area for tourism destination utilizing experience of Kobe; and 3) Identifying the potential of business partnership in the future. • Semarang benefits from introducing know-how and experience of Kobe for regional development. Kobe benefits from contributing to public relations, increasing tourists, and marketing of Kobe foods.	• Under consideration: possibility of JICA program
(5)	Hyogo Prefecture - East Lombok District Theme: Knowledge and experience sharing for linking agriculture to tourism markets	• Ideas for partnership: 1) farmer exchange program, and 2) roadside station. • East Lombok benefits from introducing technologies and know-how for regional development. Hyogo benefits from raising awareness of farmers and HRD of local governments and roadside stations.	• Under consideration: possibility of JICA program

Source: JICA Study Team

7. Discussion and Recommendation for Possible JICA Cooperation Projects

(1) Discussion and Analysis

Result of the matchmaking was analyzed from the viewpoint of type of partnerships by participants, types of merits, surrounding condition in Indonesian target areas, and benefits for actors.

Type of Partnership by Participants

Three types of partnership are identified through the study; 1) private sector led (Fukushima, Ochi), 2) local government led (Kobe, Hyogo), and 3) third sector led (Minamiboso), based on who actually participated in the mutual visits and discussion for partnerships. Three cases involving private sector (including third sector) reached to the detail discussion for partnership, as they have more incentives for partnerships. Local government led cases brought future possibility for partnership.

Types of Merits for Both Sides

All cases resulted in starting from type D) Knowledge & Experience Sharing, and are gradually expanded to other stages. This is because the level of processing in target area, except Gayo coffee in Central Aceh District, was turned out to be equivalent to cottage industry, and human resource development of business partners is needed in the first place.

Surrounding Condition and Necessary Approach

According to the conditions where target city is located, the necessary approach differs. Semarang city is located urban areas. Marketing Suburban Agriculture is the suitable approach here. Batu and Malang cities are relatively developed areas with better access to the market. The approach for market-oriented Agriculture-Commerce-Industry Collaboration is considered. Central Aceh district is relatively less developed area with limited access to the market. The approach for sixth industrialization can be introduced with utilizing local resources such as oranges within their capacities. Tomohon city and East Lombok district have good access to tourism market. It aims at increasing farmers' income and regional economic promotion by liking agriculture to tourism.

Benefits for Actors

The cases involving private sector are straightforward about future benefits. However, the benefits in the cases involving only public sector or third sector are more indirect such as knowledge sharing with more international cooperation aspects.

(2) Significance of this Study

First, this study played a role of the preliminary study for future partnership and business in Indonesia which is usually difficult for Japanese local governments and SMEs to conduct individually. Especially, it contributed in finding target areas suitable for their business and approaches, and partners. Second, the study team examined the potential partnerships considering the needs of both side and proposed approaches of Japanese local government. This was found out to be an effective way of matchmaking.

Third, the study was able to provide new ideas for agricultural and livestock promotion in Indonesia. In the needs identification in Indonesia, many of Indonesian local governments showed interests in export to Japan and provision of processing technology and facilities. In Indonesia, production increase and value adding by processing through introduction of technology and investment on facilities are common agricultural promotion efforts. However, in discussions on partnership with Japanese local governments, new ideas such as potential of Indonesian market compared to declining Japanese market and approach-based agricultural promotion policies were shared with Indonesian local governments. Fourth, even there was no concrete idea for partnership in advance, under certain circumstances, a potential for partnership could be identifies through mutual visit. It means the study also identifies the needs of participated local governments for addressing various challenges such as capacity development towards globalization. However, it is not efficient to utilize the limited resources like this study just to identify such needs.

(3) Issues and Challenges Identified in the Study Method

1) Targeted Program and Follow-Up

- Setting target: clarifying the targeted project/program to be identified.
- Needs for following up of the study.
- Preparation of scheme for the output of the study such as 1) long-term training for business partner development and 2) package projects including various components.

2) Matching Method and Detail Study

- Streamlining and coordination of policy priority before the study.
- Intensive study of Indonesian needs as well as Japanese needs and resources.

3) Efficient Operation

- Efficient study by targeting participation of stakeholders for reducing coordination cost.
- Practical study involving local governments and private sectors.

(4) JICA Cooperation Projects in the Agriculture and Livestock Sector through Partnership between Local Governments

As results of the study, Japanese private sector and local governments recognized the necessity of level up of whole process of value chain by introducing rural economic promotion approaches practiced in Japanese local government to facilitate future partnership. Approaches by Japanese local governments are turned out to be effective to address the Indonesian challenges. These are approaches for 1) value adding on agricultural and livestock products and 2) rural and regional development through PPP. These programs include sixth industrialization, agriculture-commerce-industry collaboration, roadside station, and so on. Through these processes, capacities and abilities necessary for business are developed such as human resource, product development, quality control, and branding and marketing. In this regards, Japanese approaches meet the needs of Indonesian local government for agriculture and livestock

development. Furthermore, introduction of these approaches can strengthen the capacities of private sector necessary for business partnership with Japanese companies.

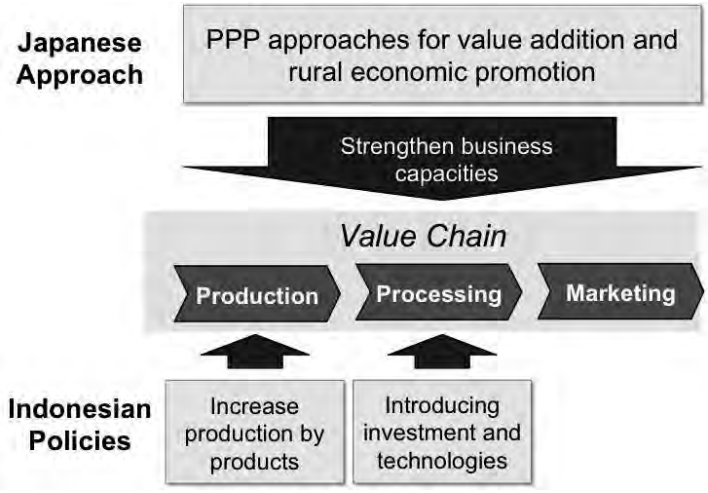

Figure 1 Indonesian Policies and Japanese Approaches

Source: JICA Study Team

On the other hand, this study also identified the needs of Japanese local governments and firms for partnership with Indonesian local governments. Those are: needs for preliminary study for JICA's Proposal Based PPP Program and JPP; and potential needs for future partnership between local governments. Therefore, this study identified the needs of both parties and possibilities of JICA cooperation project by facilitating partnership between local governments, which the study can contribute to promote these projects.

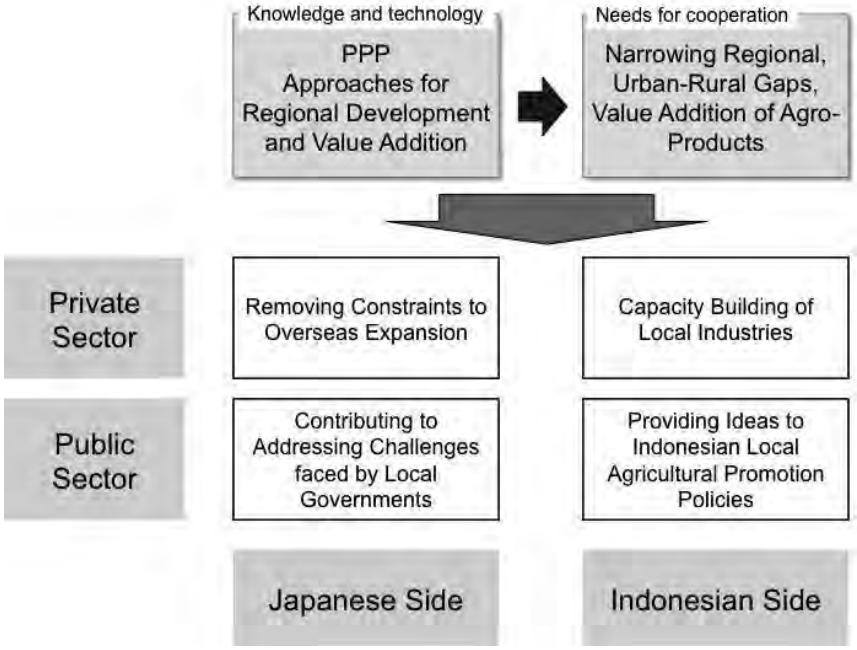

Figure 2 Needs for Local Government Partnership

Source: JICA Study Team

The study proposes the following actions tailored to the proposed programs for further steps.

1) Needs Identification and Preparation Tailored to the Types of Potential Projects

This study identified potential partnership projects in three types: 1) private-led partnership project, 2) international cooperation project, and 3) local government-led partnership. In future similar studies, needs identification and preparation tailored to these types are needed.

Table 2 Type of Partnership and Needs Identification

Type	Contents	Benefits	Approach	Needs Identification and Preparation
Private-led Partnership	Private sector with willingness to invest supported by local government	Business partnership Local economy promotion	Combination of local economy promotion approaches and business partnership	Needs identification and preparation as preliminary study to JICA private partnership projects
International Cooperation	Local government interested in international cooperation	Local vitalization by international cooperation	Any approaches	Needs identification and preparation as preliminary study to JICA partnership programs (JPP) especially focusing on Japanese resources. Training for Japanese local governments who are interested in JPP.
Local Government-led Partnership	Partnership between local governments for future benefits of both	Overseas marketing (Kobe) Potential needs (Hyogo) Readiness for globalization	Experience and knowledge sharing	Raising awareness such as training and public relations for Japanese local governments.

Source: JICA Study Team

Private-led Partnership

Identifying Japanese private firms with willingness to begin business in Indonesia is the first step. This study identified the firms who have relationship and willingness to start business in Indonesia; local governments supported those initiatives. It is the first step to identify these firms as seeds searching from the inventory of firms proposed to JICA's Proposal Based PPP Program.

The study also identifies Indonesian local governments' needs depending on the environment surrounding the local governments. The needs identification and preparation focusing on the identified specific needs is an efficient way.

International Cooperation

Targets of this type are the Japanese local governments who have interests in JICA cooperation projects or international partnership. These local governments can be identified from inventories of local governments proposed to JPP and local governments involved in JICA cooperation projects/programs

such as training in Japan. In addition, to increase the number of such local governments, training and/or seminars for local governments and firms is effective.

The needs identification and preparation focusing on the identified specific needs is an efficient way in case that the specific needs are identified in respective country.

Local Government-led Partnership

This type does not have private actors, and contents of partnership are not so concrete compared to above 2 types. These cases also have potentials to expand to types of partnership of private partnership and international cooperation. The trial of these cases in this study also identifies the needs of participated local governments for addressing various challenges such as capacity development towards globalization. Awareness raising and public relations for Japanese local governments are effective for future local government-led partnerships.

2) Following Up

Local governments participated in this study strongly requested JICA for the following up of the study. They strongly requested to assign consultants as facilitators for follow-up. Most of them were not aware of the available JICA schemes for cooperation projects/programs. Participants also requested JICA to hold training and seminar to introduce and study JICA programs and their procedures.

3) Increase Flexibility of Schemes for the Proposed Projects

There were some gaps in the available JICA schemes and project/programs to implement some of the proposed projects for partnership. Local government participants requested JICA to increase the flexibility of programs to be suitable for citizen participation, though cost-effectiveness needs to be taken into account.

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Figures and Tables

Chapter 1 Outline of the Study

1.1 Outline of the Study

1.1.1 Background

Indonesia has marked an average annual growth rate of 5.8% during the last ten years between 2004 and 2013. With the recent economic development, the wealthy and middle-income population is expected to expand. The agricultural sector accounts for 40% of the workforce and 14% of (Gross Domestic Product) GDP of the country. It plays an important role to supply food, rural income, and employment to the population. On the other hand, poverty still prevails in rural areas, and the widening gap between the rich and the poor is one of the major challenges of the country.

The National Long-term Development Plan (RPJPN2005-2025) of Indonesia aims for establishment of a solid structure in which the agricultural economy forms the basis of an economy. Based on this objective, the new administration which started in October 2014 puts a high priority on food security. Also, the National Medium-term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional*: RPJMN2015-2019) aims at equitable growth and focuses on narrowing income and regional gaps. It also mentions the needs for development of agribusiness, sustainable agriculture and benefits for farmers, especially strengthening rural area for small-sized agricultural processing, improvement of competitiveness of agricultural products and value addition.

JICA (Japan International Cooperation Agency) has implemented projects centered on partnership between Japanese and Indonesian local governments and proposal-based projects by Japanese local governments and private companies. Japanese local governments and private entities possess know-how in promotion of local industry and sophisticated agricultural technology. Therefore, it is expected that partnership between local governments of the two countries and utilization of technology that private companies have can contribute to strengthening competitiveness of and adding value to agricultural products of Indonesia.

The present study (hereinafter called “the study”) was conducted to analyze possibilities of partnership between local governments in Indonesia and Japan and to consider the potential of future cooperation utilizing Japanese know-how in this area. In addition, the study organized a visit by members of Indonesian local governments to Japan and field visits in Indonesia by members of Japanese local governments. The study examined best ways to develop partnership between local governments in the two countries by actually doing so on a trial basis. Through these, the study has sought concrete ideas of future cooperation that could contribute to agricultural development in Indonesia.

1.1.2 Objectives of the Study

The study aimed to collect necessary information to consider future cooperation projects for agricultural development in Indonesia through promotion of partnership between local governments and technology expansion by Japanese private companies. The information to be collected included the following:

1) To collect information on the latest Indonesian government's policies on agriculture and food security and priority issues in this sector
2) To examine the Indonesian needs for cooperation in promotion of local agriculture and livestock industry, value addition, agricultural promotion through agricultural-commercial-industrial integration[2], etc. of which Japanese local governments and private actors have experience.
3) To analyze the issues that would emerge when the Japanese stakeholders collaborate with or enter Indonesia.
4) To analyze the potential of agricultural products and processed goods of Indonesia, and possibilities to utilize Japanese knowledge and technology in this area.
5) To consider possible JICA cooperation projects in the agriculture and livestock sector through partnership between local governments based on the findings from the steps described above.

1.1.3 Target Areas

Based on discussion with the Indonesian government and Japanese local governments, the study targeted four to five selected local governments from all over Indonesia.

1.2 Guiding Principles and Works

1.2.1 Guiding Principles

Principle 1: To realize a win-win partnership for Indonesia and Japan

It is imperative to develop partnership between Indonesian and Japanese local governments in a way that becomes a win-win solution for both sides. If there is little merit in the partnership for either side, it would not be sustainable. An agriculture promotion project in Indonesia should not only benefit Indonesian side, but also directly benefit Japanese side. This is especially true in a public-private partnership project. Four types of merits can be expected through public-private partnership for agricultural promotion projects in Indonesia. These models served as the basis of the study.

[2] Agricultural promotion through agricultural-commercial-industrial integration is currently named *sixth industrialization*,in Japan that combines primary (production), secondary (processing) and tertiary (marketing) industries at the local level.

Table 1.1 Four Types of Merits for Both Sides in Public-Private Partnership for Agricultural Promotion in Indonesia

Type	Merit for Japan	Merit for Indonesia
A) Export to Indonesia	Japanese machines, tools and software will be exported to Indonesia. Japanese companies will be benefited from export expansion. Japanese local governments will also be benefited from the industrial development in their localities. Technical assistance without marketing of Japanese products is not applicable.	Higher agricultural productivity utilizing Japanese technology.
B) Import from Indonesia	Japanese agriculture and livestock processers and food distributors will be benefited from importing raw, half-processed and processed agricultural products from Indonesia. Japanese companies can obtain safe and low-cost food materials steadily. As a result, Japanese local governments can realize local industry promotion. Technical assistance to produce agricultural products tailored to export to Japan is also applicable in this model.	Marketing by farmers, farm technology acquisition
C) Business Expansion	Japanese companies expand their business overseas by applying their business model to Indonesia. By sharing knowledge on local industry promotion targeting domestic market with Indonesian counterpart, Japanese local governments obtain new perspectives on local industry promotion with options of overseas expansion.	Employment creation, technology acquisition
D) Knowledge & Experience Sharing	By sharing knowledge on local industry promotion targeting domestic market with Indonesian counterpart, Japanese local governments obtain new perspectives on local industry promotion with options of overseas expansion.	Learning from Japanese experience

Source: JICA Study Team

Principle 2: To support areas where Japan has comparative advantage and have brighter prospects

The economic ties between Indonesia and neighboring Asian countries are getting stronger these days. It is often the case that Japanese companies try to sell their products in Indonesia only to find cheaper products from China, etc. already penetrate the market. Therefore, this study carefully analyzed the international situation related to agriculture in Indonesia and promoted partnership between Indonesian and Japanese stakeholders in a way that prioritized areas of Japanese comparative advantage.

Principle 3: To find ways for "public" actors to support private partnership between Indonesia and Japan

This study targeted partnerships at two levels: between private companies of Indonesia and Japan on one hand and between local governments on the other (Figure 1.1). In other words, while partnering private entities was promoted on a trial basis, it was equally important to obtain knowledge and lessons on how local governments should support such a partnership. To do so, the study carefully considered the difference in perspectives of private and government stakeholders.

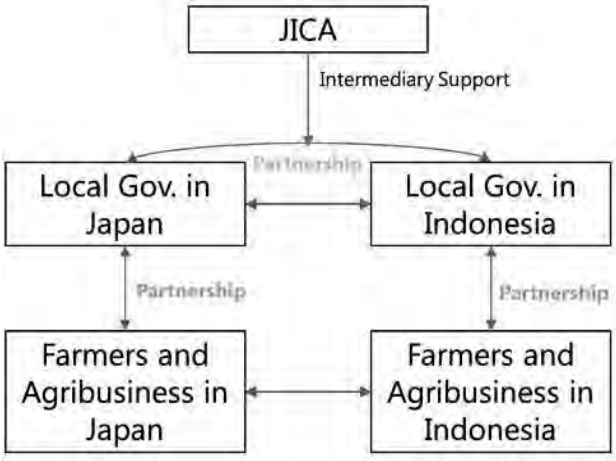


Figure 1.1 Image of Public-Private Partnership in This Study

While there are many cases of support for business matchmaking provided by JETRO (Japan External Trade Organization) or Japanese prefectures, successful cases that reach partnership agreement are not many. The cases where partnership last long are even fewer. If the partnership involves only private companies, there are problems in expansion and continuation of business. Therefore, it would be more realistic to partner local governments first using the knowledge sharing model. Then, within that framework, win-win partnership projects between companies will be formulated so that they will grow into public-private partnership projects that are beneficial to both sides in the long run. For this approach, the study team selected candidate local governments that possess a clear vision on what they want to promote and are willing to work with Indonesia for that purpose.

Moreover, the study prepared recommendations to JICA on how to support public-private partnership in the agriculture sector in Indonesia. This was done by taking into consideration the four-type models mentioned above. As part of this effort, the study facilitated partnerships among local governments and private entities with the following JICA schemes in mind, namely Preparatory Survey for BOP (Base of the Economic Pyramid) Business Promotion, Collaboration Program With The Private Sector For Disseminating Japanese Technology, Small and Medium-Sized Enterprise (SME) Partnership Promotion Survey, Feasibility Survey for the Private Sector for Utilizing Japanese Technologies in Official Development Assistance (ODA) Project, Verification Survey With The Private Sector For Disseminating Japanese Technologies, and JICA Partnership Program (JPP)[3].

1.2.2 Major Steps of Work

The Study was conducted in the following steps.

1st Survey in Japan

[1] Formulation of Inception Report

Inception Report was prepared by considering guiding principles, methodology, and schedule of the

[3] Under these schemes, the implementers of the project formulate the project and propose it to JICA. Therefore, these schemes are called “proposal based programs.”

overall study. The study team explained the Inception Report to JICA and discussed its contents.

[2] Collection and analysis of related data

Related data was collected and analyzed on efforts by Japanese local governments and private entities. Through this, the study team identified their knowledge, know-how, and technology in the agriculture and livestock sector, and examined possibilities to utilize them in Indonesia.

[3] Selection of candidate local governments (Japan)

In close consultation with JICA, a long list of candidate Japanese local governments was developed, which was then narrowed down to a short list of final candidates.

[4] Investigation on possibility of collaboration and business chances

In parallel with the selection of candidate local governments, the study team identified knowledge, know-how, and technology that the selected candidate local governments and private entities have. Then, possibilities of collaboration and business chances between the two countries was considered.

1st Survey in Indonesia

[5] Discussion of Inception Report

Inception Report prepared in Japan was explained to and discussed with The Ministry of Agriculture (MoA) of Indonesia and JICA Indonesia Office.

[6] Collection and analysis of related data, including policy and development plans of Indonesia

Necessary information such as the development plans and needs for collaboration with Japanese local governments was collected from MoA, provincial governments, and district/city governments that had been tentatively listed in the list of candidates.

[7] Information collection on the investment and business environment in Indonesia

The information on the overall investment and business environment in Indonesia and that of the agriculture and livestock sector was collected from JETRO Jakarta Office.

[8] Selection of candidate local governments (Indonesia)

In consultation with the MoA and JICA Indonesia Office, a long list of candidate local governments from the Indonesian side was developed. Based on the interview described under [6], the list was narrowed down as a short list. The study team explained the short list of the Japanese candidates to each candidate local government, provided detailed information on each, and collected the information of which Japanese candidate they were interested in partnering with.

[9] Investigation on possibility of collaboration and business chances

Based on the information obtained through [6] and [8] above, possibilities for collaboration with

Japanese local governments were considered.

[10] Preparation for the field visit by Japanese local governments to Indonesia

Necessary preparation was made for the field visits by Japanese local governments to Indonesia, in consultation with the MoA.

2nd Survey in Japan

[11] Investigation on possibility of partnership between local governments and business chances for Japanese companies

Based on the result of the 1st survey in Indonesia, the study team examined possible partnerships between local governments in two countries. The study team visited the candidate Japanese local governments to explain the result of the 1st survey in Indonesia and interviewed them on which Indonesian candidates they were interested in partnering with.

[12] Selection of Japanese local governments to participate in field visits and host the Indonesian visit.

Based on the expression of interests by both sides, the Japanese local governments to participate in field visits and host the Indonesian visit were decided.

[13] Consideration of possible business projects

Based on the result of [12] above, the study team considered possible business projects.

[14] Preparation for the field visit by the selected Japanese local government stakeholders to Indonesia

Necessary preparation was made for the 1st field visit by Japanese local governments to Indonesia.

2nd Survey in Indonesia

[15] Field visit by Japanese local government stakeholders to Indonesia

The 1st field visit by Japanese local governments to Indonesia was conducted in the way described below.

[16] Visit to partner local governments by Japanese local government stakeholders

The Japanese visitors visited the Indonesian local governments to confirm the situation and their needs. They also collected information on business chances for introduction of their technology, bottlenecks in collaboration, etc.

[17] Reporting the result of the visit

At the end of the visit by the Japanese local governments to Indonesia, the study team reported the result of the visit to MoA and JICA Indonesia Office. Originally, a workshop was planned to be held to present Japanese knowledge, know-how, and technology on local industry promotion, value addition to

agricultural products, etc. to Indonesian government stakeholders (central and regional levels) and discuss with them. However, this was replaced by the reporting meetings considering the fact that the identification of potential partners was done prior to the visit and therefore there was not a need for a trade show-like workshop.

3rd Survey in Japan

[18] Planning and preparation for a visit by the selected Indonesian local government stakeholders to Japan

A field visit by the selected Indonesian local governments to Japan (Japan Visit Program) was conducted. The aim of the visit was to collect information on Japanese experience, know-how, and technology of farmers' market, agricultural and livestock technology, local industry, sixth industrialization, etc. so that the participants can determine whether they match the needs of the Indonesian side.

[19] Investigation on possibility of collaboration at local government levels

Based on the results of the field visit by the Indonesian side, the study team further investigated the possibility of collaboration at local government levels.

[20] Additional information gathering and analysis

Based on the results of the field visit by the Indonesian side, additional information was gathered as needed.

3rd Survey in Indonesia

[21] Field visit by Japanese local government stakeholders to Indonesia

The 2nd field visit by Japanese local governments to Indonesia was conducted.

[22] Preparation of recommendation of possible partnership projects

In consultation with stakeholders in the two countries, the study team considered possibilities and concrete measures to formulate local governments' partnership projects as JICA projects.

[23] Reporting to the Indonesian government

Compiling the results of the study, the study team reported the result and future direction of the study to the Indonesian government.

4th Survey in Japan

[24] Preparation of recommendation toward future JICA projects

Based on the information collected (on the needs for assistance, etc.) and results of the 3rd survey in Indonesia, possible partnership projects with high feasibility were identified. The recommendation to JICA was made showing the direction and steps forward for its future cooperation that would ensure sustainability of business.

[25] Preparation of Draft Final Report (DF/R)

Compiling the results of works in Japan and Indonesia, Draft Final Report was developed.

[26] Support to hold a feedback workshop

The study team supported JICA to hold a workshop to feedback the result of the study to JICA staff.

[27] Preparation of Final Report (F/R)

Incorporating comments obtained through the feedback workshop above, the study team revised the DF/R and prepared Final Report.

1.2.3 Overall Flow of Work

The figure below shows an overall flow of work done through the study.

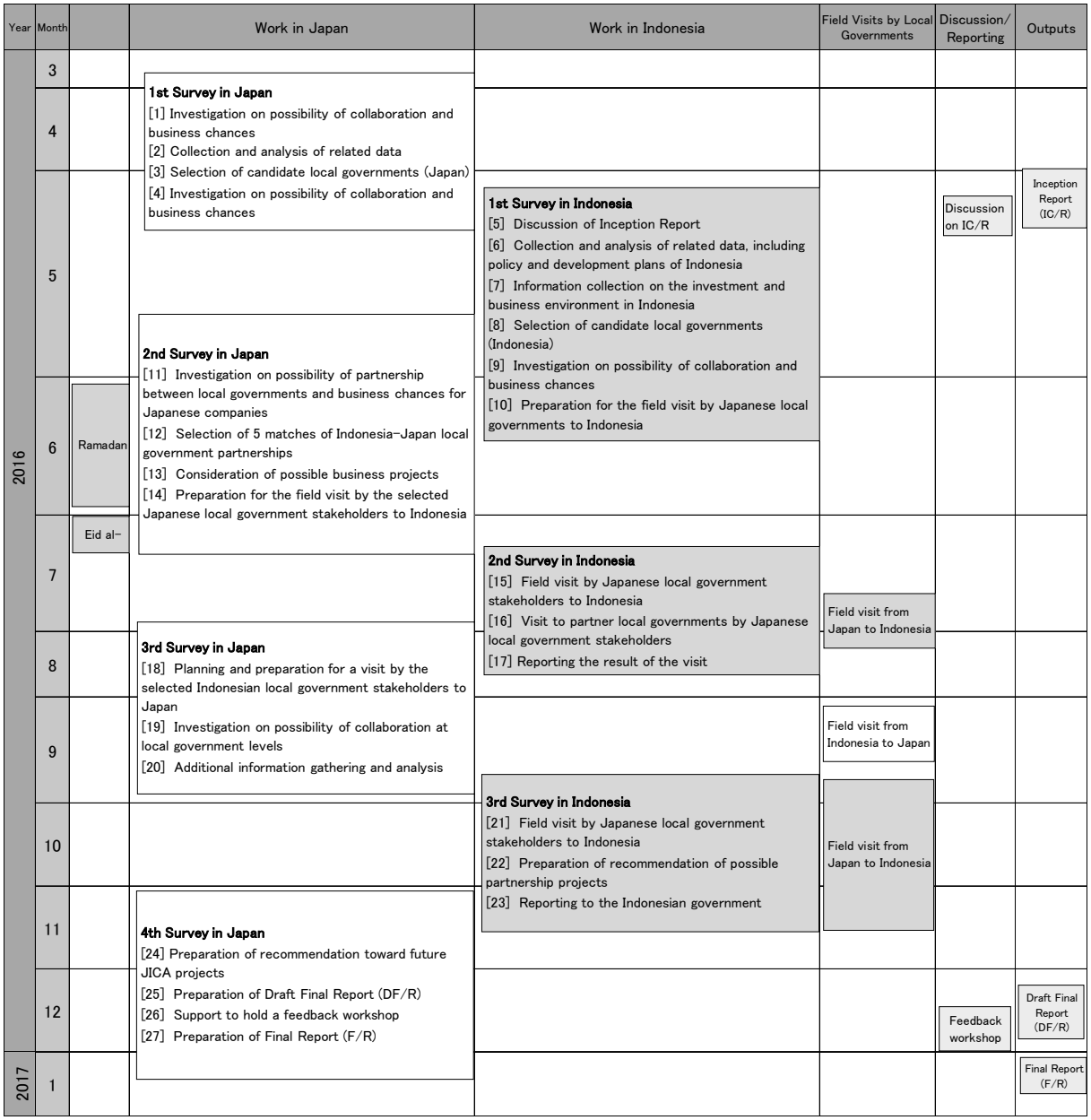


Figure 1.2 Overall Work Flow

1.2.4 Work Schedule

The overall work schedule of the study is shown in the table below.

Table 1.2 Work Schedule

	Activity	2016										2017
		3	4	5	6	7	8	9	10	11	12	1
1st Survey in Japan	[1] Formulation iof Inception Report (IC/R)											
	[2] Collection and analysis of related data											
	[3] Selection of candidate local governments (Japan)											
	[4] Investigation on possibility of collaboration and business chances											
1st Survey in Indonesia	[5] Discussion of Inception Report											
	[6] Collection and analysis of related data, including policy and development plans of Indonesia											
	[7] Information collection on the investment and business environment in Indonesia											
	[8] Selection of candidate local governments (Indonesia)											
	[9] Investigation on possibility of collaboration and business chances											
	[10] Preparation for the field visit by Japanese local governments to Indonesia											
2nd Survey in Japan	[11] Investigation on possibility of partnership between local governments and business chances for Japanese companies											
	[12] Selection of 5 matches of Indonesia-Japan local government partnerships											
	[13] Consideration of possible business projects											
	[14] Preparation for the field visit by the selected Japanese local government stakeholders to Indonesia											
2nd Survey in Indonesia	[15] Field visit by Japanese local government stakeholders to Indonesia											
	[16] Visit to partner local governments by Japanese local government stakeholders											
	[17] Reporting the result of the visit											
3rd Survey in Japan	[18] Planning and preparation for a visit by the selected Indonesian local government stakeholders to Japan											
	[19] Investigation on possibility of collaboration at local government levels											
	[20] Additional information gathering and analysis											
3rd Survey in Indonesia	[21] Field visit by Japanese local government stakeholders to Indonesia											
	[22] Preparation of recommendation of possible partnership projects											
	[23] Reporting to the Indonesian government											
4th Survey in Japan	[24] Preparation of recommendation toward future JICA projects											
	[25] Preparation of Draft Final Report (DF/R)											
	[26] Support to hold a feedback workshop											
	[27] Preparation of Final Report (F/R)											
	Reporting			IC/R						DF/R		F/R

1.2.5 Work Schedule of the Study Team Members

The table below shows the list of members of the study team and the work schedule of each member.

Table 1.3 Work Schedule of the Study Team Members

Name (Affiliation)	Position	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
Hiroshi YOSHIMURA (IDCJ)	Team Leader/ Regional Development/ Utilization of Local Resources 1										
Mana NAGAO (TAKASUGI) (IDCJ)	Deputy Team Leader/ Analysis and Promotion of Partnership 1										
Kazuhisa MATSUI (IDCJ)	Regional Development/ Utilization of Local Resources 2										
Jun TSURUI, Ph.D. (IDCJ, Sustainable Inc.)	Promotion of Agricultural and Livestock Processing/ Agricultural Management										
Nami MUTO (YASUMURO) (IDCJ)	Project Administration										
Mihoko AOYAGI (KIKUCHI) (IDCJ)	Analysis and Promotion of Partnership 2										

: Work in Indonesia : Work in Japan

1.2.6 Outputs

The outputs of the study are as shown in the table below.

Table 1.4 Outputs of the Study

Name of Report	Timing
Inception Report	May 2016
Draft Final Report	November 2016
Final Report	February 2017

Chapter 2 Indonesia Overview

2.1 Development Policy and Development Plan of The Government

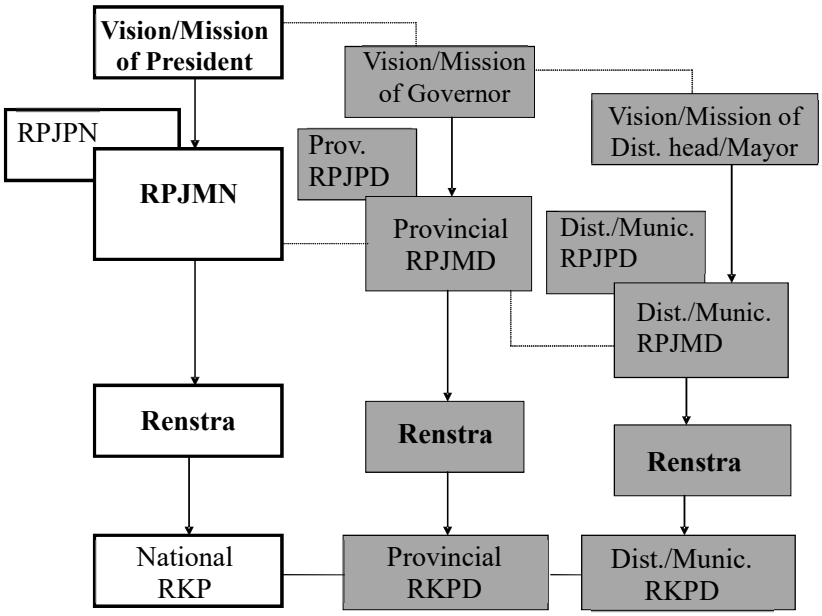
2.1.1 Basic Direction of Development Policy in the Joko Widodo Administration

National development vision of the Joko Widodo (Jokowi) administration is "Realize Indonesia with sovereignty, independence and personality with mutual assistance". This vision was set by a president-vicepresident candidate pair (Joko Widodo–Jusuf Kalla) during presidential election in 2014. This vision emphasizes the independence and personality of Indonesia as a nation and indicates its nationalistic sentiment.

In the presidential election, Joko Widodo – Jusuf Kalla used the 9 National Development Agenda (*Nawacita*) as the national mission, as follows;

1. Realization of safe and secure nation for all the people
2. Government management without corruption and execution of reform to recover trust from the people
3. Construction of Indonesia based on strengthening of marginals regions and villages
4. Eradication of weak nation through reform and realization of rule of law
5. Realization of high quality life through education and land reform
6. Realization of nationals with productive and high international competitiveness
7. Realization of economic independence by mobilizing national economic strategic sector
8. Awareness revolution of the people through educational reform
9. Respect of diversity through education and dialogue, and strengthening of social restoration

Those vision and mission set in the presidential election became current national vision and mission as the base for *RPJMN*.



RPJPN: National Long-term Development Plan
RPJPD: Regional Long-term Development Plan
RPJMN: National Medium-term Development Plan
RPJMD: Regional Medium-term Development Plan
RKP: Annual Government Working Plan
RKPD: Annual Local Government Working Plan

Figure 2.1 Relation among Central, Provincial, and District/City of Development Plans
Source: JICA Study Team

2.1.2 System of National Development Plan and Relationship to Regional Development Plan

As seen in Figure 2-1, Indonesia currently has two kinds of national development plans; the National Long-term Development Plan (*Rencana Pembangunan Jangka Panjang Nasional: RPJPN [2005-2025]*), and the National Medium-term Development Plan (*RPJMN [2015-2019]*). *RPJPN [2005-2025]* was set in the Yudhoyono administration (2004-2014), and *RPJMN [2015-2019]* was in the current Joko Widodo administration (2014-now).

Structurally, *RPJMN* is put under *RPJPN*. However, because new government does not always follow the *RPJPN* made by previous government, in reality, current *RPJMN* is regarded as more important plan than current *RPJPN*.

The base of RPJMN is vision and mission set by the current president and vice-president when they were candidate pair in the presidential election. RPJMN was formulated to realize that national vision and mission[4]. In the local head election, vision and mission of the elected candidate pair becomes regional vision and mission and they formulate the Regional Medium-term Development Plan (Rencana

[4] In Indonesia, the direct presidential election system was introduced in 2004, with candidate pairing of president and vice-president. The same system was applied to election of governor, district head (Bupati), and mayor. This is similar system of that is in the US and vision and mission of the elected candidate pair directly becomes national vision and mission. Before 2004, the president was elected by People's Consultative Assembly (Majelis Permusyawaraan Rakyat: MPR), and the local head was by local parliament.

Pembangunan Jangka Menengah Daerah: RPJMD).

Formulation of Ministry's Medium-term Plan is based on this RPJMN. Ministry's Medium-term Plan is in the form of Strategic Plan (Rencana Strategis: Renstra) for 5 years including important issues, main programs to solve issues and problems, and outcomes with numerical goals. Each directorate in a Ministry also formulates their Renstras. Based on this Renstra, Annual Government Working Plan (*Rencana Kerja Pemerintah: RKP*) is formulated with concrete name and budget of project.

Duration period of RPJMD in province and district/city basically depends on the period of local head. Currently, implementation periods of local head election vary. So, duration period of RPJMD are also different among local governments and not the same as that of RPJMN. Coordination between RPJMN and RPJMD is through RKP and Annual Local Government Working Plan (*Rencana Kerja Pemerintah Daerah: RKPD*)[5].

Based on division of roles in central, provincial, and district/city government in decentralization, RPJMN indicates general and national development direction and strategies. Provincial RPJMD indicates provincial development direction and strategies focusing on inter-regional matters among district/city in the province. It is district/city governments that formulate concrete sector and region-specific strategies and policies. District/city governments play the most important role to formulate and implement their concrete development policy and planning of agriculture and livestock under current local autonomy structure.

However, ministries in central government also have their own national budget and conduct their own development projects in regions. There are two kinds of national budget funds; Deconcentration (dekonsentrasi) and Support Works (tugas pembantuan)[6].

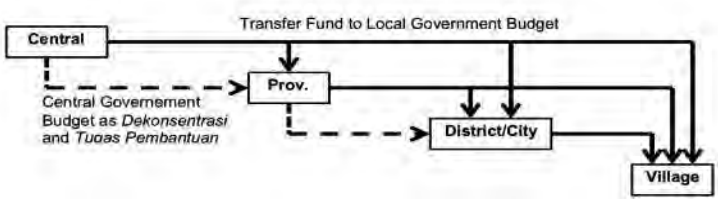


Figure 2.2 Flow of Development Fund from Central to Local Government
Source: JICA Study Team

In this sense, district/city government has not only its own budget projects but also other projects by national budget from ministries and provincial budget. In addition, transfer fund from central

[5] Currently, Government of Indonesia plans to conduct local head direct elections more simultaneously to save the national expenditure. If this realizes, the inconsistency of budget duration period between *RPJMN* and *RPJMD* will be diminished. But it is very difficult to return back to old centralistic system that *RPJMD* can only be formulated after formulation of *RPJMN*. The coordination between *RPJMN* and *RPJMD* will be still through *RKP* and *RKPD*.

[6] Deconcentration (*dekonsentrasi*) is a project conducted by provincial government, based on transfer of authority from central government to governor (as the head of provincial government) because governor is an agent of central government. Support work (*tugas pembantuan*) is a project of central government but the implementation is entrusted to provincial, district/city, and village government. In support works, central government owns its authority and local governments have responsibility to report and implement under central government.

government is sent to provincial and district/city governments, and redistribution fund from provincial government to district/city governments. Most of personnel expenses are paid from General Allocation Fund (*Dana Alokasi Umum: DAU*) from central government (Figure 2.2).

2.1.3 Central-Local Financial Relation and Problems on Regional Development

Local autonomy in Indonesia is mainly functioned by district/city government level. District/city government has only autonomy function. On the other hand, provincial government also has autonomy function on inter-regional matters among districts/cities, but also has agent function of central government. In reality, the agent function of provincial government to coordinate districts/cities is stronger than its autonomy function to lead them.

Development funds from central to local government are not only fund transfer to local government budget, but also ministry budget of central government as Deconcentration (dekonsentrasi) and Support Works (tugas pembantuan) to conduct the ministry's project in region. The latter is usually maneged by provincial government as an agent of central government.

(1) Transfer Fund from National Budget to Local Budget

National Government Expenditure consists of Central Government Expenditure and Transfer to Regionas and Village Funds. The latter is about 33% of total expenditure (Table 2.1). Most of the Transfer to Regions are Balance Funds, followed by Specific Autonomy Funds and Fund for Yogyakarta, and Other Transfer. Village Funds is a new scheme, formed by Law No. 6 in 2014 on Village Administration, and is allocated equally to villages via district/city government.

1) Balance Funds

Balance Funds consist of Revenue Sharing, *DAU*, and Special Allocation Fund (*Dana Alokasi Khusus: DAK*).

Revenue Sharing is refund of a part of national revenue to source local government. The target is income tax, land and building tax, and revenue from natural resources (forestry, fishery, mineral and coal, oil and gas, and geothermal). Generally, 20% of income tax, 80% of land and building tax, and 80% of revenue of natural resources are refunded to source province and district/city. Refund to province is refunded again to source district/city.

DAU is a kind of block grant to province and district/city, culculated in a formula weighted by population, area, poor population ratio, per capita income etc.. In principal, local governments with rich natural resources have relatively smaller allocation, and more allocation to local government with poor natural resources to decrease financial gap among local governments. 10% of total *DAU* is allocated to province and 90% to district/city. Personnel expenses of local government officials is paid from *DAU*. Except debt paymant to central government, the remaining can be utilized freely by local government. However, most districts/cities face high portion of personnel expenses and the remaining of *DAU* is not enough to investment in others such as infrastructure.

DAK is for specific projects to achive national development objectives. It includes basic infrastructure construction, economic development in border areas, and disaster control, especially in undeveloped areas spcified by central government.

Special Autonomy Fund is allocated to Papua and West Papua Provinces and Aceh Province. The amount is 2% of total *DAU*. The former (70% to Papua Province and 30% to West papua Province) is allocated until 2033 and the latter until 2028, as additional fund to education, health, and road infrastructure. In addition, there is other special fund for Yogyakarta Special Region. Because of specific historical position, central government allocates fund to Yogyakarta for culture, administration and spatial plannning.

2) Other Transfer Fund

There are several Transfer Funds such as Support Fund for primary and junior high school management (*BOS*), duty allowance and income allowance for local government officials and school teachers, and performance-based project fund for local governments that achived the target in pilot project of infrastruture.

In addition, there is Regional Incentive Fund (*DID*). This fund is allocated to local governments with high accountability of budget report evaluated by Board of Audit.

Table 2.1 National Budget of Indonesia (2012-2016)

(Unit: Billion Rp.)

	2012	2013	2014	2015	2016
	Realized	Realized	Realized	Revised	Budget
A. Government Revenue	1,338,109.6	1,438,891.1	1,550,490.8	1,761,642.8	1,822,545.9
A.1. Domestic Revenue	1,332,322.9	1,432,058.6	1,545,456.3	1,758,330.9	1,820,514.1
A.1.1. Tax Revenue	980,518.1	1,077,306.7	1,146,865.8	1,489,255.5	1,546,664.6
A.1.1.a. Domestic Tax Revenue	930,861.8	1,029,850.1	1,103,217.6	1,439,998.6	1,506,577.5
A.1.1.b. International Trade Tax Revenue	49,656.3	47,456.6	43,648.1	49,256.9	40,087.1
A.1.2. Non-Tax Revenue	351,804.7	354,751.9	398,590.5	269,075.4	273,849.4
A.2. Grant	5,786.7	6,832.5	5,034.5	3,311.9	2,031.8
B. Government Expenditure	1,491,410.2	1,650,563.7	1,777,182.8	1,984,149.7	2,095,724.8
B.1. Central Government Expenditure	1,010,558.2	1,137,162.9	1,203,577.2	1,319,549.0	1,325,551.4
B.1.1. Ministry & Officials Expenditure	489,445.9	582,940.2	577,164.8	795,480.4	784,125.7
B.1.2. Other Expenditures	521,112.3	554,222.7	626,412.3	524,068.6	541,425.7
B.2. Transfer to Regions and Village Funds	480,645.1	513,260.4	573,703.0	664,600.7	770,173.4
B.2.1. Transfer to Regions	480,645.1	513,260.4	573,703.0	643,834.6	723,191.3
B.2.1.1. Balance Funds	411,293.1	430,354.7	477,052.8	521,760.5	700,429.4
B.2.1.2. Regional Incentive Funds	1,387.8	1,387.8	1,387.8	1,664.5	5,000.0
B.2.1.3. Specific Autonomy Funds and Fund for Yogyakarta	11,952.6	13,561.3	16,567.9	17,663.0	17,761.9
B.2.1.4. Other Transfer	56,011.6	67,956.6	78,694.6	102,746.6	0.0
B.2.2. Village Funds	0.0	0.0	0.0	20,766.2	46,982.1
B.3. Suspended Fund	206.9	140.4	-97.4	0.0	0.0
C. Primary Balance	-52,784.6	-98,637.2	-93,250.7	-66,776.0	-88,238.2
D. Surplus/Deficit of Budget (A-B)	-153,300.6	-211,672.7	-226,692.0	-222,506.9	-273,178.9
D.1. to GDP (%)	-1.9	-2.3	-1.9	-1.9	
E. Financing	175,159.2	237,394.5	248,892.8	222,506.9	273,178.9
E.1. Domestic Financing	198,622.5	243,199.7	261,245.0	242,515.0	272,780.7
E.2. Foreign Financing (net)	-23,464.4	-5,805.2	-12,352.2	-20,008.1	398.2
Financing Balance	21,858.6	25,721.8	22,200.9	0.0	0.0

Source: Ministry of Finance, *Nota Keuangan 2016*.

3) Village Fund

Law No.6 in 2014 strengthened administrative authority and organization of village governments, and decided to formulate special funds from National Government Expenditure to finance village development needs. Based on this Law No.6 in 2014, Village Fund was formulated and the culculation method was desided by Government Regulation No.22 in 2015. According to this, the culculation of Village Fund is based on the number of all villages in Indonesia, and the Fund consists of the minimum base amount and additional amount. Additional amount is culculated by population, poor population ratio, area, and geographic difficulties.

Allocation of Village Fund will be increased step by step. In 2015, Village Fund shares only 3.2% of Transfer Fund, but to 6% in 2016, and 10% in 2017. In this regards, each village will get about 1 billion rupiah per year from National Government Expenditure. In addition, village gets Village Allocation Fund (*Alokasi Dana Desa: ADD*) and reduction of local tax and local retribution from district/city government.

(2) Local Government Finance in Indonesia

Local Government Revenue consists of the revenue from local financial resource and transferred fund from central government. The former includes local tax (*pajak daerah*), local user's fee (*retribusi daerah*), and revenue from local public enterprises. A part of local tax and local user's fee is refunded from province to district/city, and from district/city to village.

The ratio of self-finance in total local government revenue is about 30-50% in province and 20-30% in district/city. Province is higher because it has stable tax source such as automobil tax. The source of local tax and local user's fee is limited by law[7].

For stabilizing local finance, local governments tend to set "increase of self-financed revenue" as their development objective. The easy way to do so is to create new local tax and local user's fee by local government regulation (*Peraturan Daerah: Perda*). *Perda* is checked by Ministry of Home Affairs whether it fits to law and central government regulation. Many *Perda*s had to be abolished by Ministry of Home Affairs because they would give negative impact on local business activities.

(3) Several Issues of Regional Development in Indonesia

Java has many population but little natural resource. Outer islands has few population but abundant natural resources. The strategy of national development of Indonesia has been based on how to combine effectively two different areas between relatively developed Java and underdeveloped outer islands, and how to overcome the inequality between them. It looks rational that natural resources in outer islands is utilized to care large population in Java. However, in one sense, it is like "domestic colony" which

[7] After introducing decentralization system in 2001, in order to increase self-financial revenue, local government especially in district/city competed to make many kinds of local tax and local user's fee. It is because the investment climate in region became worse. To correct that situation, Government decided to limit the source of local tax and local user's fee by Law No. 33 in 2004 (currently by Law No. 28 in 2009 as the latest one).

introduces negative sentiment against Indonesia's national integration. In this sense, Government has treated the issue of inequality among regions very carefully.

1) Importance of East Indonesia

Since 1990's, the category of "West Indonesia" (*Kawasan Barat Indonesia: KBI*) including Java and Sumatra, and "East Indonesia" (*Kawasan Timur Indonesia: KTI*) including Kalimantan, Sulawesi and other Eastern Islands has been used more frequently than "Java" and "Outer Islands". But basic structure of regional development is unchanged. The objective of regional development is eliminating the gap between relatively developed *KBI* and underdeveloped *KTI*. This new category may be to prevent anti-Java sentiment in regions.

Current Joko Widodo admministration also prioritizes underdeveloped outside Java area, especially *KTI* development, and this stance influences not only on national development project but also on targetting of area for ODA project from Japan[8].

2) Maritime Highway *(Tol Laut)*

Maritime Highway, or *Tol Laut* in Indonesian language, is the most impressive infrastructure policy concept of current government to decrease inequality among regions. This concept is to operate big cargo ship regularly fron the most west point of Aceh Province to the most east of Papua Province, and the cargo ship is organically connected at main ports with other near local ports.

Based on this concept, the Joko Widodo administration plans to renew and/or expand 24 ports in 2015-2019, and prepare 83 container ships, 500 ordinary ships, and 26 small cargo vessels in border area, in order to decrease the inter-island logistic costs in Indonesia.

However, the most important logistic problem in Indonesia is the cargo volume imbalance between large amount from Java to outer islands and small amount to Java. To decrease logistic cost, not only efficient logistic system but also regional development in outer islands to increase goods volume from outer islands to Java is needed.

3) Urban-Rural Disparity in a Region

The Joko Widodo administration politically emphasizes the importance of regional development especially in East Indonesia. However, urban-rural disparity in a region is more crucial than *KBI-KTI* disparity matters. Since decentralization started in 2001, most of the development benefits have been concentrated to local cities, especially provincial capital cities. The cities attract more population from sorroounding rural areas, but cannot preapre enough social infrastructure to accept increasing population.

On the other hand, people tend to migrate from rural to urban area and it leads the shortage of labor

[8] Population and GRDP (Gross Regional Domestic Product) of East Indonesia (*KTI*) is about 20% of total, so per capita GRDP of *KTI* is almost same as of *KBI*. Government wants to build large infrastructure in unpopulated *KTI*, but it is very difficult to be effective investment from the viewpoint of cost and benefit.

force and decrease of work motivation in agriculture and livestock sector. Rural population is still increasing and can support economic activities. But service and trade sector in city tend to absorb more labor force from rural areas.

4) Management of Village Fund

The Joko Widodo administration has introduced the Village Fund that is directly alocated to villages via district/city from the national budget since 2015. It is internalization of National Project on Empowerment of People or *Proyek Nasional Pemberdayaan Masyarakat (PNPM)* under previous Yudhoyono administration, financed by the World Bank, to the national budget.

PNPM under the Yudhoyono administration was used as start-up fund to preapre basic infrastructure or small community business in a village. *PNPM* utilized local NGO activists as facilitators to keep transparancy of fund utilization and to focus on benefit to many community members, based on people's initiatives. However, finantial transition of *PNPM* from the World Bank to the national budget had been the important issue in the government.

Village Fund will also utilize facilitators for community activities by people's initiative, following the method of *PNPM*. At the same time, function of village autonomy government will be strengthened from an institution of voluntary activities to systematically giving basic public service to the people.

For that sake, it is nsessary to develop human resources who work as government officials and have accounting management capacity imediately. In Indonesia, there are more than 80 thousand villages. It is a long way to realize it in all villages. The government must continue developing human resources and monitoring the usage of Village Fund very carefully.

2.2 Regional Development Strategies of Agriculture and Livestock Sector

2.2.1 Strategic Plan of Ministry of Agriculture (2015-2019)

Development of agriculture and livestock sector in Indonesia is conducted by MoA. Agricultural sector has been the basis for industrial development and important to keep stable foodstuff supply to the people. Under industrial center transition from primary sector to secondary and tertiary sector, and increasing import/export of agricultural and livestock products, the role of MoA has changed; importance is not only in production increase and self-sufficiency of agricultural and livestock products, but also in demand-supply control of them and increasing value-added products. Recently, in addition to that, the material supply to bioindustry and bioenergy is also an imprtant role of MoA.

Based on these backgrounds, Strategic Plan of MoA (2015-2019) under the Joko Widodo administration includes the following contents.

(1) Direction in the 9 National Development Agenda

As mentioned before, the Joko Widodo administration made the 9 National Development Agenda (*Nawacita*). Agriculture and livestock sector is related to the 6th and the 7th Agenda.

The 6th Agenda "realization of nationals with productive and high international competitiveness" directs to agroindustry development. And the 7th Agenda "realization of economic independence by mobilizing national economic strategic sector" directs to strengthening of food sovereignty.

Agroindustry development and strengthening of food soverreignty could be the two main targets of MoA for five years (2015-2019). Indonesia will target to realize quantitative and qualitative production increase and higher value-added processed products in agriculture and livestock sector.

(2) Vision

To realize sustainable agricultural bioindustry system that produces a variety of healthy food and high value-added products based on local resources for food sovereignty and farmer's welfare.

(3) Mission

To realize the vision, MoA sets four missions; (a) achieve food sovereignty, (b) realize sustainable agricultural bioindustry systems, (c) realize the welfare of farmers, and (d) realize the reform of the bureaucracy.

The mission to achieve food sovereingty targets (a) self-sufficiency on rice, maize and soybeans, and increasing production of meat and sugar, and (b) increasing food diversification.

The mission to realize sustainable agricultural bioindustry systems targets (a) increasing the value-addition of commodities, competitiveness in order to supply the export market and import substitution, and (b) supplying raw material for bioindustry and bioenergy.

The mission to realize the welfare of farmers targets increasing the farmers' household income.

The mission to realize the reform of the bureaucracy targets accountability of government apparatus.

(4) General Policy

MoA has 7 general policies to realize four missions, as follows.

- Policy of increasing self-sufficiency in rice, maize and soybeans, as well as increasing production of meat and sugar
- Competitive product development policy for export, import substitution as well as raw materials bioindustry
- Policy and institutional strengthening of the system of seed/seedling, farmer, technology, education, quarantine and food security
- Policy on development of agricultural areas
- Policy focus on strategic commodities
- Policy on development of facilities, infrastructure and agro-industries in rural areas as a cornerstone of sustainable bioindustry development
- Policy on good governence and reform of the bureaucracy

(5) Operational Policy

- Policy on adaptation and mitigation of climate change, natural disaster management and plant protection.
- Policy on reorientation of agricultural multi-product
- Policy on management and use of subsidies and credit financing agricultural enterprises management
- Policy on thematic programs (gender mainstreaming, employment, development of border areas and undeveloped areas, rural and rural areas development, as well as South-South cooperation)
- Policy on management and use of biodiversity

(6) Main Programs and Operational Steps

1) Production and Productivity Improvement of Five Important Products

● Production and Productivity Improvement of Rice, Maize, and Soybeans

- Increasing Cropping Area

  1) Raw land utilization and printing of 1 million hectares of new paddy, 2) Optimization of 1 million hectares of land, 3) Addition of 1 million hectares of dry land for soybeans and maize as well as for other agricultural products, 4) Increased cropping index, 5) Utilization of abondoned land, and 6) Application of intercropping patterns
- Increasing Productivity

  1) Implementation of integrated crop management of rice, maize and soybeans, 2) Ptovision of improved seed of rice and maize, 3) Subsidies and provision of fertilizers, 4) Organic fertilizer processing aid about 1,500 units, 5) Development of self-seed 1,000 villages, 6) Empowerment of seed breeder, 7) 70 thousand units of agricultural machinery equipment facilitation, 8) Development of network and optimization of water of 4.5 million hectares, 9) 30 thousand units of post-harvest equipment support, 10) Implementation of adaptation and mitigation of climate change, 11) Increased agricultural capacity for 70 thousand people, 12) Strengthening the extension hall of more than 4,000 units, 13) Application of pest and disease control, 14) 2 thousand units revitalization of rice milling, 15) Utilization of planting calendar, 16) Support for science and agro-techno park in the area of production enters, and 17) Institutional strengthening of more than 5,000 units of Counseling Center for Agriculture, Fisheries and Forestry (BP3K)

● Production and Productivity Improvement of Sugarcane

- Stabilization of Cultivation Area

  1) Stabilization of sugarcane land of 200 thousand hectares per year, 2) Provision of land for gardens to yield seeds, 3) Utilization of marginal land for sugarcane, 4) Supplying water through dam or pumping, and 5) Provision of soil moving tractors and other production facilities
- Cane Productivity Improvement

  1) Structuring varieties of sugarcane and sugarcane seed procurement, 2) Application of good

farming management, 3) Ratoon crop replacement through unloading, and 4) Balanced fertilization

- Revitalization and Development of Sugar Industry

  1) Encouraging increased milling capacity of existing sugar mills, 2) Encouraging the establishment of a new sugar mill in cane production center, 3) Optimization of the rollers to prevent decrease in yield, and 4) Milling capacity utilization of sugar mills.

- Institution and Financing

  1) Strengthening of institutional research for sugarcane, 2) Strengthening institutional farming, 3) Skills upgrading of sugarcane farmers, 4) Facilitation loans through Sugarcane Farmer's Cooperatives (Koperasi Petani Tebu Rakyat: KPTR), and 5) Funding for the revitalization and development of the sugar factory.

- Government Policy

  1) Completion of the trading system of cane, 2) Price stability at the farmer level, and 3) Sugar import policy recommendations.

● Producation and Productivity Improvement of Meat

- Increasing Productivity of Local Cattle

  1) Optimization of artificial insemination and estrus synchronization at 2 million acceptor per year, 2) Procurement of superior stud cattle and buffalo, 3) Provision of water for livestock, 4) Prevention of reproductive disorders and improved animal health services, and 5) Reproductive control of female cattle

- Development of Animal Food

  1) Development of forage for 4 million cuttings per year, and 2) Development of 14 thousand tons processed feed/feed materials per year

- Provision of Livestock Breeds

  1) 5 million doses and 4 thousand embryos seed supply per year, 2) Provision of 50 thousand heads embryos per year , and 3) Certification bodies and livestock breeding area for 4 million certificates per year.

- Animal Health

  1) 4 million doses per year for controling contagious animal diseases and zoonoses, 2) 150 thousand samples per year for investigation and animal diseases tests and animal medicine certification, 3) Institutional strengthening of veterinary authorities, 4) Production of 8 million doses per year of vaccines, veterinary medicines and biologic materials, and 5) Strengthening national animal health system in 34 provinces.

- Veterinary Public Health, Post-Harvest and Marketing

  1) Strengthning and management improvement of Slaughter House, 2) Application of animal products that guarantee safe, healthy, whole and halal, 3) Provision of meat stall, livestock markets and marketing arrangements for cow/buffalo and meat, and 4) Application of animal welfare.

- Regulation

1) Local regulations on the slaughter of productive female cattle, 2) Local regulations on grazing in oil palm plantations, 3) Livestock and meat import regulations, 4) Provision of credit facilities, and 5) Controlling prospective cattle stock.

Table 2.2 Production Targets in Strategic Plan of Ministry of Agriculture

Item	Unit	Baseline	Target					Growth
		2014	2015	2016	2017	2018	2019	
1. Production Target								
1.1. Important Commodities								
Paddy	million tons	70.8	73.4	76.2	78.1	80.1	82.1	3.0
Maize	million tons	19.0	20.3	21.4	22.4	23.5	24.7	5.4
Soybean	million tons	1.0	1.2	1.8	2.8	3.0	3.0	27.5
Sugar Cane	million tons	2.6	3.0	3.3	3.5	3.7	3.8	7.8
Beef Meat	1000 tons carcass	460.4	545.3	588.6	639.6	695.0	755.1	10.5
Buffalo Meat	1000 tons meat	368.4	436.2	470.9	511.7	556.0	604.0	10.5
1.2. Horticulture Commodities								
Great Chilli	1000 tons	1,041.0	1,082.0	1,106.0	1,140.0	1,174.0	1,209.0	3.0
Red Chilli	1000 tons	735.0	751.0	759.0	770.0	782.0	794.0	1.6
Shallots	1000 tons	1,061.0	1,125.0	1,173.0	1,231.0	1,294.0	1,360.0	5.1
Mango	1000 tons	2,236.0	2,285.0	2,340.0	2,399.0	2,460.0	2,519.0	2.4
Pineapple	1000 tons	1,851.0	1,888.0	1,926.0	1,964.0	2,003.0	2,042.0	2.0
Mangosteen	1000 tons	142.0	144.0	147.0	150.0	152.0	155.0	1.8
Salak	1000 tons	1,038.0	1,059.0	1,080.0	1,102.0	1,124.0	1,146.0	2.0
Potatoes	1000 tons	1,296.0	1,322.0	1,348.0	1,375.0	1,403.0	1,431.0	2.0
Tangerine Orange	1000 tons	1,587.0	1,640.0	1,698.0	1,766.0	1,845.0	1,913.0	3.8
1.3. Plantation Commodities								
Rubber	1000 tons	3,153.0	3,320.0	3,438.0	3,559.0	3,683.0	3,810.0	3.9
Coffee	1000 tons	685.0	725.0	738.0	751.0	765.0	778.0	2.6
Cocoa	1000 tons	709.0	773.0	831.0	872.0	916.0	961.0	6.3
Pepper	1000 tons	92.0	93.0	94.0	95.0	96.0	97.0	1.1
Nutmeg	1000 tons	26.0	28.0	29.0	30.0	32.0	33.0	5.1
Clove	1000 tons	111.0	113.0	115.0	117.0	119.0	121.0	1.9
Coconut	1000 tons	3,031.0	3,309.0	3,355.0	3,401.0	3,446.0	3,491.0	2.9
Tea	1000 tons	144.0	160.0	160.0	161.0	162.0	163.0	2.6
1.4. Material for Bioindustry								
Oil Palm	1000 tons CPO	29,344.0	30,798.0	30,845.0	32,657.0	34,515.0	36,420.0	4.4
Cassava	1000 tons	26.4	26.5	27.1	27.6	28.2	28.8	1.7
2. Food Diversification								
Desirable Dietary Pattern		81.8	84.1	86.2	88.4	90.5	92.5	2.5
Calory Consumption	kilo calory	1,967.0	2,004.0	2,040.0	2,077.0	2,113.0	2,150.0	1.8
3. Farmer's Income Condition								
GDP Agriculture per Agr Labor	million Rupiahs	8.0	8.3	8.6	9.0	9.4	9.8	4.3
Poor Population in Rural Area	million persons	17.1	16.6	16.0	15.5	14.9	14.4	-3.4

Source: Strategic Plan of Ministry of Agriculture 2015-2019

2) Increasing Food Diversification

- Increasing Public Food Reserves

  1) Empowering 350 joint farmer group per year, and 2) Empowering 1,500 barns per year

- Measures on Food Crisis and Food Shortage

  1) Developing food self-sufficient regional model in more 200 regions per year, and 2) Strengthening the awareness of food consumption and nutrition system in more than 450 locatoins

- Increasing Diversification of Food Consumption and Nutrition

  1) Developing a sustainable food home region model in more 4,500 villages per year, 2) Promotion of food consumption diversification, 3) Increasing knowledge and awareness to consume a variety of foods with balanced nutrition principles, 4) Improving skills to develop processed foods in local areas, and 5) Development and dissiminattion of appropriate technology for local food processing

- Improving Quality of Public Food Distribution

1) Building warehouses with post-harvest processing facilities in each production center, 2) Strengthening national logistics system for production inputs and food products, including in remote areas, 3) Warehouses supervision, monitoring and controlling food prices and price fluctuations through market operation, 4) Mapping and development of interconnectedness supply chain of agricultural commodities, and 5) Recommendations for food imports management

3) Improvement on Competitiveness and Productivity

● Improvement on Value Added, Competitiveness, Exports and Import Substitution

- Readiness of Upstream Agriculture and Agricultural Cultivation

  1) Increasing production of export commodity and import substitution, and 2) Development and implementation of quality standards of agricultural products through application of Good Agricultural Practice (GAP), Good Handling Practices (GHP), land registration and registration of post-harvest ward
- Increasing Added Value through Processing

  1) Developing 5,000 processing units supporting food industry and agriculture-based rural industry, 2) Facilitation and implementation of standards, quality assurance system and food security in 700 business groups, and 3) Supporting cultivation area integrated with processing centers
- Mastery of the Domestic Market in order to Import Substitution

  1) Revitalization of 60 units per year of facilities and institutional markets of agricultural products (farmers' markets, sub terminal agribusiness, livestock markets, meat stall, etc.), 2) Promotion of agricultural products in domestic market, 3) Stabilization of prices of agricultural products, 4) Development of market network which is well integrated both production centers and consumer centers through 100 units of market information service centers, 5) Development of logistics and warehousing system as a stock system, and 6) Recommendation on import and export policy
- Increasing Export Value

  1) Coaching groups to meet export quality standards, 2) Development of potential export markets, and 3) Strengthening the role of agriculture attache at Indonesian Embassies in each country as a market intelligent

● Production and Productivity Improvement of Competitive Horticultural Products

- Development of Horticultural Area

  1) Expanding 7,000 hectares of horticulture land per year, 2) Improvement of garden/land infrastructure, 3) Registration of 2,000 lands for horticultural businesses, 4) Facilitation of 3,000 units of post-harvest infrastructure, 5) Application of innovative technoligies, and 6) Developing organic villages based on horticulture
- Development of Seed System

1) Strengthening of 158 institutional seed breeders, 2) Development of seed industry, 3) Provision of seed sources, and 4) Provision of extention seed of horticultural crops

- Development of Environmentally-friendly Horticultural Protection System

  1) Pest management through 650 integrated pest management field schools (SL-PHT) each year, 2) Development of 350 units per year of pest management clinics, 3) Increasing public awareness and facilitating the implementation of plant protection, 4) Improving environmentally-friendly pest control technology, 5) Environmentally-friendly pest control in endemic attack areas, the source of infection, regional and local explosive areas of new attacks, and 6) Recommendations on countermeasures on climate change

● Production and Productivity Improvement of Competitive Plantation

- Stabilization of Plantation Area

  1) Stabilization of plantation land of 100 thousand hectare per year, 2) Provision of land for yielding seeds plantation, 3) Utilization of marginal land, 4) Water supply through dam or pumping, and 5) Provision of cultivator, tractor and other production facilities

- Increasing Productivity

  1) Provision and procurement of qualified seed, 2) Application of good agriculture practice, 3) Development of pest management through SL-PHT, 4) Anticipation against impacts of climate change, and 5) Handling pests organism

- Institution and Financing

  1) Institutional strengthening of plantation research organizations and strengthening research results, 2) Strengthening of institutional farming, 3) Increasing skills of farmers, 4) Credit facilitation, and 5) Business interruption and plantation conflict management

- Government Policy

  1) Improvement of plantation crops trading system, 2) Maintaining price stability at the farm level, and 3) Recommendations on export and import of plantation products policy

4) Provision of Raw Materials for Bioenergy and Bioindustry

- Provision of Raw Materials for Bioindustry

  1) Preparation of bioindustry development roadmap, 2) Development and implementation of quality standards of commodities of industrial raw materials through application of GAP and GHP, 3) Development of bioindustry raw material commodity production area and production integrated with industrial area, and 4) Research development in order to optimally untilize the content of crops and livestock.

- Provision of Raw Materials for Bioenergy

  1) Increasing production of raw materials for renewable energy (including biofuels) in order to supply 23% of the total national energy consumption by renewable enegery in 2025, 2) Utilization of byproducts of livestock and crops as energy raw materials, 3) Developing potential commodities as energy raw materials without disrupting production targets of foodstuffs for people, and 4) Development of efficient bio-energy research

5) Improving Farmers' Welfare

1) Protection of farmers through provision and improvement of distribution system, input subsidies, safegauards price of agricultural products at farm level, and reduction of risks through agricultural insurrance, 2) Empowerment of farmers through institutional strengthening of farmers, improvement of skills and access to capital resources, 3) Support policies for improved access and assets of farmers to land through the distribution of land rights of farmers with land reform and land tenure program for agriculture, especially for smallholders and agricultural laborers (it is expected that per farmer cultivation land to be up to 2 hectares), 4) Provision of an opportunity for farmers to participate in the processing of agricultural products for additional income, 5) Encouraging the use of byproducts and waste from agricultural product in order to increase revenue, and 6) Promotion of group businesses to improve the efficiency of farming

2.2.2 National and Local Government Budget in Agriculture and Livestock Sector

In National Government Budget in 2016, total National Expenditure is 2,095.7 trillion rupiah, consisting of Central Government Expenditure (1,325.6 trillion rupiah) and Transfer to Regions and Village Funds (770.2 trillion rupiah). In Central Government Expenditure, Ministry & Officials Expenditure is 784.1 trillion rupiah, and the remaining includes expenditure to state owned enterprises (*BUMN*) (see Table 2.1 in Section 2.1.3).

The largest amount of Ministry & Officials Expenditure is allocated to Ministry of Public Works (104.8 trillion rupiah), followed by Ministry of Defence (99.5 trillion rupiah), National Police (70.0 trillion rupiah), Ministry of Health (63.5 trillion rupiah), Ministry of Religion (57.1 trillion rupiah), Ministry of Education and Culture (49.2 trillion rupiah), Ministry of Transportation (48.5 trillion rupiah), Ministry of Research & Higher Education (40.6 trillion rupiah), and Ministry of Finance (39.3 trillion rupiah). Budget of MoA is 31.5 trillion rupiah (4% of total Ministry & Official Expenditure), following Ministry of Finance.

(1) Budget of MoA and its Internal Allocation

Budget of MoA is allocated to 11 internal organizations such as General Secretariat, General Inspectorate, General Directorate of Crop, General Directorate of Horticulture, General Directorate of Plantation, General Directorate of Livestock and Animal Health, General Directorate of Agricultural Infrastructure, Agency of Agricultural Research and Development, Agency of Agricultural Counseling and Human Resource Development, Agency of Food Security and Agency of Food Quarantine[9].

[9] Government organizations in Indonesia are divided into line organizations (General Directorate [*Direktorat Jenderal*: *Ditjen*] , Directorate [*Direktorat*]) and non-line organizations (Agency [*Badan*]). In MoA, the former includes General Directorate of Crop [*Ditjen Tanaman Pangan*], General Directorate of Horticulture [*Ditjen Hortikultura*], General Directorate of Plantation [*Ditjen Perkebunan*], General Directorate of Livestock and Animal Health [*Ditjen Peternakan & Kesehatan Hewan*], General Directorate of Agricultural Infrastructure [*Ditjen Sarana & Prasarana Pertanian*], and the latter includes Agency of Agricultural Research and Development [*Badan Penelitian & Pengembangan Pertanian*], Agency of Agricultural Counseling and Human Resource Development [*Badan Penyuluhan & Pengembangan Sumber Daya Manusia*],

The largest amount of the budget is allocated to General Directorate of Agricultural Infrastructure (11.7 trillion rupiah), followed by General Directorate of Crop (7.7 trillion rupiah). These two organizations share 59.7% of the total MoA budget (Table 2.3).

Table 2.3 Budget Allocation of MoA by Internal Organization in 2016

(Unit: Trillion rupiah)

	Central	Region	Decon	S-W	Total	Central	Region	Decon	S-W	Total
General Secretariat	1.6	-	-	-	1.6	100.0%	0.0%	0.0%	0.0%	100.0%
General Inspectorate	0.1	-	-	-	0.1	100.0%	0.0%	0.0%	0.0%	100.0%
General Directorate of Crop	0.2	0.0	0.5	7.0	7.7	2.4%	0.3%	6.3%	91.0%	100.0%
General Directorate of Horticulture	0.1	-	0.2	0.9	1.2	11.3%	0.0%	18.3%	70.4%	100.0%
General Directorate of Plantation	0.1	0.1	0.1	1.6	1.9	7.2%	5.0%	5.3%	82.6%	100.0%
General Directorate of Livestock and Animal Health	0.3	0.8	0.5	0.8	2.3	11.3%	33.8%	19.7%	35.3%	100.0%
General Directorate of Agricultural Infrastructure	5.0	-	0.3	5.7	11.1	45.6%	0.0%	3.1%	51.3%	100.0%
Agency of Agricultural Research and Development	0.3	1.8	-	-	2.1	13.7%	86.3%	0.0%	0.0%	100.0%
Agency of Agricultural Counseling and Human Resource Development	0.2	0.5	0.9	0.0	1.7	12.3%	32.7%	54.3%	0.7%	100.0%
Agency of Food Security	0.1	-	0.5	0.2	0.8	16.2%	0.0%	58.9%	24.9%	100.0%
Agency of Food Quarantine	0.1	0.9	-	-	1.0	12.2%	87.8%	0.0%	0.0%	100.0%
Total	8.2	4.1	3.0	16.2	31.5	26.1%	13.0%	9.5%	51.4%	100.0%
General Secretariat	19.8%	0.0%	0.0%	0.0%	5.2%					
General Inspectorate	1.2%	0.0%	0.0%	0.0%	0.3%					
General Directorate of Crop	2.2%	0.7%	16.3%	43.5%	24.5%					
General Directorate of Horticulture	1.7%	0.0%	7.6%	5.4%	3.9%					
General Directorate of Plantation	1.7%	2.3%	3.4%	9.8%	6.1%					
General Directorate of Livestock and Animal Health	3.1%	18.9%	15.1%	5.0%	7.3%					
General Directorate of Agricultural Infrastructure	61.2%	0.0%	11.6%	35.1%	35.1%					
Agency of Agricultural Research and Development	3.5%	43.8%	0.0%	0.0%	6.6%					
Agency of Agricultural Counseling and Human Resource Development	2.5%	13.4%	30.5%	0.1%	5.3%					
Agency of Food Security	1.5%	0.0%	15.4%	1.2%	2.5%					
Agency of Food Quarantine	1.4%	20.9%	0.0%	0.0%	3.1%					
Total	100.0%	100.0%	100.0%	100.0%	100.0%					

Notice: Region = Regional Office of MoA; Decon = Deconcentration Fund; S-W = Support Works Fund
Allocation to Region includes Region, Decon and S-W.
Source: Processed of the data from Appendix of Presidential Regulation No.137 in 2015 by JICA Study Team.

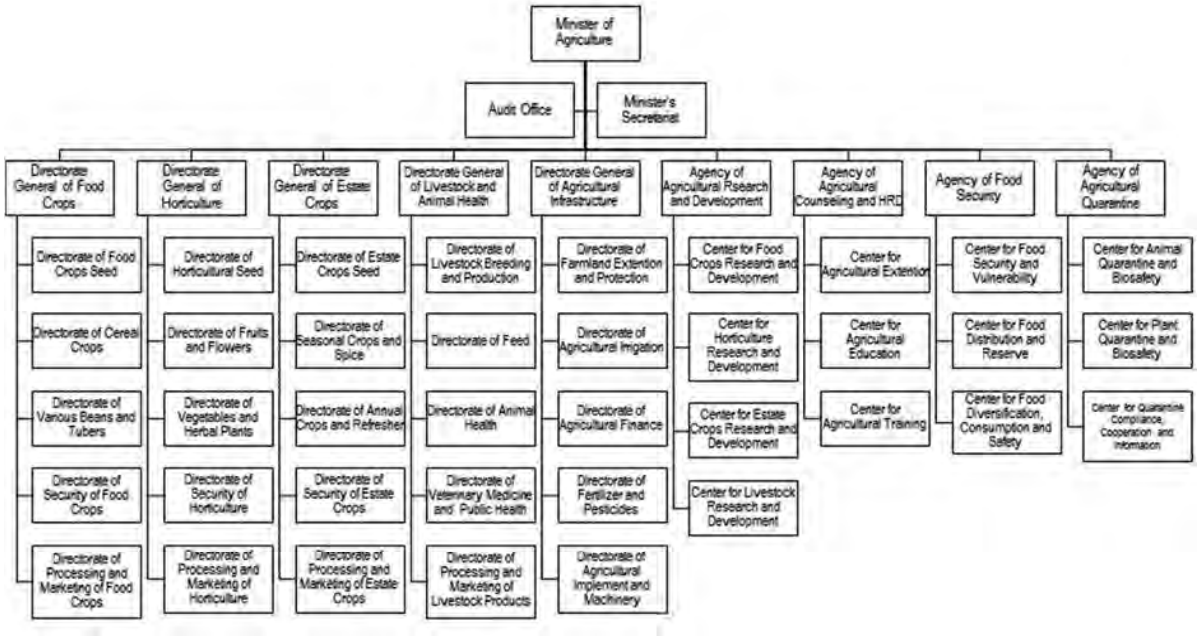


Figure 2.3 Organization Chart of the Ministry of Agriculture

Source: Prepared from the website of MoA <http://www.pertanian.go.id/struk_organisasi/index_org.htm>

Agency of Food Security [*Badan Ketahanan Pangan*] and Agency of Food Quarantine [*Badan Karantina Pertanian*]. In institutional reorganization, General Directorate often becomes Agency and vice versa. The status level of General Director [*Direktur Jenderal: Dirjen*] and Head of Agency [*Kepala Badan*] is the same.

Allocation to Central is 8.2 trillion rupiah, 26% of the total budget of MoA, and the remaining is allocated to Region. The highest share in Region is Support Works Fund (consignment project from MoA to Province, District/City and Village governments; *tugas pembantuan*), and it is 51.4% of the total budget of MoA. Most of them are in Genral Directorat of Crops and General Directorat of Agricultural Infrastructure. Especially, 91.0% of the budget of General Directorat of Crops is Support Works Fund, and 82.6% in that of General Directorate of Plantation.

On the other hand, Deconcentration Fund is only 9.5% of the total budget of MoA. However, in Agency of Agricultural Counseling and Human Resource Development and Agency of Food Security, the share of Deconcentration Fund is higher than Support Works Fund.

In this regard, most of the budget of MoA in 2016 is allocated to foodstuff production such as paddy and construction of agricultural infrastructure. Most of those projects are conducted as MoA project in the form of Support Works to Province, District/City and Village. At the same time, MoA tends to transfer its authority to provincial governments to take responsibility in agricultural human resource development and food security[10].

(2) MoA Budget Allocation to Province

The highest allocation share belongs to West Java, followed by East Java, South Sulawesi, West Nusa Tenggara, Lampung, South Sumatra, and Aceh (see Table 2.4).

The highest allocation of Deconcentration Fund goes to East Java, followed by Central Java, West Java, South Sulawesi, North Sumatra and Aceh. The highest allocation of Support Works Fund is South Sulawesi, followed by East Java, West Java, West Nusa Tenggara, Lampung, South Sumatra, and Aceh.

Populated provinces in Java tend to be higher in Deconcentration Fund with transfer of authority from MoA than other provinces. In outside Java, South Sulawesi is regarded as an important province because of its capacity to realize surplus rice production every year.

[10] In this case, provincial government may deliver its task to district/city government.

Table 2.4 MoA Budget Allocation to Province in 2016

	Allocation (Trillion Rp)	Central	Region	Decon	S-W	Total	Central	Region	Decon	S-W	Total
Central	8.2	100.0%	0.0%	0.0%	0.0%	100.0%	100.0%	0.0%	0.0%	0.0%	26.1%
Jakarta	0.1	0.0%	81.2%	17.9%	0.9%	100.0%	0.0%	2.5%	0.8%	0.0%	0.4%
West Java	2.3	0.0%	43.4%	8.1%	48.6%	100.0%	0.0%	24.7%	6.3%	7.0%	7.4%
Central Java	1.3	0.0%	17.3%	17.3%	65.4%	100.0%	0.0%	5.3%	7.3%	5.1%	4.0%
Yogyakarta	0.2	0.0%	38.5%	22.7%	38.8%	100.0%	0.0%	2.2%	1.8%	0.6%	0.8%
East Java	1.9	0.0%	23.7%	11.7%	64.6%	100.0%	0.0%	11.1%	7.5%	7.7%	6.1%
Aceh	1.0	0.0%	9.0%	13.7%	77.3%	100.0%	0.0%	2.1%	4.5%	4.7%	3.1%
North Sumatra	0.9	0.0%	26.7%	16.1%	57.2%	100.0%	0.0%	5.6%	4.6%	3.0%	2.7%
West Sumatra	0.5	0.0%	29.2%	16.9%	53.9%	100.0%	0.0%	3.9%	3.1%	1.8%	1.7%
Riau	0.3	0.0%	13.4%	23.5%	63.1%	100.0%	0.0%	0.9%	2.3%	1.1%	0.9%
Jambi	0.4	0.0%	13.4%	17.3%	69.3%	100.0%	0.0%	1.3%	2.4%	1.8%	1.3%
South Sumatra	1.0	0.0%	13.5%	10.9%	75.5%	100.0%	0.0%	3.5%	3.8%	4.9%	3.3%
Lampung	1.1	0.0%	9.0%	10.9%	80.1%	100.0%	0.0%	2.4%	4.0%	5.4%	3.5%
West Kalimantan	0.9	0.0%	6.1%	10.2%	83.7%	100.0%	0.0%	1.3%	3.1%	4.6%	2.8%
Central Kalimantan	0.7	0.0%	7.6%	11.3%	81.1%	100.0%	0.0%	1.2%	2.5%	3.3%	2.1%
South Kalimantan	0.7	0.0%	20.9%	11.4%	67.7%	100.0%	0.0%	3.7%	2.7%	3.0%	2.3%
East Kalimantan	0.4	0.0%	24.6%	15.8%	59.7%	100.0%	0.0%	2.1%	1.9%	1.3%	1.1%
North Sulawesi	0.6	0.0%	11.4%	13.1%	75.5%	100.0%	0.0%	1.6%	2.5%	2.7%	1.8%
Central Sulawesi	0.6	0.0%	5.4%	14.7%	79.9%	100.0%	0.0%	0.7%	2.7%	2.7%	1.8%
South Sulawesi	1.8	0.0%	13.1%	9.1%	77.8%	100.0%	0.0%	5.7%	5.4%	8.5%	5.6%
Southeast Sulawesi	0.8	0.0%	4.8%	10.8%	84.4%	100.0%	0.0%	1.0%	3.0%	4.3%	2.6%
Maluku	0.5	0.0%	10.7%	12.7%	76.6%	100.0%	0.0%	1.3%	2.0%	2.3%	1.5%
Bali	0.3	0.0%	32.6%	19.4%	48.0%	100.0%	0.0%	2.4%	1.9%	0.9%	0.9%
West Nusa Tenggara	1.1	0.0%	3.9%	9.2%	86.9%	100.0%	0.0%	1.1%	3.5%	6.2%	3.6%
East Nusa Tenggara	0.7	0.0%	12.8%	16.2%	71.0%	100.0%	0.0%	2.3%	4.0%	3.2%	2.3%
Papua	0.4	0.0%	14.3%	20.3%	65.3%	100.0%	0.0%	2.4%	1.9%	0.9%	0.9%
Bengkulu	0.3	0.0%	11.3%	17.5%	71.3%	100.0%	0.0%	0.9%	2.0%	1.5%	1.1%
North Maluku	0.4	0.0%	6.2%	10.9%	83.0%	100.0%	0.0%	0.7%	1.6%	2.2%	1.4%
Banten	0.3	0.0%	36.8%	17.5%	45.8%	100.0%	0.0%	3.0%	2.0%	0.9%	1.1%
Bangka Belitung	0.2	0.0%	11.7%	18.3%	70.1%	100.0%	0.0%	0.7%	1.5%	1.1%	0.8%
Gorontalo	0.4	0.0%	5.5%	12.3%	82.2%	100.0%	0.0%	0.6%	1.8%	2.2%	1.4%
Riau Islands	0.1	0.0%	52.3%	29.2%	18.5%	100.0%	0.0%	0.8%	0.6%	0.1%	0.2%
West Papua	0.3	0.0%	19.8%	21.4%	58.8%	100.0%	0.0%	1.2%	1.8%	0.9%	0.8%
West Sulawesi	0.6	0.0%	4.2%	9.8%	86.0%	100.0%	0.0%	0.6%	1.8%	2.9%	1.7%
North Kalimantan	0.1	0.0%	8.6%	17.3%	74.2%	100.0%	0.0%	0.3%	0.8%	0.6%	0.4%
Total	31.5	26.1%	13.0%	9.5%	51.4%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Notice: Region = Regional Office of MoA; Decon = Deconcentration Fund; S-W = Support Works Fund
Source: Processed of the data from Appendix of Presidential Regulation No. 137 in 2015 by JICA Study Team.

What is surprising is West Nusa Tenggara where the agricultural sector is not so special. General Directorat of Horticulture allocates 12.2% of its Support Waorks Fund to West Nusa Tenggara, following to Central Java[11].

In addition, South Sumatra, Aceh and North Sumatra has got more budget from MoA. But, allocation to provinces in Kalimantan is relatively small. Allocation to provinces in East Indonesia, the important region of the current administration, is small except for South Sulawesi.

(3) Other Ministry Budget on Agriculture and Livestock

There are other Ministries which are relatively involved in agriculture and livestock sector. For example,

[11] In West Nusa Tenggara Province, Sembalun area in East Lombok District is famous as the highland vegetable production center without disease and insect damage in potatoes and garlics.

Ministry of Public Works has projects on construction and rehabilitation of irrigation canal and rural roads. Ministry of Cooperatives and Small Enterprises and Ministry of Village, Underdeveloped Areas, and Transmigration also have projects on rural community business in agriculture and livestock sector.

Ministry of Village, Underdeveloped Areas, and Transmigration was established under Joko Widodo adinistration, and a part of it is origined from General Directorat of Village Community Development in Ministry of Home Affairs. This new Ministry takes a role to monitor management of Village Fund in villages.

(4) Local Government Budget in Agriculture and Livestock Sector

Other than Deconcentration Fund and Support Works Fund from MoA, local government budget in Province, District/City and Village has also been allocated to agriculture and livestock sector. The origin of the expenditure is the revenue from local financial resource (*PAD*) and transferred fund from Central Government. Generally, development related expenditure is included in capital expenditure in local government budget. Capital expenditure is usually divided into expenditure on economic affairs, social and cultural affairs, infrastructure, and others[12].

Expenditure of agriculture and livestock sector is included in economic affairs of capital expenditure. However it is difficult to pick it up technically from local government budget document.

Table 2.5 indicates capital expenditure in local government budget realization in 2015. 22.5% of total local government expenditure is capital expenditure including that for agriculture and livestock sector. It is not possible to get detail expenditure figure for agriculture and livestock sector in all local governments in Indonesia. However, based on the assumption that 5% of capital expenditure is allocated to agriculture and livestock sector, the amount is far larger than MoA budget allocation to region.

Table 2.5 Capital Expenditure in Local Government Budget Realization in 2015

(Unit: Trillion rupiah)

	Total Expenditure [A]	Direct Expenditure [B]	Capital Expenditure [C]	[C]/[A]	[C]/[B]
Province	287.72	127.75	57.94	20.1%	45.4%
District/City	685.34	327.63	158.87	23.2%	48.5%
Village	26.16	-	8.41	32.2%	-
Total	999.22	-	225.23	22.5%	-

Source: BPS, Statistik Keuangan Pemerintah Provinsi 2012-2015, BPS, Statistik Keuangan Pemerintah Kabupaten-Kota 2014-2015, and BPS, Statistik Keuangan Pemerintah Desa 2015.

[12] Organization of Regional Development Planning Board (*BAPPEDA*), the coordinator of local government budget allocation, has four divisions; economic affairs, social and cultural affairs, infrastructure, and others.

2.2.3 Import/Export Regulation in Agriculture and Livestock Sector

(1) Import/Export Regulation of Horticulture Products

1) Import Regulation of Fresh Vegetables and Fruits in Indonesia

Import regulation on fresh vegetables and fruits is defined in Minister Regulation of Agriculture No.42 in 2012. The main objective is to prevent fruit flies from entering Indonesia. 38 fruits and 4 vegetables are targeted[13].

To import those fruits and vegetables, Phytosanitary Ceritificate from sending or transit country is needed. After reporting to the plant quarantine officer at the port of entry, those should be quaratined, if necessary. Phytosanitary Ceritificate from sending country must certify no harm of fruit flies in the production country, or certify that necessary measures had been done if there was harm before. If no harm, the product can be imported through any ports in Indonesia without quarantine. But if there was harm before, the product needs to be checked by document and quarantine only through Tanjung Perak port (Surabaya), Belawan port (Medan), Soekarno-Hatta airport (Jakarta), and Soekarno-Hatta port (Makassar). Tanjung Priok port (Jakarta) is not included. Entrance from Free Trade Zone and Freeport is permitted only if it is to satisfy the consumption demand and cannot be distributed to other areas.

2) Import Recommendation of Horticulture (*RIPH*)

Import of horticulture in Indonesia is permitted only to the importer who has *RIPH*. *RIPH* is defined by Minister Regulation of Agriculture No.86 in 2013.

RIPH has four types; for fresh products for consumption, fresh products for processing, processed products for processing and processed products for consumption. *RIPH* needs information such as *RIPH* number, name and address of importer, name and address of the president director, *RIPH* application number and date, product name, the HS code, sending country, address of processing company, and port of entry in Indonesia. Imported product should be cleared from the food safety standards.

RIPH can be applied online to MoA based on application form. *RIPH* is published twice a year in January-June (apply in 1-15 November) and July-December (apply in 1-15 May). MoA reviews applications in 7 days. Applications of *RIPH* for fresh products for processing, processed products for processing and processed products for consumption is only once in one period by a company.

For the application of *RIPH* on fresh products for consumption, registered importer certificate (*IT-Produk Hortikultura*) issued by MoA, general impoter number (API-U), written oath of not importing for more than six months, GAP certificate, post-harvest measure registration from sending country, written oath of possesing storage and logistic facilities, and logistic plan are needed. For the application of *RIPH* on fresh products for processing and processed products for processing, technical letter on

[13] 38 fruits include avocado, grape, apple, apricot, strawberry, star fruit, chili/pepper, cherry, pomegranate, fig, star apple, guava, eugenia and clove, orange, golden apple, persimmon, kiwi, raw coffee cherry, quince, raw darts, kumquat, pumpkin, lychee, loquat, mango, mangosteen, passion fruit, mulberry, jack fruit, soursop, papaya, peach, pear, banana, plum, rambutan, sapodilla, and olive. 4 vegetables include tomato, eggplant, cucumber and bitter gourd.

location of processing factory and production capacity from Ministry of Industry and production importer number (API-P) are needed. For the application of *RIPH* on processed products for consumption, registered importer certificate (*IT-Produk Hortikultura*) issued by MoA, API-U, and consent form from Indonesia National Agency of Drug and Food Control are needed.

3) Import/Export Regulation on Horticultural Seedling

Import/Export on horticultural seedling is regulated by Minister Regulation of Agriculture No.5 in 2012.

Import of seedling needs permission from MoA. Individual, firm, and government organization can apply for this and the condition is different depending on the objective. The objective is supposed such as new seedling registration, preparation of high qualified seedling, quantitative expansion of registered seedling, production of seedling for export, and mastering of certification capacity in laboratory[14].

The application needs additional documents on necessary condition depending on the objective, necessity of import of seedling, technical information on imported products to Indonesia. Agency of Food Quarantine reviews whether the application can be accepted or not in 3 days. If accepted, Head of Agency of Food Quarantine will send recommendation letter on application to General Director of Horticulture in 5 days. The result will be notified in 10 days. If no answer in 10 days, the application is regarded as accepted. If there is a risk analysis report on plant quarantine before the first import of seedling, Head of Agency of Food Quarantine will send recommendation letter on seedling import to General Director of Horticulture in 60 days. Based on this recommendation, General Director of Horticulture issues a letter on import permission of seedling. The permission is valid for 6 months.

Export of seedling from Indonesia can also be applied by Individual, firm, and government organization., and need permission from MoA (General Director of Horticulture). The objective of export is supposed as follows: enough supply of the seedling in Indonesia; seedling only for export: safety of genetic resource is guaranteed; and seedling for exhibition. Application is to Agency of Food Quarantine, MoA. Agency of Food Quarantine reviews it in 3 days. The result of acceptance or not will be known in 10 days. If accepted, General Director of Horticulture issues letter on export permission of seedling. Duration of this permission is 6 months.

(2) Import/Export Regulation of Livestock Products

1) Import of Carcass and Fresh Meat

The latest import regulation on carcass and fresh meat is defined by Minister Regulation of Agriculture No.34 in 2016. President Joko Widodo recently instructed to keep beef price under 8,000 Rp./kg. To

[14] For example, in the case of new seedling registration, necessary conditions are as follows: having its superiority and originality; the number of seedling should be minimum; preparing its adoption plan; and recommendation from the Committee on Safety of Genetically Engineering if the seedling is engineered genetically. In the case of preparation of high qualified seedling, necessary conditions are: the seedling had been registered in advance; satisfy the standard of quality; clear explanation on character of the seedling in Indonesian language; not enough supply in Indonesia; not yet produced in Indonesia; applied kinds and quantity is minimum; and recommendation from the Committee on Safety of Genetically Engineering if the seedling is engineered genetically.

increase beef distribution in domestic market, MoA tries to ease the import regulation than the previous Minister Regulation of Agriculture No.58 in 2015.

Under this new regulation, if satisfy the standards of food security, sanitation, and halal, import of all kinds of carcass, fresh meat and giblet are allowed[15]. First, in import of carcass and fresh meat, private company has the same status as state *BUMN*. Second, the obligation to handle domestic beef by importers was abolished[16]. Third, application for recommendation on beef import to MoA can be at any time in a year (before only in April, August and December).

However, importer needs to inform HS code and quantity of all imported meat. MoA considers to issue the recommendation based on past import performance and distribution plan of the importer. Importer must report the import realization (by 15th of the following month) and the distribution plan every Thursday to General Directorate of Livestock and Animal Health, MoA, through online.

The MoA recommendation is valid for 6 months. The recommendation is expired if importer does not obtain the import licence at the latest 3 months after the issue of recommendation. The recommendation is effective only for one import licence.

In this latest regulation, there is no obligation for importer to own its cold storage (the lease one is possible). Importers can distribute the meat not only to hotel and processing factory, but also to general markets with cold storage.

2) Import/Export of Processed Livestock Products for Consumption

Processed livestock products for consumption include processed meat, processed milk, egg processed products etc., and import/export of those products is defined by Minister Regulation of Agriculture No.65 in 2014.

Import of processed livestock products needs Health and Safety Certificate of sending country. The Ceritificate must certify no ongoing epidemic infection and no possibility, and compliance to regulation on animal health. In the package, name and address of the producer, date of production, expiration date, type and weight of products, name of meat used, and halal certification mark must be put. Halal certification must be issued by an official organization recognized by Indonesian Ulama Council.

Export of processed livestock products needs Health and Safety Certificate of sending country. The Ceritificate must certify no ongoing epidemic infection and no possibility, and compliance to regulation on animal health.

3) Import of Boneless Frozen Meat

Import of boneless frozen meat (beef and waterbuffalo meat) is defined by Minister Regulation of

[15] Previously, import of meat by private company was allowed only in prime cut and oxtail/tongue for business. Import of carcass and the second meat was allowed only by *BUMN*.

[16] Previously, general importer had to handle domestic meat that accounts for 3% of the import volume, and production importer had to handle domestic meat that accounts for 1.5% of the import value.

Agriculture No.17 in 2016. The import is conducted by *BUMN* nominated by the government if any specific reason such as serious disaster that will damage the economic stability, shortage of meat supply, and sudden hike of meat price.

(3) Food Security Regulation

1) Food Security Regulation on Import/Export of Fresh Agricultural Products

Food Security Regulation on Import/Export of Fresh Agricultural Products is defined by Minister Regulation of Agriculture No.4 in 2015. The objective is to protect Indonesian people from biological and chemical polution by fresh agricultural products from outside. Appendix of this regulation includes the acceptance criteria on residual concentration in each chemical/biological factors of 86 kinds of fresh agricultural products, certification in security monitoring system, procedures of pending/cancel/extension, and procedures for overseas Food Security Inspection Agency to register in Agency of Food Quarantine, MoA.

Import from the country that has its security monitoring system for fresh agricultural products requires the Prior Notice. Import from the country without such system requires Certificate of Analysis in addition to the Prior Notice[17].

The Prior Notice should be issued before packing products to delivery vessel by exporter in sending country[18]. If some changes in load capacity in transit country happen, issuance of the Prior Notice for Transit in transit country is also needed in addition to the Prior Notice in sending country. The Prior Notice and the Prior Notice for Transit must be sent from exporter by online to Agency of Food Quarantine, MoA, to get special code (barcode) [19].

Export of fresh agricultural products from Indonesia to other countries needs issuance of certificate to meet the conditions of security monitoring regulation in the destinated country.

To be regarded as a country having a security monitoring system for fresh agricultural products by Indonesia, one needs GAP, GHP and Good Manufacturing Practice (GMP) and applies them. To get certification from Indonesia, the security monitoring institution for fresh agricultural products in the country or the Embassy in Indonesia should apply for it to Minister of Agriculture through Agency of Food Quarantine[20], MoA, and MoA team reviews it. The certification enacts for 3 years and can be

[17] An inspection institution that was registered in Agency of Food Quarantine, MoA, in sending country, must inspect the product and issue this Certificate of Analysis.

[18] If there is no exporter in sending country, the legal representative issues the Prior Notice.

[19] Send ordinary document forms as usual if exporter cannot send documents by online to Agency of Food Quarantine, MoA.

[20] In the application document to Minister of Agriculture, following items should be written: food security policy, explanation about applied fresh agricultural products, GAP-applied production site, GHP-applied handling site, GMP-applied processing site, security monitoring system for fresh agricultural products, monitoring results for at least 3 years, name of security inspection facility for fresh agricultural products, name of authorized institution to certify food security, list of producer and exporter, export inspection and certification system for fresh agricultural products, import inspection and certification system for fresh agricultural products, and departure port.

extended.

Even though the country has been certified as having security monitoring system for fresh agricultural products, Quarantine of Indonesia does not allow the products from the country without Prior Notice, or if the barcode is not the same as that of sending country. Import from the country without having security monitoring system for fresh agricultural products needs the analysis certificate in addition to the Prior Notice and barcode. Without analisys certificate, the product is detained up to 14 days at Qurantine until preparation of the analysis certificate.

2) Import Regulation on Fresh Foods from Japan

After serious accident of a nuclear power plant in Japan in March 2011, Indonesia enacted Minister Regulation of Agriculture No.20 in 2011 to start monitoring on radioactive material polution of imported fresh agricultural and livestock products from Japan. The monitoring is currently continued by the revised Minister Regulation of Agriculture No.66 in 2014.

To import fresh agricultral and livestock products from Japan, one needs to submit the radioactive material non-pollution certificate to Quarantine at the port of entry. Without it, Center for Technology of Safety and Radiation Metrology in National Nuclear Agency conducts sample inspection. During the inspection, imported fresh agricultural and livestock products are detained. The products can be imported if the result is under the standard. All expenses on this matter must be paid by owner of the products without claiming the compensation of damage to Government of Indonesia.

The maximum permissible standard for radioactive material non-polution was revised in Minister Regulation of Agriculture No.66 in 2014 as follows. In Cesium 137, meat and meat products from 100 Bq/kg to 500 Bq/kg; grain such as corn, barley and wheat from 300 Bq/kg to 500 Bq/kg; and fresh fruits and vegetables from 300 Bq/kg to 500 Bq/kg. Milk and milk products were unchanged at 150 Bq/kg. Other fresh agricultural and livestock products were 500 Bq/kg.

In this Minister Regulation of Agriculture No.66 in 2014, the standard for Cesium 131 was newly defined as 1,000 Bq/kg in fresh fruits and vegetables and 100 Bq/kg in milk and milk products.

(4) Food Import Regulations in Japan

Import of foods to Japan is watched by the Food Sanitation Law, the Plant Protection Law, and the Domestic Animal Infectious Diseases Control Law. Food importers must submit a “Notification Form for Importation of Foods etc.” to a qurantine station of the Ministry of Health, Labor and Welfare to undergo proper inspection procedures in accordance with the Food Sanitation Law, and obtain import permission. In case of fresh meat, meat products, and fresh fruits and vegetables, a quarantine inspection must first be conducted in accordance with the Domestic Animal Infectious Diseases Control Law or the Plant Protection Law and import permission be obtained, before the goods can be processed through subsequent import procedures based on the Food Sanitation Law.

A “Notification Form for Importation of Foods etc.” should include name and address of importer, name

of product, quantity, weight, export country, name and address of manufacturer and manufacturing plant, loading port, and materials and production method of processed food.

Before this, food importers prepare their own Inspection Report by spontanious inspection if necessary. If inspection is conducted in Japan, food importers prepare enough amount of samples from export country for necessary inspection in a registered institution by the Minister of Health, Labor and Welfare. If inspection is conducted in export country, the inspection must be conducted at a registered institution listed in "List of Public Inspection Institution in Export Country". The Inspection Report is valid for one year.

As well as Inspection Report after a quarantine inspection, import notification to a quarantine station must be done from 7 days before arraival of products until after loading them to warehouse. The notification can be done by documents or by Food Automated Import Notification and Inspection Network System[21].

Quarantine conducts inspection based on specification standards[22] of food and additives regulated by the Food Sanitation Law, presence or absence of toxic hazardous substance, and whether or not the manufacturer and manufacturing plant has had sanitary problems. Residue standard for all pesticides and drug for animals is set, and the import and sale of the product higher than the standard is banned.

1) Import of Vegetables, Fruits and Grains

In principle, Japan prohibits import of vegetables, fruits, and grains with soil. Japan prohibits import of plants that may breed pests which have not yet been identified in Japan, will damage agricultural products if enter to Japan, and are difficult to detect in import inspection. Those plants are listed in List of Import Banned Counties and Plants. Fruit flies are also included.

Importers must prepare the Import Inspection Application Form on Plants and Banned Goods. Exporters need to prepare the Plant Inspection Certificate issued by the government institution in export country.

According to Plant Quarantine of Japan, only two items, i.e., tea (green tea, black tea, and chinese tea) and Matsutake mushrooms, are allowed to import from Indonesia without any plant inspection. 22 items[23] need the plant inspection upon entry to Japan. Other vegetables and fruits are currently prohibited to be imported to Japan.

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[21] Notification by Food Automated Import notification and inspection Network System (FAINS) needs registration of equipment in advance to Ministry of Health, Labor and Welfare.

[22] The specification standards consist of three kinds of standards: standard of each food components (heavy metals, the number of bacteria, chemicals, etc. Banned antibiotics and antibacterial substances. Transgenic foods must go through safety inspection); standard of manufacturing, processing, usage and cooking (sterilization method and time, type of container, water used in manufacturing process, processing and freshness of other materials, equipment used in manufacturing, and method of cleaning and sterilization of instruments); and storage standard (storage temperature and type and structure of container in the process of storage, transportation and sales).

[23] 22 items are Coconut, tamarind, durian, pineapple, chestnut, coriander, shallot, carrot, basil, garlic, lettuce, lemon grass, cut flowers (orchids, dracaena, and frangipani), flower seeds, dried spices, coffee beans, rice, dried flowers, ginseng, and wheat straw. Most tropical fruits are prohibited to be imported.

Based on Minister Regulation of Trade No.36 in 2015, as a Economic Partnership Agreement (EPA) scheme, Indonesia will export fresh bananas (1,000 ton per year) and fresh pineapples (300 ton per year) to Japan. This is outside of general trade.

2) Import of Livestock Products

In import of livestock products, the animal inspection is conducted on "designated quarantine[24]" based on the Domestic Animal Infectious Diseases Control Law. Designated quarantine can be imported only from the country in which the discussion about "Animal Health Condition" has finished with Japan. Japan can import only meat processed in the facilities designated by Japan or export country.

With Indonesia, Japan had finished discussion about "Animal Health Conditions" related to heat-treated poultry meat. Currently, four Indonesian companies were designated to export meat to Japan as of August 3rd, 2016[25].

2.2.4 Necessary Cooperation and Collaboration in Agriculture and Livestock Sector in Indonesia

As mentioned in Strategic Plan of MoA, the highest priority in agriculture and livestock sector in Indonesia has been supply of foodstuffs. Even if the population growth rate declined from 1.49% in 2000-2010 to 1.2% (estimated) in 2015, the increase of productive population (15-64 years old), "population bonus", will continue until around 2030. Stable food supply to all people is prioritized to maintain social and political stability in Indonesia.

The most important products in Food supply are rice, maize, soybeans, sugarcane, and meat (beef and water buffalo meat), and the shortage of these products is filled by import. However, the import may decrease the production motivation of farmers. It is necessary to keep opitimal balance between production and import of these products.

From the viewpoint of food security, foodstuff supply is not positively related to cooperation and collaboration with foreign country. In rice production, domestic experiences and know-hows such as improvement to high yielding varieties and pest controls have been accumlated. On the other hand, foreign private investment in large-scale rice farming is welcomed by a local government in Java. Introduction of impoted seedling of rice needs to be carefully reconsidered from the viewpoint of food security.

Government of Indonesia tries not only to prepare enough stock of foodstuffs but also to improve the quality of agricultural and livestock products. Government tends to introduce technology that would realize the effect in short-term such as introducing high yielding varieties of agricultural crops or

[24] Designated quarantine includes (1) meat, bone, fat, organs, raw milk, etc., of cloven-hoofed animals (cattle, pigs, sheep, goats, deer), horse, dog, and rabbit; (2) meat and egg of poultry (chicken, duck, turkey, quail and goose); and (3) sausage, ham and bacon made from meat of the designated quarantine as a raw material.

[25] Four companies are PT. Malindo Food Delight, PT. Charoen Pokphand Indonesia - Food Division, PT. So Good Food Manufacturing Unit Cikura, and PT. Belfoods Indonesia.

artificial insemination of livestocks. Here, foreign seedling companies might enter those fields. Indonesia has already imported genetically modified products like soybeans for low-price and stable supply to the people since before.

In the Strategic Plan of MoA, agriculture, such as oil palm and corns are positioned as source of material supply for bioenergy. For the price and stable supply, large companies may be prefered to small farmers.

Even tough the introduction of technology is important, Indonesia needs to focus more on its structural improvement of human resource development in agriculture and livestock sector, utilization of local seedling, and modification of cultivation method.

In order to raise added value of agriculture, Indonesia should focus not only on foodstuff production increase, but also on horticulture development, along with economic development of Indonesia. In some local governments, agriculture office does not concern about processing of agricultural crops because it is regarded as a task of manufacturing office. Import of horticultural products may be increased if there is few government policy on domestic horticultural sector, and the production motivation of farmers will decrease. Integration among production, processing and marketing of agricultural products to stabilize income of farmers may be an important target of cooperation and collaboration.

2.2.5 Possible Cooperation and Collaboration Needs with Japan

In considering cooperation and collaboration needs between Indonesia and Japan, proper understand on what is expected from Indonesian side is important. Based on the interview and quietionaire answers with local governments in this study, in most cases, technology transfer was expected from Japan to Indonesia.

According to Indonesian side, technologies needed in agriculture and livestock sector are technologies for increasing foodstuff production, post-harvest processing, keeping freshness, food processing, etc. In Indonesia, with poor cold chain system, technology for keeping freshness and dry processing will decrease loss and cost in logistics of agricultural and livestock products.

Because Indonesia can increase the production only if post-harvest loss (30-40% of total production) decreases, using of threshing machine and rice milling machine may be spreaded. However, it does not necessarily lead to income increase of farmers because the increase of supply may lower the price at farmer’s level.

Investment in facilities and systems of cold chain may be effective for Japanese side. But the investment cost is high and whether enough benefit can be forcasted becomes the keypoint.

The sixth industrialization in Japan targets the sophistication of agriculture, and integrates production, processing and marketing. This may be effective to increase the added value of agriculture in Indonesia. Food processing machine from Japan can be utilized if the technology matches the indonesian needs. In this case, both the manufacturer of food processing machine and agriculture-related company as a user in Japan had better trying to cooperate with Indonesian side together.

In addition, the contracted production of semi-final products for Japanese company by Indonesian company may be one of the cooperation and collaboration. Indonesian company produces and primarily processes vegertables and fruits by specs ordered from japanese company, freezes or dries those products, exports them to Japan, and Japanese company finalizes them as final products. In this case, the semi-final products can be exported not only to Japan but also to other countries. If it is materials of Japanese foods, Indonesia can be positioned as the supply center to international market.

Based on these points, next section will generally explain about the investment climate of Indonesia. It is important information for Japanese companies to cooperate and collaborate with Indonesian companies. The following section 2.3.4 will analyze bottlenecks for starting project based on the result of JICA's proposal-based project that had been conducted for the investment realization. In addition to that, Chapter 3 will introduce Public-Private Partnership (PPP) on agricultural and regional development in Japan including above matters.

2.3 Investment and Business in Agriculture and Livestock Sector

2.3.1 Production and Import/Export of 5 Prioritized Commodities

MoA prioritizes 5 commodities; rice, corn, soybeans, sugarcane, and meat (beef and water buffalo meat). These are the most important commodities to increase production and productivity with various programs. Table 2.6 indicates production, import and export of these important commodities.

Table 2.6 Production, Import and Export of Prioritized 5 Commodities (2011-2015)

(Unit: ton)

		2011	2012	2013	2014	2015
Rice	Production	65,756,904	69,056,126	71,279,709	70,846,465	75,397,841
	Import	2,750,476	1,810,372	472,665	844,164	861,601
	Export	377	897	2,586	516	519
Corn	Production	17,643,250	19,387,022	18,511,853	19,008,426	19,612,435
	Import	3,207,657	1,692,994	3,191,045	3,252,619	3,267,694
	Export	12,716	34,898	7,932	37,889	234,559
Soy Bean	Production	851,286	843,153	779,992	954,997	963,183
	Import	2,087,985	1,920,490	1,785,327	1,965,811	2,256,932
	Export	-	-	-	-	-
Sugarcane	Production	2,244,154	2,592,561	2,553,551	2,575,392	2,581,620
	Import	2,371,250	2,743,778	3,343,803	2,933,823	3,304,061
	Export	686	487	514	806	814
Meat (Beef + Water Baffalo)	Production	520,664	545,870	542,654	532,907	555,596
	Import	106,931	44,790	57,518	114,885	56,793
	Export	7,481	7,736	8,230	7,309	7,301

Notice: Data on import and export is "meats" in SITC-01.
Source: Production of meat from Data of General Directorate of Livestock and Animal Health, MoA.
Others are BPS, Statistical Yearbook, Foreign Trade Statistical Bulletin (Export,Import),
Indonesian Sugarcane Statistics.

Rice production has increased in these 5 years. Corn and soybean production has been fluctuated. Production of sugarcane and meat has been stagnant.

Import of soybeans and sugar has increased every year and continue to increase dependency on import. Import of corn has also incresed but export also increases.

Compared Table 2.6 with Table 2.2 (production target), production of 5 prioritized commodities needs extra efforts to realize the target. To meet increasing consumption demand, import of these 5 prioritized commodities may be inevitable. The balance between domestic production and import of 5 prioritized commodities is more and more important in the future. Higher efficiency and productivity is crucial with encouraging production motivation of farmers.

2.3.2 Agriculture and Livestock Sector in Investment Negative List

Indonesia has revised Investment Negative List every two years. The latest one was issued by Presidential Regunation No.44 on May 18, 2016, as follows.

(1) Substantial Relaxation of Foreign Capital Ratio

Keypoint of Investment Negative List this time is substantial relaxation of foreign capital ratio. 35 industries, including those had been allowed only for domestic capital before, were permitted to be 100% foreign capital investment.

Industries that were not allowed foreign capital before, and permitted foreign capital ratio 100% under current Negative List are: shooting, production, distribution of films and related facilities; general, dentist, and traditional medical practices; pension fund management; and *wartel* (rental telephone/internet).

Other industries allowed to raise foreign capital ratio to 100% are: cold storage and related warehouses (perviously max 33%); restaurants, café and bars (49%); sport facilities (49%); shooting, dubbing and copying of films (49%); crumb rubber production (49%); hospital management consulting and clinic services (67%); production of medical raw materials (85%); disposal except hazardous materials (95%); and highway management (95%).

Industries allowed to raise foreign capital ratio to max 67% are: warehouses except cold storage (previously max 33%); travel agents, education and training (49%); private museums, catering (51%); and constructions and other 19 industries (55%).

However, for protection of local SMEs, the minimum amount of investment for foreign capital is defined more than 10 billion rupiah. E-Commerce (EC) can be max 100% foreign capital if the amount is more than 100 billion rupiah, and max 67% if the amount below it.

2) Foreign Capital Regulation in Agriculture and Livestock Sector

Foreign capital regulation of agriculture and livestock sector in the latest Investment Negative List has little changed.

Investment in agriculture and livestock sector prohibits cultivation of Marijuana. For protection of local micro, small and medium enterprises and cooperatives, following business principally cannot be invested; staple food crop cultivation in an area of less than 25 ha[26], plantation seedling in an area of

[26] Staple food crops written in this Investment Negative List are rice, corn, soybeans, peanuts, green beans, and other food

less than 25 ha[27], plantation management[28], and primary processing business[29]. On the other hand, max 95% foreign capital ratio is permitted in plantation seeding, plantation management in an area of 25 ha or more up to a specified area without processing units, plantation management in a total area of 25 ha or more integrated to the processing units with the same or exceeding a certain capacity, with obligation of 20% Plasma Plantation. Processing business of plantation crops (primary processing) with the same or exceeding a certain capacity is also allowed max 95% foreign capital ratio with minimum of 20% raw materials sourced from its own plantation.

In horticulture sector, the foreign capital ratio is max 30% in seedling business, cultivating business, post-harvest business, quality control laboratory business, agro-tourism business, post-harvest service business, flower arrangement/florist/decorator business, horticulture development consultant, landscaping, and horticulture course service, and max 49% in research and development on agricultural genetic resource science and engineering, and research and development on Genetically Modified Organism (GMO) product science and engineering (genetic engineering).

In livestock sector, investment in breeding and raising of pigs in a total of more than 125 pigs must be done in specific location specified by the MoA but regulation about foreign capital ratio is not mentioned.

Theoretically, investment in businesses other than what is mentioned in the Negative List is permitted, but in reality, the range may be limited. Foreign investment in agriculture and livestock sector is very difficult.

3) Permission on Establishment of Foreign Company

To establish a foreign company in Indonesia, it is necessary to get the Principle Permit (*Izin Prinsip: IP*) [30] at the Investment Coordination Board (*Badan Koordinasi Penanaman Modal: BKPM*). The process had been complex and took long time. But, recently, one-stop service has been intorduced in BKPM and local investment board, and required working days in each procedure are specified. The

crops (cassava and sweet potatoes).

[27] Seedling crops in this Investment Negative List are jatropha curcas, other sweetener, sugarcane, tobacco, textile raw materials and cotton, cashew, coconut, oil palm, beverage crops (tea, coffee and cacao), pepper, clove, essential oil crops, medical oil crops, other spices, and rubber and other latex producing crops.

[28] Crops in plantation management in this Investment Negative List are other sweeteners, sugarcane, tobacco, textile raw materials and cotton, cashew, coconut, oil palm, beverage crops (tea, coffee and cacao), pepper, clove, essential oil crops, medical oil crops, other spices, and rubber and other latex producing crops.

[29] Crops in primary processing in this Investment Negative List are dried clove buds, crude vegetable and animal oil industry (edible oils); copra, fiber, coconut shell charcoal, dust, nata de coco industry; coconut oil industry; palm oil industry; cotton fiber industry; cotton seeds industry; peeling, cleaning, drying, and sorting of plantation products industry (cacao and coffee beans); cashew for dried cashew nuts and cashew nut shell liquid industry; pepper for dried white pepper and dried black pepper industry; cane sugar, sugarcane top and sugarcane bagasse industry; black tea/green tea industry; dried tobacco leaves industry; rubber for sheet, concentrated latex industry; jatropha curcas oil industry; breeding and raising of pigs in a total of less than or equivalent to 125 in number; and breeding and raising of native chickens and crossbreeding.

[30] To get IP, many procedures must be undergone; obtaining Investment Permit, making and certifying Article of Incorporation, obtaining Residential Permit *(izin domisili*), getting Tax Payer Number (*NPWP*), opening bank account, payment of capital (foreign investment needs at least 10 billion Rupiah), and obtaining certification by the Ministry of Justice and Human Rights and Certificate of Company Registration.

investment procedure have been more simplified and speeded[31].

After getting IP, following prosedures are needed: getting Residential Visa and Work Permit of Foreigner, API-P, registration of Customs Number, and Environment Assessment. In addition, if necessary, permanent business permit, master list, and permit on bonded area is also needed.

However, investment in agriculture and livestock sector is required to have recommendation from MoA to BKPM before getting IP at BKPM. In addition to that, other permission on import/export regulation and food security is also required in advance. The process of foreign company establishment in agriculture and livestock sector looks like more difficult than in manufacturing sector.

2.3.3 Major State Enterprises and Private Compnies in Agriculture and Livestock Sector

Table 2.7 is the list of major state enterprises and private companies in agriculture and livestock sector in Indonesia. Main actor of agriculture and livestock sector in Indonesia is small farmers except export-oriented cash crops production such as oil palm and rubber. In food crops and horticulture, large-scaled commercialized management is still limited. Cash crops such as cacao, coffee, and cashew are mainly cultivated by small farmers.

Export-oriented cash crops are managed by plantation company. Rubber and coconut had been planted and managed by plantation company since colonial era, and the asset has been transferred to state plantation company and has been managed until now.

After 1990's, under deregulation and private emphasis policies of the Soeharto administration, private investment in oil palm plantation drastically increased. Private conglomerates conducted large scale investment not only in plantation in upper stream, but also in down stream such as manufacturing of cooking oil, detergent, bio chemical and other oleochemical industries, and expended the business, building the vertical integration. Indonesia is the largest oil palm production country in the world with high competitiveness in oil palm export, and can expand production capacity more. However, because of monetary crisis in 1998, private sector had to undergo restructuring and debt disposal, and some part was sold to foreign companies. Now, multinational enterprises from Europe, Singapore, Malaysia enter the oil palm business in Indonesia.

[31] Application and procedures by online is common now. It is after finished all procedures, that original documents are submitted to the government. BKPM and local investment board (at province and district/city) will be connected by online, and application can be available from anywhere and the process will be easily checked by online.

Table 2.7 Major Companies in Agriculture and Livestock Sector in Indonesia

Company Name	HQ	Rice	Organic Vegetables	Fruits	Cacao	Coffee	Oil Palm	Rubber	Sugar	Tabacco	Tea	Tapioka Starch	Sago Starch	Wood	Cattle
Agro Indomas, PT.	Jakarta						*								
Ario Makmur, PT.	Jakarta	*													
Asian Agri Group - Raja Garuda Mas	Pekanbaru						*								
Austindo Nusantara Jaya, PT.	Jakarta						*						*		
Bakrie Sumatra Plantations, PT.	Jakarta						*	*							
BISI International, PT.	Jakarta	*	*	*											
Buyung Poetra Sembada, PT. - Topi Koki	Jakarta	*													
Dharma Satya Nusantara Group	Jakarta						*							*	
Duta Palma Group	Jakarta						*								
Dwi Saputra, UD.	Ponorogo		*												
Fajar Bajuri, PT.	Jakarta						*								
First Mujur Plantation, PT.	Medan						*								
Gema Reksa Mekarsari, PT.	Jakarta						*								
Great Giant Livestock - Gunung Sewu	Lampung														*
Great Giant Pineapple Co. - Gunung Sewu	Lampung			*											
Hindoli - Cargill (USA)	Muba						*								
Kebun Sayur Segar, PT. - Parung Farm	Bogor		*												
Korindo Group (Korea)	Jakarta						*	*						*	
Lumbung Padi Indonesia, PT. - Rachmat Gobel + Satake	Mojokerto	*													
Makin Group	Jakarta						*								
Minamas Plantation Group - Sime Darby (Malaysia)	Jakarta						*								
Momenta Agrikultura, PT. - Amazing Farm	Serpong		*												
Mopoli Raya, PT.	Medan						*								
Musim Mas Group (Singapore)	Medan						*								
Nusantara Tropical Farm - Gunung Sewu	Lampung			*											
Padi Unggul Indonesia, PT.	Ngawi	*													
Paya Pinang, PT.	Medan						*	*							
PP London Sumatera Indonesia, Tbk., PT. - Salim	Jakarta				*		*	*			*				
PT. Astra Agro Lestari	Jakarta						*								
PT. Sinar Mas Agro Resources and Technology	Jakarta						*								
PTPN I (Persero)	Aceh						*	*							
PTPN II (Persero)	Medan				*		*		*	*					
PTPN III (Persero)	Medan						*	*							
PTPN IV (Persero)	Medan						*				*				
PTPN IX (Persero)	Semarang					*		*	*		*			*	
PTPN V (Persero)	Pekanbaru						*	*							
PTPN VI (Persero)	Jambi						*	*			*				
PTPN VII (Persero)	Lampung						*	*	*						
PTPN VIII (Persero)	Bandung				*		*	*			*				
PTPN X (Persero)	Surabaya								*	*					
PTPN XI (Persero)	Surabaya								*						
PTPN XII (Persero)	Surabaya				*	*		*			*				
PTPN XIII (Persero)	Pontianak						*	*							
Rea Kaltim	Samarinda						*								
Salim Ivomas Pratama, Tbk., PT. - Salim	Jakarta						*								
Sampoerna Agro group	Palembang						*	*					*		
Sawindo Kencana Group (Singapore)	Jakarta						*								
Sinar Theja Sentosa, CV.	Kediri	*													
Socfin Indonesia, PT.	Medan						*	*							
Sumber Agro Semesta, PT. - Artha Graha	Jakarta	*													
Tasik Raja, PT. - Anglo Eastern Plantaiton (UK)	Medan						*								
Tiga Pilar Sejahtera, PT.	Sragen	*													
Tolan Tiga, PT. - SIPEF Group (Belgium)	Medan						*	*			*				
Triputra Agro Persada Group	Jakarta						*								
Tunas Baru Lampung, Tbk., PT. - Sungai Budi Group	Jakarta						*								
Umas Jaya Agrotama - Gunung Sewu	Lampung											*			
Wilmar International Group (Singapore)	Medan						*								

1) PT. BISI International supplies seedling of rice, corn, and various vegetables and fruits, and feed and fertilizer.
2) Fruits of Great Giant Pineapple are pineapples, and fruits of Nusantara Tropical Farmis are bananas, pineapples, guavas and dragon fruits.
Source: Companies' websites, processed by JICA Study Team

(1) Companies and Organizations related to Horticulture

According to Statistics of Horticulture Companies[32] by BPS, there were 210 companies and corporated organizations related to production of horticulture in 2015. The number of non-corporated oraganizaiton like farmers groups (*kelompok tani*) was 886, but only 470 were active. 137 of 210 companies and corporated organizations and 470 of 886 non-corporated organizaitons were located in Java Island.

Companies and corporated organizations of cultivating foliage plants are located near big cities. In production center of vegetables and fruits, companies and corporated organization of seedling production are also located.

Several companies under the Gunung Sewu Group produce export-oriented pineapples and bananas in their large scale plantation in Lampung Province. Except that, there is no large scale plantation companies to produce vegetables and fruits. State plantation companies (Persero) often give guidances on horticulture cultivation and sales support for local farmers.

(2) Companies and Organizations related to Livestock

According to Livestock Company Directory[33] by BPS, there were 687 livestock companies, consisting of 442 poultry, 196 beef cattle breeding and 49 dairy cattle breeding in 2015.

461 companies were located in Java, followed by Sumatra (101 companies). 313 of 442 poultry companies, 44 of 49 dairy cattle breeding companies and 104 of 196 beef cattle breeding companies were located in Java. In province base, 283 companies were located in West Java Province (57 beef cattle breeding companies and 206 poultry companies).

As large companies, in milk processing and production, PT. Nestle Indonesia, PT. Indolakto, PT. Green Field Indonesia are located in East Java., and Cimory (PT. Cisarua Mountain Dairy) in West Java. CP group and Sekar Group conduct feed supply, meat processing and its sales.

2.3.4 Japanese Companies in Agriculture and Livestocl Sector

Japan have conducted economic cooperaton through ODA to Indonesia for long time to keep political, economic and social stability of Indonesia through development of agricultural sector. Location of Indonesia is geopolitically very important for Japan in Asia, especially to import crude oil from the Middle East through the Indonesian territory.

Thus, in economic cooperation, Government of Japan has focussed on technology guidance and transfer in agricultural infrastructure such as irrigation canals to support increase of rice production to realize its self-sufficiency, and qualitative and quantitative grade up of agricultural and livestock products. After many years, Indonesia has developed with political stability and is now headding for the middle income country. Economic cooperation from Japan needs new approach suitable for current Indonesia.

[32] BPS, Statistik Perusahaan Hortikultura 2015

[33] BPS, Direktori Perusahaan Pertanian Peternakan 2015

The number of Japanese companies in agricultural and livestock sector in Indonesia is few. In plantation, PT. Bridgestone Sumatra Rubber Estate (under Bridgeston Corporation) in North Sumatra Province conducts production of rubber and plantation management. In South Sulawesi Province, PT. Toarco Toraja (under Key Coffee Inc.) is located in North Toraja District and manages its own coffee plantation, buys coffee from farmers, and export high qulity arabica coffeee to Japan.

In horticulture, PT. Green Mountains Natural Foods (under TenNenSoZai Co., Ltd. in Saiki City, Oita Prefecture) is located in Malang City, East Java Province. The company processes and exports dry and frozen semi-final vegetable products, and conducts the cultivation guidance in the farm field[34]. PT. Sun Yasai Ks Buana in Lembang District, West Java Province, exports the heated and refrigirated cassava to Japan. PT. Java Agritech (under Vox Trading Co., Ltd.) in Banjarnegara District, Central Java Province, produces frozen wasabi and other processed spices for export to Japan.

In seedling, PT. Takii Indonesia (under Takii & Co., Ltd.) in Sleman District, Yogyakarta Special Province, produces seedling of vegetables and flowers.

PT. Kondo International contracts Indonesian farmers to produce Japanese rice and sell it to Japanese residents in Indonesia.

In 1970's, Japanese trading companies, such as Mitsui, Mitsubishi and Itochu, had competed to conduct large-scale mechanized plantation projects in Lampung Province, but all of them have withdrawn by now. Currently, in Lampung Province, Japanese companies conduct demonstration experiment of super sorghum and bio energy trial project of jatropha.

In the Gempolkerep sugar factory of National Plantation 10 in Mojokerto District, East Java Province, the New Energy and Industrial Technology Development Organization (NEDO) of Japan and the Ministry of Industry, Indonesia, jointly started experiment operation of the bioethanol plant. This kind of R&D cooperation is expected to increase between Indonesia and Japan.

2.4 Issues in JICA's Proposal Based Programs in the Agriculture Sector

2.4.1 Findings from JICA's Proposal Based Programs in the Agriculture Sector[35]

As of October 2016, thre are 15 projects in the agriculture sector that have been conducted in Indonesia under JICA's Proposal Based Programs with the private sector[36]. Of these, there are three Feasibility Surveys for the Private Sector for Utilizing Japanese Technologies in ODA Project, three Verification Surveys with the Private Sector for Disseminating Japanese Technologies, one SME Partnership Promotion Survey, one Preparatory Survey for PPP Infrastructure, five Preparatory Survey for BOP Business Promotion, and two Collaboration Programs with the Private Sector for Disseminating

[34] Before some Japanese companies exported processed vegetables to Japan but withdrew after 2010.

[35] Of the proposal based programs, this section excludes JPP since it aims at citizen participation and improvement of livelihood of people in developing countries and does not fit to the purpose of the analysis to consider issues in linking the project to actual business activities.

[36]< https://www2.jica.go.jp/ja/priv_sme_partner/> accessed October 27, 2016

Japanese Technology. Five projects target Jakarta or Java, seven projects target outside Java and target areas of three projects are unknown from publicly available data.

Of the 15 projects, the study team was able to obtain seven final reports. Excluding the Preparatory Survey for PPP Infrastructure, as its scale is large and cannot compare with other schemes, the study team analyzed the results of the following six projects utilizing the analysis framework of "Study on Assessment of Development Effectiveness and Financing Method for BOP Business Final Report" (JICA, 2013)[37].

Table 2.8 Proposed Basd Programs Analyzed in this Study

Scheme	Project Title	Report Date
Preparatory Survey for BOP Business Promotion	Preparatory Survey for BOP Business Promotion on Utilization of Slag for Fertilizer in Peat Swamp Area to Improve Agricultural Productivity	March 2013
Preparatory Survey for BOP Business Promotion	Preparatory Survey on BOP Business on Egg Farming and Sales Marketing	March 2014
Preparatory Survey for BOP Business Promotion	Preparatory Survey for BOP Business Promotion on Production, Processing and Distribution of Organic Vegetables	August 2015
Collaboration Programs with the Private Sector for Disseminating Japanese Technology	Collaboration Program with the Private Sector for Disseminating Japanese Technology for Synthesized Sensing Technoligies for Enhancing the Agricultural Productivity	May 2016
Two more projects that have not released the final report to the public		

Source: JICA Study Team

Upon analysis, it is necessary to classify the six projects into 1) cases that were being commercialized or expected to be commercialized imminently ("commercialized cases") and 2) cases for which commercialization was being delayed or still under consideration ("non-commercialized cases"). However, it was difficult to judge which classification some projects fall into with public information only. Therefore, the study classified them between "positive about comercialization" and "non-comercialized cases."

[37] The said study made analysis based on four sources of information, namely inception reports, final reports, questionnaire survey, and interview. It should be noted that the analysis conducted under the present study is based on limited information from final reports only, and therefore its conclusion should be regarded as tentative. Also, since the analysis framework is developed for the scheme of Preparatory Survey for BOP Business Promotion, some factors are not applicable to projects under other schemes. With this in mind, the study applied this analysis framework as an expedient.

Table 2.9 Risk Factors Associated with Delaying in Commercialization in Proposal Based Programs in the Agriculture Sector in Indonesia[38]

Project		a	b	c	d	e	f
Prospects for commercialization after project (positive/ non-commercialized)		positive	positive	positive	non-commercialized	non-commercialized	non-commercialized
Killing factors	Technology is inappropriate for local conditions					○	
High risk factors	Pricing and regulation become barriers to commercialization as the products/services explored are considered to be that of public service					○	
Risk factors	Low correlation between core business and proposed business						
	Possibility of obtaining license and approval from the country of operation has not been confirmed in advance				○		
	Basic information on competition, markets, needs, and infrastructure has not been gathered in advance					○	○
	Product specifications/price is inappropriate for BOP business	○		○			
	Dependent' model where business relies greatly on partners, BOP entrepreneurs, and sales channels						
	Less profitable as the focus is only on BOP (TOP, MOP is not focused)						
	Business model requires completely new and complex role of the BOP						
	All elements required for commercialization are not covered in the survey/process is not based on hypotheses verification						
Other bottlenecks		○					○

Note: Factors with a frequency of occurrence in non-commercialized cases of 90% or above were classified as killing factors, those with a frequency of occurrence between 80% and 90% were classified as high risk, and factors with those between 50% and 80% classified as risk factors.
Source: JICA Study Team based on final reports of the six projects and JICA, PricewaterhouseCoopers Arata, and ARUN LLC. *Study on Assessment of Development Effectiveness and Financing Method for BOP Business Final Report.* November 2013.

Table 2.9 shows that there was no common risk factor among the projects or that characterizes Indonesia. This may have been affected by the limited number of samples. Through the projects, the following risk factors were identified: 1） it was difficult to adopt to natural conditions and agriculture practices of the target area; 2) the market size or infrastructure of the target areas, especialy in rural areas, were worse than expected; 3) as seen in the section 2.3 of this report, the issues related to regulations or obtaining license peculiar to Indonesia affect the business so strongly that commercialization seems unlikely; and 4) the price competitiveness of the product was low.

From the above analysis, the present study can obtain a few insights. First, there is a fact that more than half of the proposal-based projects target areas outside Java. This is also true for projects analyzed above. It is self-evident that agriculture projects including agriculture, livestock and fishery target rural areas or areas near fishing ports. On the other hand, it is important for business in general to ensure access to large markets such as Jakarta or infrastructure for transporting raw materials or products and constructing and operating factory facilities. These conditions are still difficult to be met in rural Indonesia in many cases, and therefore, this would easily become a risk factor for other proposal based

[38] The said study also analyzes “essential requirements for commercialization” from three perspectives, namely “Proposed business has a clear position in the company’s overall strategy,” “Company’s management is strongly committed to commercialization,” and “Strong local network.” It concludes that large corporations are able to overcome non-commercializing risks as long as they achieve these essential requirements. On the other hand, in case of SMEs, even if they meet commercializing factors, if risk factors are high, it is still difficult for SMEs to overcome these risks. Since “essential requirements for commercialization” cannot be judged based only on information available in public, the present study does not analyze this aspect.

projects. In other words, it is not surprising from a business point of view that one third of the projects target Java including Jakarta which has relatively better access to infrastructure and market.

Second, the potential risk factors related to particular target areas, including market size, infrastructure, natural conditions or agricultural practices, can be avoided if the target areas that are suitable for the planned business can be selected in advance. If companies conduct preliminary survey of more than one candidate target areas through their own financing or a study like this one, they can select most suitable target areas. This would not only minimize the above mentioned risks but also increase the odds of commercialization.

Third, the issues related to regulations or obtaining license are often said to be bottlenecks to commercialization. However, only one project among the six had this risk factor. For other projects, relate regulations and liense issues are discussed in their reports, but it was not a major risk for the proejcts. JETRO publicizes this kind of information through its website that even offers country comparison. JICA also calls for companies who consider submitting proposals to check this type of issue in advance[39]. Since companies have already selected Indonesia among other countries considering these issues in advance, it can be said that these issues do not consist of major risk factors for on-going/completed proposal based projects.

2.4.2 Bottlenecks after Decision of Commercialization

Following a decision is made for commercialization of the business through proposal based programs, this section summarizes potential bottlenecks related to setting up a business in Indonesia.

In order to start business based on the proposal-based JICA Project, Japanese side is requested to explain not only merits for Japan but also for Indonesia to persuade the Investment Coordination Agency (BKPM). In this sense, Japanese side had better collaborate with the Indonesian partner.

As mentioned before, in agriculture and livestock sector, foreign capital ratio is limited to max 30% in horticulture sub-sector and 95% in plantation sub-sector. The 100% foreign investment has not been allowed. It means that Japanese side needs the Indonesian partner. It is advantageous that Japanese side starts to look for the candidate of Indonesian partner at the stage of submitting the project proposal.

Investment approval in agriculture and livestock sector is regulated in Minister Regulation of Agriculture No.26 in 2015. As prerequisites to get permission of investment from BKPM, the recommendation from MoA to BKPM is necessary. MoA has five main fields of business approvals; food crops, horticulture, plantation crops, livestock, and livestock medicince for produceers. Each main business approval has its more detail sub-approvals. For example, the business approval of food crops are divided into business of production process, post-harvest processing, integration between production process and post-harvest processing, and seedling. Each business sub-approval has

[39] JICA Website (Japanese) “Points and risks for commercializing BOP business” <https://www.jica.go.jp/activities/schemes/priv_partner/BOP/knowledge/point.html > accessed October 27, 2016

complicated conditions to get the recommendation from MoA to BKPM[40].

In addition to that, Japanese side should pay attention to GAP, GHP and GMP. MoA is eager to introduce GAP and GHP. Guidance of GAP in fruits is regulated by Minister Regulation of Agriculture No.61 in 2006, and of GHP in fruits by Minister Regulation of Agriculture No.44 in 2009. Even though the guidances of GAP and GHP have not yet covered all agricultural and livestock products, it is possible for MoA to add GAP and GHP as necessary conditions for business approval because MoA made the guidance for desiminating GAP and GHP to farmers by Minister Regulation of Agriculture No.120 in 2014.

Because of those complicated procedures, almost all consulting companies are reluctant to support Japanese companiese to establish a company in agriculture and livestock sector in Indonesia. These consulting companies usually support to establish manufacturing companies that are generally located in the industrial estate managed by Japanese company. Agricultural and livestock companies are often established in local area with higher business risk than manufacturing one. Combined with above mentioned complicated procedures, even if consulting companies agree to support, the fee tends to be expensive. This is one of the bottlenecks for Japanese SMEs to start business in agriculture and livestock sector in Indonesia, thus, needs to be noted.

[40] Following documents are needed to get recommendation from MoA in food crops business: Company Establishment, Tax Payer Number (*NPWP*), Residential Permit *(izin domisili*), Recommendation from District Head or Mayor that the plan fits the Spatial Plan, Recommendation from Governor that the plan fits macro plan of food crop production in the province, Location Permit from District Head or Mayor with planed location in 1/100,000 or 1/50,000 map, Work Plan of Food Crop Production, Result of Environment Assessment (AMDAL/UKL/UPL) Analysis, written oath of the application of quality certification system to produced food crops, written oath of starting business within 6 months after getting investment approval, and written oath of plan for partnership with local side.

Chapter 3 Agricultural Promotion with PPP in Japan

3.1 Administrative Structure of Japan

3.1.1 Central Government

The Central Government of Japan consists of 11 ministries and cabinet related institutions such as the Cabinet Secretariat and the Cabinet Office. Ministry of Agriculture, Forestry and Fisheries (MAFF) is in charge of agricultural and rural development. Other government agencies related to this study are as follows.

- Ministry of Trade, Economy and Industry (METI)
- Ministry of Land, Infrastructure, Transport and Tourism (MLIT)
- Japan Tourism Agency (JTA)[41]

3.1.2 Prefectural Divisions

Prefectures form the first level of administrative division in Japan. They are classified into four types; "ken", "fu", "to" and "do"; by names despite functions of them are basically the same. There are 43 'ken', two 'fu' (Osaka-fu and Kyoto-fu), one 'to' (Tokyo-to), and one 'do' (Hokkaido). It means there are 47 prefectures in total. Structures of 'Tokyo-to', the capital of Japan, is different from other prefectures. It includes special wards which have similar functions of municipalities.

To enforce activities of the central government in local regions, ministries locate their local branches. MAFF places seven Regional Agricultural Administration Offices. Each office is responsible for area of 3-10 prefectures except for Hokkaido and Okinawa Prefecture. Hokkaido District Agriculture Office and Agriculture, Forestry and Fisheries Department of Okinawa General Bureau administrated by the Cabinet Office fulfil similar functions.

3.1.3 Municipal Divisions

Municipalities form the second level of administrative division in Japan. There are 1,718 municipalities (790 cities, 745 towns and 183 villages) in May 2016. Municipalities with population more than 50,000 (30,000 with special conditions) form cities, municipalities fulfilling requirement specified by Prefecture form towns, and others form villages. There are divisions in charge of agricultural development in municipal offices although division names are not uniform.

3.2 Food, Agriculture and Rural Areas in Japan

3.2.1 Climate and Land Use

Japan consists of islands and most part belongs to humid subtropical climate. Northern areas such as Hokkaido and North Tohoku belong to humid subarctic climate. Annual average temperature at Tokyo

[41] Supervisory authority of JTA is MLIT.

is 15.4ºC. Japan has four distinct seasons and there is wide range of seasonal variation of temperature. Monthly average temperature in Tokyo reaches to 26.4ºC in August and it goes down to 5.2ºC in January. Japan has a long and thin national land from north to south and it brings temperature gradient. Average temperature in the northernmost prefecture, Hokkaido, is only 8.9ºC at Sapporo City (prefectural capital). It is 23.1ºC in the southernmost prefecture, Okinawa at Naha City (prefectural capital). Japan receives 1,668 mm of precipitation in a year. The amount is much larger than the global average (880 mm) but smaller than the Indonesian average (2,702 mm)[42]. Land area of Japan is 37,796 thousand ha. It is equivalent to 20% of Indonesian land area. Agricultural land is estimated at 4,537 thousand ha which is only 8% of that in Indonesia[43].

3.2.2 Economic Contribution of Agricultural Sector

Nominal GDP of Japan in 2013 was 4,898,530 million US$. Added value by agriculture, forestry and fisheries sector was estimated at 57,689 million US$ or 1.2% of total nominal GDP. Nominal GDP of Japan was five times larger than that of Indonesia but added value by agriculture, forestry and fisheries sector was less than the half of Indonesia. Proportion of agriculture, forestry and fisheries sector to total nominal GDP was only 8% of that in Indonesia[44].

3.2.3 Major Agricultural and Livestock Products

Major agricultural and livestock products in Japan (ranked by outturn) in 2012 were rice (paddy), milk, chicken egg, chicken meat, pork, beef, vegetables, etc. as presented in Table 3.1. It should be noted that feed grains to produce milk, chicken egg and meat were highly dependent on import. Rice (paddy) and chicken meat were ranked in top ten products in Indonesia as well. Rice (paddy) was ranked as number-one and chicken meat was ranked as number-four in Indonesia[45]。

Table 3.1 Major Agricultural and Livestock Products in Japan

Order by outturn	Product	Outturn (1000 Int$)	Production (1000 t)	Harvested area (1000 ha)
1	Rice (paddy)	2,939,863	10,654	1,581
2	Milk	2,367,113	7,630	-
3	Chicken egg	2,079,086	2,507	-
4	Chicken meat	2,055,627	1,443	-
5	Pork	1,993,292	1,297	-
6	Beef	1,386,805	512	-
7	Vegetables	527,635	2,800	120
8	Potatoes	395,562	2,500	81
9	Cabbages and Brassica vegetables	344,177	2,364	34
10	Apples	335,709	794	37

Source: FAOSTAT

[42] MLIT website <http://www.mlit.go.jp/hakusyo/mlit/h23/hakusho/h24/data/html/ns670000.html> accessed June 06, 2016
[43] FAO website (2016) FAOSTAT <http://faostat.fao.org/> accessed June 07, 2016
[44] FAO website (2016) FAOSTAT <http://faostat.fao.org/> accessed June 07, 2016
[45] FAO website (2016) FAOSTAT <http://faostat.fao.org/> accessed June 07, 2016

3.2.4 Food Self-Sufficiency

Food self-sufficiency in Japan in 2013 was 39% on a calorie supply basis[46]. Japanese self-sufficiency in grains in 2011 was 28% which was exceptionally lower than that of Indonesia (87%)[47].

3.2.5 Productivity

Added values by agriculture, forestry and fishery workers in 2006-2010 were estimated at 50,720 US$ (constant 2005 US$) in Japan and 1,034 US$ (constant 2005 US$) in Indonesia. Japanese value is 50 times larger than Indonesian[48].

3.2.6 Agricultural Workforce

Agricultural workforce (sum of "core persons mainly engaged in farming" and "persons who have been employed by agricultural sector for more than 7 months a year") in 2010 was 2.19 million in Japan. Among them, people aged over 50 and 70 account for 86% and 44%, respectively. Aging of agricultural workforce is recognized as one of the most critical issues of Japanese agriculture.

3.2.7 Food Industry

Domestic output by food industry started to decrease after the latter half of the 1990s. Reasons behind were price decline of food commodities, reduced birthrate, etc. Domestic output by food industry in the fiscal year 2012 was 79 trillion yen. It accounted for 9% of total output. 43% of the domestic output by food industry was produced by food manufacture industry, 30% by related distributive trade, and 27% by restaurants.

In Japan, households consist of a couple with children are significantly decreasing but number of single-person household is increasing. It is forecasted that ratio of single-person household will be increased to 37.2% in 2035. For single-person households, transformation from fresh food to manufactured food is expected. Food industry is required to respond such needs of Japanese consumers[49].

3.2.8 Agricultural Trade and Foreign Direct Investment

(1) Policies on Agricultural Trade

MAFF is working on "expansion of Japanese food culture and food industry". It has three pillars; 1) utilization of Japanese agricultural and livestock products in global culinary field (Made FROM Japan), 2) overseas development of Japanese food culture and food industry (Made BY Japan), and 3) export of Japanese agricultural and livestock products (Made IN Japan). Prioritized agricultural and livestock products are manufactured foods, rice and rice processed products, flowers, vegetables, beef and tea.

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[46] MAFF (2015) FY2013 Annual Report on Food, Agriculture and Rural Areas in Japan

[47] MAFF website, Food Self-Sufficiency in the World <http://www.maff.go.jp/j/zyukyu/zikyu_ritu/013.html> accessed June 05, 2016

[48] World Bank website, Agriculture value added per worker (constant 2005 US$) <http://data.worldbank.org/indicator/EA.PRD.AGRI.KD> accessed June 07, 2016

[49] MAFF (2015) FY2013 Annual Report on Food, Agriculture and Rural Areas in Japan

Indonesia is recognized as one of the prioritized countries/areas[50]。

The Government of Japan is also working hard to conserve genetic resources in Japan. Japan and Indonesia are state parties of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR) which covers 35 crops and 29 forages. Livestock products are not covered by ITPGR. Japan is also a state party of the International Union for the Protection of New Varieties of Plants (UPOV). Related domestic laws on UPOV were developed in Japan. Indonesia and many Southeast Asian countries are not state parties of UPOV. In addition, MAFF established the Intellectual Property Strategy Headquarters to protect intellectual property right of new crop variety developers and genetic resources of livestock (mainly for Japanese cattle i.e. Wagyu).

(2) Policies on Agricultural and Livestock Products Import

MAFF is working to import agricultural products to meet national demand. Soya bean and corn are prioritized crops to import. For these crops, the government collaborates with countries in Latin America, Central Asia and Eastern Europe to improve the investment climate in those countries. Typically, the collaboration includes activities to conclude investment agreements and infrastructure development for production/distribution.

On the other hand, Japanese government is trying to maintain high tariff to minimize import of several agricultural and livestock products. Indonesia and Japan concluded the Indonesia-Japan Economic Partnership Agreement (IJEPA). IJEPA has become effective in July 2008. Under IJEPA, rice and rice products, barley, wheat and their products, meat, pineapples, bananas, starch, sugar and sugar products, dairy products, certain oils and fats and processed foods are recognized as sensitive products for Japan which requires special consideration.

(3) Agricultural/forest/fishery Trade with Indonesia

Agricultural/forestry/fishery export to Indonesia in 2015 corresponds to 6,400 million yen. There were three agricultural products among top-ranked agricultural/forest/fishery exported products. These were assorted feed (ranked as No.4: mainly for prawn and livestock: 300 million yen export in 2015), seeds/fruits/spore for seeding (ranked as No.6: mainly for bok-choy, cabbage, carrot and Chinese cabbage: 200 million yen export in 2015) and extracted juice of vegetables (ranked as No.9: 100 million yen export in 2015)[51]. Agricultural/forestry/fishery imports from Indonesia in 2014 corresponds to 3,249 million US$. Coffee with 104 million US$ was ranked as No.5 imported products[52]。

(4) Foreign Direct Investment to Indonesia

Foreign direct investment from Japan to Indonesia in 2015 (based on balance of international payments: net:

[50] MAFF (2013) Export strategies for agricultural, livestock and fishery products, as well as food commodities
[51] Office of Prime Minister (2016) Country-wise and area-wise export promoting strategies of agricultural/forest/fishery products (strategy for Indonesia)
[52]MAFF website (2015) Agriculture, forestry and fishery of Indonesia < ttp://www.maff.go.jp/j/kokusai/kokusei/kaigai_nogyo/k_gaikyo/idn.html> accessed June 05, 2016

flow) was estimated at 3,560 million US$[53].

3.2.9 External Environment of Food, Agriculture and Rural Areas in Japan

According to MAFF, external environment of food, agriculture and rural areas in Japan are as follows[54].

(1) Aging and Decrease in Population

- Domestic food market is shrinking as population decreases. Aging highlights necessity of nursing care foods (texture modified foods) for elders.
- Aging of agricultural workforce complicates to maintain multifunctional roles of agriculture (such as environment conservation, flood prevention, etc.)

(2) Change in Global Food Balance and Globalization

- Global food demand is increasing and climate change is in progress.
- Export of agricultural/forest/fishery products as well as overseas development of food industry are increasing.

(3) Change of Social Structure and Diversification of Consumer Needs

- Social structure is changing. Women's participation in society progresses. Single-person household and aged household increase.
- Consumer needs are diversified in connection with change of their lifestyles.

(4) Structural Change of Agriculture and Rural Areas such as Farmland Consolidation

- Farmland consolidation is progressing as the farmland utilization rights were set up.
- Age composition of agricultural workforce is imbalance. Workforce younger than 50 is only 10%.

(5) Various Potentials such as New Domestic and International Markets and Robot Technology

- Japanese food is attracting interest in foreign countries.
- Healthy business market is expanding in Japan.
- There is a possibility to apply state-of-the-art agricultural technologies such as robot and Information and Communication Technology (ICT).

(6) Recovery and Reconstruction from the Great East Japan Earthquake

- 70% of the Tsunami affected farmland is possible to recommence cultivation. 55% of the disaster affected agricultural entities already restarted business.

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[53] JETRO website "Statistics on Direct Investment" < https://www.jetro.go.jp/world/japan/stats/fdi.html> accessed November 10, 2016

[54] MAFF (2015) FY2013 Annual Report on Food, Agriculture and Rural Areas in Japan

- Harmful rumor on the nuclear accident continuously damages agriculture.

3.3 Value Adding on Agricultural and Livestock Products by PPP

To correspond the external environment of food, agriculture and rural areas in Japan, various efforts have been made. The followings are efforts made by the central and local governments with private actors (PPP) for value addition on agricultural and livestock products.

3.3.1 Agriculture-Commerce-Industry Collaboration

(1) Definition

"Agriculture-Commerce-Industry Collaboration" is a concept to strengthen collaboration between agriculture/forestry/fishery sector and commerce as well as industry. It is expected that all the stakeholders get their techniques and know-hows together for creating new products/services[55].

(2) Policies of Ministries

The government established the Agriculture-Commerce-Industry Cooperation Promotion Act in May 2008. Under the act, MAFF and METI collaboratively support new product development and cultivation of market.

The process of agriculture-commerce-industry collaboration with governmental supports is as follows. First, commercial and industrial SMEs prepare business plans with agricultural/forest/fishery workers. Second, Regional Agricultural Administration Offices and Regional Bureaus of Economy, Trade and Industry evaluate and approve the plan. Third, applicants receive the following supports[56].

- Special conditions of the SME Credit Insurance Act (such as provision of special quota, raise of supplementation rate, and reduction of credit fee)
- Special conditions of the Act on Equipment Installation Support for Small Enterprises (raise of lending rate)
- Special conditions of the Act on Promotion of Food Marketing Structure Improvement (expansion of support targets)
- Special conditions of the Act on Subsidies for Agricultural Improvement, the Act on Subsidies for Improvement of Forestry and Wood Industry, and the Act on Subsidies for Improvement of Coastal Fishery (expansion of support targets, extension of repayment period)

(3) Policies of Local Governments

Local governments are routinely working closely with agricultural cooperatives, chambers of

[55] MAFF website, Let's start Agriculture-Commerce-Industry Collaboration <http://www.maff.go.jp/j/shokusan/sanki/nosyoko/> accessed June 05, 2016
[56] MAFF website, Governmental supports for Agriculture-Commerce-Industry Collaboration <http://www.maff.go.jp/j/shokusan/sanki/nosyoko/hou_gaiyou.html> accessed June 05, 2016

commerce and industry, SMEs, and banking institutions. Taking advantages of these relationships, local governments organize matchmaking and related events, study sessions, and seminars to promote agriculture-commerce-industry collaboration. Local governments also provide supporting desks to facilitate communications.

(4) Progress

1) Overall

Based on the Agriculture-Commerce-Industry Cooperation Promotion Act, numbers of collaboration plans had been prepared and 685 of them had been approved by February 2016. 80% of them were for agricultural and livestock products and others were for forestry and fishery products. Number of approved plans by prefecture was the largest in Hokkaido and Aichi (53 nos.), followed by Shizuoka (25 nos.). By purpose, largest number was observed at demand expansion and brand establishment by introducing new methods of products application (315 nos.) Others were demand expansion by introducing new crops and varieties (158 nos.), and effective use of nonstandard/little-used/non-used products (110 nos.). Plans for products export were limited (8 nos.). By target product, vegetable was the largest (31.5%), followed by aquatic products (13.8%), livestock products (11.3%), other agricultural products (11.0%), and fruits (10.2%)[57].

2) Case Example

Table 3.2 presents good practices of agriculture-commerce-industry collaboration[58].

Table 3.2 Good Practices of Agriculture-Commerce-Industry Collaboration

SME	Location of the SME	Agriculture/ forestry/fishery workers	Contents
Tsuboya Co., Ltd. (manufacture)	Hokkaido	Independent farmer	● Production of a squash variety with high quality protein, fatty acid, and minerals. ● Development of baked confectionery using the squash with brand establishment
Tsuno Co., Ltd. (manufacture)	Wakayama	Japan Agricultural Cooperatives Kihoku Kawakami	Food processing technology of local companies and local signature agricultural products were integrated to develop "juice of fully matured Japanese persimmon and mandarin orange" and "jelly using fully matured Japanese persimmon" as health food products.

Source: Case Examples of Agriculture-Commerce-Industry Collaboration; first approved group

(5) Related Activities of JICA

The term "agriculture-commerce-industry collaboration" has not been frequently used in JICA projects, except for training programs in Japan.

[57] MAFF website, Enforcements to promote agriculture-commerce-industry collaboration <http://www.maff.go.jp/j/shokusan/sanki/nosyoko/pdf/sesaku.pdf> accessed June 05, 2016

[58] MAFF (2009) Case Examples of Agriculture-Commerce-Industry Collaboration; first approved group

3.3.2 Sixth Industrialization (Agriculture-Commerce-Industry Integration)

(1) Definition

Sixth industrialization means integration of primary sector (agriculture, forestry, and fishery), secondary sector (industry), and tertiary sector (commerce) to add value on products made by local resources. The concept could be explained by the following formula[59].

Primary (1st) sector for production x Secondary (2nd) sector for industry x Tertiary (3rd) sector for commerce = Sixth (6th) industrialization

It was proposed by Naraomi Imamura in 1994. He proposed the concept to integrate secondary and tertiary sectors in agriculture/rural development and activate Japanese agriculture/rural areas[60]. Difference between agriculture-commerce-industry collaboration and sixth industrialization is that agriculture-commerce-industry collaboration aims at strengthening collaboration among stakeholders whereas sixth industrialization targets integration of primary, secondary, and tertiary sectors by agricultural/forest/fishery workers. In other words, agriculture-commerce-industry collaboration is made by division of labor but sixth industrialization is practiced by agricultural/forest/fishery workers themselves[61].

(2) Policies of Ministries

The Government established the Act on Sixth Industrialization and Local Production for Local Consumption to promote sixth industrialization. The act became effective in 2011. Activities implemented by MAFF are as follows[62].

- Approve integration plans prepared by agricultural/forest/fishery workers and support implementing the plans by providing special conditions of related acts.
- Support new products development and installation of processing/distribution facilities by providing subsidies and financial contributions.

(3) Policies of Local Governments

To promote sixth industrialization, local governments have established the following supporting mechanism.

- Establish "Sixth Industrialization and Local Production for Local Consumption Promotion Council" at prefectural level to implement sixth industrialization related activities collaboratively. Members of the council are representatives of prefectural government, supporting institutions at prefectural level, financial bureau, transportation bureau, agricultural/forestry/fishery organizations, associations for agriculture/forestry/fisheries, associations for agricultural

[59] MAFF (2016) Situation of sixth industrialization
[60] Japan Agricultural Development and Extension Association (2011) Logic and challenges of sixth industrialization
[61] MAFF (2016) Spread of sixth industrialization for agricultural/forest/fishery products
[62] MAFF (2016) Present situation of sixth industrialization

corporations, organizations for commerce and industry, and institutions for extension.

- The council prepares strategy for sixth industrialization. The strategy consists of present situation and challenges of sixth industrialization in the prefecture, work plan for sixth industrialization promotion, and goals (such as target sales within five years). Stakeholders work collaboratively to achieve the goals.
- Establish "Sixth Industrialization and Local Production for Local Consumption Promotion Council" at municipality level and prepare municipality plan to promote sixth industrialization.

(4) Progress

1) Overall

Impact of sixth industrialization in 2016 was estimated at 1.9 trillion yen (1.7 trillion for agriculture and 0.2 trillion for fisheries). Related employment was 414 thousand (391 for agriculture and 23 for fisheries).

As described previously, MAFF encourages agricultural/forest/fishery workers to prepare integration plans. By April 2016, 2,160 integration plans were approved. 88% of them (1,900 plans) were for agricultural/livestock products and others were for forest/fishery products. By prefecture, Hokkaido was the largest (123 plans), followed by Hyogo (99 plans). By activity, processing and direct selling was the largest (68.7%) followed by processing (20.0%) and processing and direct selling with restaurant (6.5%). By type of product, vegetable was the largest (31.7%), followed by fruits (18.4%) and rice or livestock (11.7%)[63].

2) Case Examples

Table 3.3 shows case examples of sixth industrialization.

[63] MAFF (2016) Situation of sixth industrialization

Table 3.3 Good Practices of Sixth Industrialization

Organization	Location of the organization	Activity Type	Detail of activities
Agricultural Production Corporation, Nishikagura Muminmura Inc. and Hokkaido Muminmura Inc.	Asahikawa City, Hokkaido Prefecture	processing, direct selling, and restaurant	Brand establishment of agricultural products and self-sustained agricultural management ● Establish an agricultural production cooperation with nine farmers in 2001. The cooperation cultivates about 150 ha in 2010. It also built a door-to-door delivery system of private brand vegetables. ● The cooperation opened a farmers' market in 2007 and café/restaurant in 2010. The market sells not only agricultural products but also processed products such as rice flour breads.
Laitiere Yuge Bokujyo Inc.	Kobe City, Hyogo Prefecture	processing, direct selling, and restaurant	Farmers processed agricultural products for direct sale. ● The company started cow raising with about 60 cows in 1985 at a ranch near Kobe City. It has produced dairy products for direct sale. ● The first producer of cheese in the Western Japan. It developed Camembert and Fromage Blanc which preferred by Japanese consumers. ● Provide dairy products as well as cuisine using herb and vegetables. ● Communicate with urban inhabitants by organizing wedding ceremonies and music concerts.
Agricultural Production Corporation, Sowa Fruit Farm Inc.	Arita City, Wakayama Prefecture	processing, and direct selling,	Processing and sales of juice/processed products using high sugar concentrate oranges. ● The company started processing of juice, jam, and jelly using high quality orange in 2004. ● The company started to sell products at specialty food shops in 2009 to expand its business.
"Mekkemon Hiroba", Farmers' Market of Japan Agricultural Cooperatives Kinosato	Kinokawa City, Wakayama Prefecture	processing and direct selling	Revitalization of peri-urban agriculture ● Establish a deli in the market to sell local processed products. ● Sales of local rice flour by introducing a milling machine ● Education on agricultural production, cooking, enjoyment of rural life etc. by farmers and dietary education specialists.
Ikeichi Saikaen Inc.	Tosa City, Kochi Prefecture	processing and direct selling	Promotion of local employment by sales and processing of high quality tomatoes. ● Sale of fruit-tomatoes ● Processing and sale of tomato juice

Source: MAFF website, http://www.maff.go.jp/j/shokusan/kikaku/photo.html

(5) Related Activities of JICA

Case examples of sixth industrialization related projects of JICA are listed in Table 3.4.

Table 3.4 Activities related to Sixth Industry by JICA

Country	Project Title	Scheme	Project Period
Vietnam	Focus on (michi no eki) Roadside Stations, 6th Industrialization of Agriculture within Localities	Grassroots Technical Cooperation (Local Government Type)	July 2013 - March 2016
Cambodia	Empowerment and Employment Promotion for Disability	Grassroots Technical Cooperation (Special Category of Local Economy Revitalization)	December 2013 - December 2016
Vietnam	Data Collection Survey on Agriculture/Forestry/Fishery Sectors and Related Industries in Lam Dong Province	Data Collection Survey	September 2014 - October 2015
Philippines	Victorias City Agri-business/Agri-Eco-Tourism Enhancement Project based on Nanjo City Model	Grassroots Technical Cooperation (Special Category of Local Economy Revitalization)	October 2014 - March 2017

Source: JICA Study Team

3.3.3 Brand Establishment for Agricultural and Livestock Products

(1) Definition

Brand establishment on agricultural and livestock products is a series of activities to put assurance functions (assure quality and explain locus of responsibility), identification function (distinguish the product with others), and recollection function (recall specific image of the product) on the products for value addition[64].

(2) Policies of Ministries

Imitation of brand-name products needs to be avoided since it could destroy quality and image of brand-name products. In Japan, there are two ways to avoid imitation of agricultural and livestock products. One is the Regional Organizations' Trademark System based on the Trademark Law. The other is Geographical Indication (GI) System based on the Geographical Indications Act. The Regional Organizations' Trademark System can be applied to all the products and services. Registration of trademark is responsible by Japan Patent Office which is supervised by METI. GI is not covering all the products. It covers agricultural/forest/fishery products as well as food and beverage products (except for alcoholic beverage). Registration of GI products is responsible by MAFF. Table 3.5 compares both the systems.

[64] DBJ Hokkaido Branch (2015) Brand establishment of regional resource through products certification system

Table 3.5 Comparison of Regional Organizations' Trademark System with Geographical Indication System in Japan

	Regional Organizations' Trademark System	Geographical Indication System (GI)
Coverage	All the products and services	Agricultural/forestry/fishery produces as well as food and beverage products (except for alcoholic beverage)
Quality standard	No institutional regulation. It depends on right holders.	Quality standard with geographical information needs to be prepared, registered, and disclosed.
Quality control	No institutional regulation. It depends on right holders.	Applicant organization needs to supervise producers and process manufacture to follow agreed quality control standard. Situation is also regularly checked by the Government.
Labelling method	Display of registered trademark is recommended.	Display of GI mark is compulsory.
Protection method	Illegal use of registered trademark needs to be corresponded by right holders. They can apply rules and regulations to estimate amount of loss etc.	Illegal use of geographical indication is handled by the Government.
Right	Use of the trademark is exclusive.	GI is a regional asset. Any producer in the area can use the name as far as certain requirements (such as quality standard) are met.
International protection	Need to negotiate individually.	GI names can be protected in countries with mutual GI assurance system.

Source: MAFF, 2016, Geographical Indication System Q&A

(3) Policies of Local Governments

The followings are major activities of local governments for regional brand establishment.

- Preparation of strategies/guidance or organizational setup for regional brand establishment
- Establishment of local products certification system
- Implementation of various projects to support regional brand establishment
- Dissemination and enlightenment (such as preparation of guidebooks)

There are several types of local product certification systems. Some of them covers only primary products whereas others include secondary products. Requirements for registration are rigorous in some systems: i.e. record of production and quality control are required. In some cases, requirements are not rigorous: i.e. the only requirement is that products are produced in certain areas[65].

(4) Progress

1) Regional Organizations' Trademark System

There were 584 registered regional organizations' trademarks as of September 2015. By prefecture, Kyoto was the largest (62 nos.), followed by Hyogo (35 nos.) and Gifu (20 nos.). There were three registrations from foreign countries. By type of product, meat/cow/chicken was the largest, followed

[65] MAFF (2007) Present situation and challenges: brand establishment of agriculture/forestry/fishery products

by vegetables, processed foods, and fruits. Top-four products accounts 72% as shown in Table 3.6[66].

Table 3.6 Number of Registered Regional Organizations' Trademarks related to Agricultural/Livestock and Food Products

Product	Number of Registration	Ratio
Meat/Cow/Chicken	58	20.0%
Vegetables	55	19.0%
Processed foods	52	18.0%
Fruits	43	14.8%
Tea	16	5.5%
Seasonings (such as soy sauce and bean paste)	16	5.5%
Alcoholic beverages	13	4.5%
Confectioneries	11	3.8%
Noodles and cereals	11	3.8%
Rice	7	2.4%
Milk and dairy products	5	1.7%
Other plants	3	1.0%
Total	290	100.0%

Source: METI website, 2015, http://www.meti.go.jp/press/2015/10/20151023003/20151023003.html accessed on 07 June 2016

2) Geographical Indication System

The Geographical Indications Act was newly established in June 2014. Number of registered products was 12 as of March 2016. Products such as Edosaki Pumpkin (Inashiki City and Katsura Town, Ushiku City of Ibaraki Prefecture), Yubari Melon (Yubari City of Hokkaido), Tajima Beef and Kobe Beef (Hyogo Prefecture), and Black Vinegar made by pots in Kagoshima (Fukuyaka Town and Hayato Town, Kirishima City of Kagoshima Prefecture) have been on the list[67].

(5) Related Activities of JICA

Case examples of brand establishment related JICA projects are listed in Table 3.7.

Table 3.7 Activities related to Brand Establishment by JICA

Country	Project Title	Scheme	Project Period
Vietnam	Focus on (michi no eki) roadside stations, 6th industrialization of agriculture within localities	Grassroots Technical Cooperation (Local Government Type)	July 2013 - March 2016
Thailand and Malaysia	Project for Industrial Advancement and Promotion of Small and Medium Enterprise (SME) by Regional Branding through Food Valley Tokachi and Halal Correspondence	Grassroots Technical Cooperation (Special Category of Local Economy Revitalization)	January 2016 - January 2019
Tunisia	Study on Product Development Using High-Functional Olives	Promotion of BOP Business	—

Source: JICA Study Team

[66] METI website (2015) <http://www.meti.go.jp/press/2015/10/20151023003/20151023003.html> accessed June 07, 2016
[67] MAFF website (2016) List of registered products <http://www.maff.go.jp/j/shokusan/gi_act/register/> accessed June 07, 2016

3.4 Rural and Regional Development by PPP

The followings are efforts made by the central and local governments with private actors for rural and regional development.

3.4.1 Local Production for Local Consumption and Direct Selling of Agricultural Products

(1) Definition

Local production for local consumption is a concept to consume agricultural/forest/fishery products within the area where such products were produced. It aims at increase of food self-sufficiency and strengthening sixth industrialization through farmers' market, processing, etc. In particular, 1) strengthening of network between producers and consumers, 2) local revitalization, and 3) reduction of distribution cost are expected[68].

(2) Policies of Ministries

MAFF established the Act on Sixth Industrialization and Local Production for Local Consumption (enforced in 2011) to promote local production for local consumption concept. Policies of MAFF are presented below[69].

- Formulate basic plan to promote use of local agricultural/forest/fishery products.
- Provide necessary supports such as prize-giving for good practices, school meals menu design competition, e-mail magazine publication, etc.

(3) Policies of Local Governments

Local governments are expected to formulate plans to promote use of local agricultural/forest/fishery products. By September 2013, 70% of prefectures and 30% of municipalities formulated or prepared to formulate the plans (see Table 3.8). To accelerate plan formulation by local governments, MAFF decided in 2013 to provide larger budget for local governments which already formulated promotion plans[70].

Table 3.8 Situation of Promotion Plan Preparation by Local Governments (September 2013)

Progress	Prefecture		Municipality	
Formulated	23	(48.9%)	154	(9.0%)
Planning to formulate	9	(19.1%)	307	(17.9%)
No plan of formulation	5	(10.6%)	615	(35.8%)
Unknown	10	(21.3%)	643	(37.8%)
Total	47	(100.0%)	1,719	(100.0%)

Source: MAFF, 2014, Promotion of local production for local consumption

[68] MAFF (2014) Promotion of local production for local consumption
[69] MAFF (2014) Promotion of local production for local consumption
[70] MAFF (2014) Promotion of local production for local consumption

(4) Progress

1) Farmers' Market

Table 3.9 compares situation of farmers' markets in 2006 with 2012. Sales turnover per farmers' market and ratio of farmers' market with sales turnover more than ten thousand yen are not much changed. Number of farmers' market substantially increased by 74%[71].

Table 3.9 Situation of Farmers' Market

	Fiscal year 2006	Fiscal year 2012
Number of farmers' market	13,538	23,560
Gross sales turnover (hundred million yen)	4,585	8,448
Sales turnover per farmers' market (ten thousand yen)	3,387	3,587
Ratio of farmers' market with sales turnover more than ten thousand yen (permanent shop with full year operation)	16%	17%

Source: MAFF, 2014, Promotion of local products for local consumption

2) Use of Local Products for School Meals

Use of local products for school meals increased from 23.3% in 2007 to 25.1% in 2012[72].

(5) Related Activities of JICA

Case examples of farmers' market related activities by JICA are listed in Table 3.10.

Table 3.10 Activities related to Farmers' Market by JICA

Country	Project Title	Scheme	Project Period
Bhutan	Agriculture Research and Extension Support Project in Lhuntse and Mongar	Technical Cooperation	June 2004 - June 2009
Cambodia	Battambang Rural Area Nurture and Development (BRAND) Project	Technical Cooperation	November 2006 - March 2010
Mongolia	Study on Income Increasing Supporting Project for Farmers	Promotion of BPO Business	October 2013 - November 2014
Vietnam	Project for Strengthening of Agriculture and Livestock Management for small-scale farmers in Hue City	Grassroots Technical Cooperation (Grassroots Partner Type)	May 2014 - April 2019
Mongolia	Project for Increase of Farmers' Income by Development of Agricultural Produce Marketing and Soil Improvement	Grassroots Technical Cooperation (Special Category of Local Economy Revitalization)	March 2016 - March 2019

Source: JICA Study Team

[71] MAFF (2014) Promotion of local production for local consumption
[72] MAFF (2014) Promotion of local production for local consumption

3.4.2 Harmonious Coexistence and Communications between Urban and Rural Areas/ Green Tourism

(1) Definition

1) Harmonious Coexistence and Communications between Urban and Rural Areas

Harmonious coexistence and communications between urban and rural areas is a concept to diffuse a new lifestyle that people are coming and going to urban/rural areas and exchange charms of each area. It is expected that communications between both areas will be increased. The concept includes not only green tourism but also settlement and semi-settlement of people in rural areas[73].

2) Green Tourism

Green tourism is a type of leisure activity that people stay in clean and green rural areas and enjoy communication with local people. Visitors are expected to experience rural life and discover charms of nature, culture, livelihood and people of rural areas. Types of experiences which visitors can enjoy are "taste" in farmers' restaurant, "purchase" in farmers' market, "lodge" in farmers' guest house, and "grow" agricultural products in allotment gardens[74].

(2) Policies of Ministries

1) Harmonious Coexistence and Communications between Urban and Rural Areas

To promote harmonious coexistence and communications between urban and rural areas, an inter-ministry liaison council was established by related ministries. The liaison council analyzes policies of related ministries to promote harmonious coexistence and communications by integrating the related policies.

2) Green Tourism

To invite and accept urban inhabitants in rural areas, conditions of rural areas must be improved. For this purpose, Act on Leisure in Rural Areas was initially established in 1994. The Act was revised in June 2005 (enforced in December 2005) to improve a registration system of agricultural/forest/fishery experiencing guest houses. By applying specific district system or other measures, regulations to increase number of agricultural/forest/fishery experiencing guest houses were eased and stabilize their businesses[75].

MAFF and JTA are working collaboratively (so called "agriculture-tourism partnership") to revitalize rural areas and strengthen tourist business. For example, development of new demand for tourism by combining green tourism with other tourism, strengthening of information sharing on rural regional

[73] MAFF website, Green Tourism and Harmonious Coexistence and Communications of Urban/Rural Areas <http://www.maff.go.jp/j/nousin/kouryu/kyose_tairyu/top.html> accessed June 07, 2016
[74] MAFF website, Green Tourism < http://www.maff.go.jp/j/nousin/kouryu/kyose_tairyu/gt.html> accessed June 07, 2016
[75] MAFF website, Act on Leisure in Rural Areas < http://www.maff.go.jp/j/nousin/kouryu/yokahou.html> accessed June 07, 2016

resources, and attracting foreign tourists to rural areas are the collaborative activities of MAFF and JTA[76].

(3) Policies of Local Governments

Local governments established green tourism promoting councils and/or centers in government offices or others. The councils and/or centers introduce various information such as farmers' guest houses, farmers' market, agriculture-experiencing fields, farmers' restaurant, and rural activities experiencing lodges to tourists. Prefectures, such as Yamaguchi Prefecture, set up and applied detail operation rules to provide further advantages to open new agricultural/forest/fishery experiencing guest houses[77].

(4) Progress

There are 3,280 guest houses opened and operated by agricultural/forest/fishery workers. Among them, 2,090 are farmers' guest houses and 1,190 are fishers' guest houses[78]. Table 3.11 presents change of income and employment by green tourism.

Table 3.11 Change of Income and Employment by Green Tourism

	Sales of tourism related facilities (Total)		Unit: ten thousand yen
Category	2010	2013	Change
Resort farming	35,246	37,766	7.1%
Farmers' guest house	5,102	5,431	6.4%
Farmers' restaurant	18,106	31,045	71.5%
	Sales of tourism related facilities (per facility)		Unit: ten thousand yen
Category	2010	2013	Change
Resort farming	402	433	7.7%
Farmers' guest house	265	260	-1.9%
Farmers' restaurant	1298	1979	52.5%
	Employment of tourism related facilities		Unit: hundred people
Category	2010	2013	Change
Resort farming	617	569	-7.8%
Farmers' guest house	58	69	19.0%
Farmers' restaurant	81	128	58.0%

Source: MAFF website, Change of income and employment by green tourism <http://www.maff.go.jp/j/nousin/kouryu/kyose_tairyu/k_gt/pdf/gt_shotoku_koyou_zouka.pdf> accessed June 07, 2016

(5) Related Activities of JICA

Case examples of green tourism related activities by JICA are listed in Table 3.12.

[76] MAFF (2015) FY2013 Annual Report on Food, Agriculture and Rural Areas in Japan
[77] MAFF (2014) Document 2-1 of the second liaison meeting for green tourism promotion in 2014 < http://www.maff.go.jp/j/nousin/kouryu/kaigi.html> accessed June 07,2016
[78] MAFF website, Change of income and employment by green tourism <http://www.maff.go.jp/j/nousin/kouryu/kyose_tairyu/k_gt/pdf/gt_shotoku_koyou_zouka.pdf> accessed June 07, 2016

Table 3.12 Activities related to Green Tourism by JICA

Country	Project Title	Scheme	Project Period
Philippines	Green Tourism For Regional Development	Grassroots Technical Cooperation (Local Government Type)	February 2008 - March 2009
Paraguay	Project for Strengthening Integrated Management of Yguazu Lake Watershed	Technical Cooperation	August 2013 - July 2017

Source: JICA Study Team

3.4.3 Roadside Station (Michi no Eki)

(1) Definition

"Roadside Station" is a public facility for road users, whereas station is a public facility for train/subway users. The MLIT defines "Roadside Station" as the roadside facility that has three functions; 1) Rest space for road users (24-hour and free-of-charge parking and toilets), 2) Information source for road users and local community (traffic information and local tourism information), and 3) Linkage with local communities (services by local rejuvenation facilities)[79]. From October 1991 to April 1992, there was a social experiment on "road stations" at 12 temporal resting facilities in three prefectures, Yamaguchi, Gifu, and Tochigi, to examine whether "road stations" can provide road users with safe and comfortable travel conditions and can contribute to local economy. The result of the experiment was that most local municipalities participated in the experiment recognized the contribution of "road stations" to local economy. Therefore, MLIT officially started "Roadside Station" system in 1993. It has been 23 years since then. The difference between rest areas on highways and "Roadside Stations" is that rest areas are for rest and meals for passengers, whereas roadside stations are hubs for local industries and linkage with local communities.

"Roadside Stations" are developed by local municipalities or other public organizations, and MLIT registers them based on the application by mayors. There are two ways to develop them; one is to be developed by the road administrator and local municipality together, and the other is to be developed all by local municipality[80]. In many cases, it takes more than 5 years, or sometimes more than 10 years to open a new "Roadside Station", the local municipality, local trade association, agricultural cooperative, fishery cooperative, and tourism association discussing how to promote local industries and how to solve issues in the local community again and again. "Roadside Stations" are mainly operated by joint public-private enterprises[81] with investment by municipalities, or private enterprises[82].

[79] MLET Website. Introduction of Roadside Station: Overview <http://www.mlit.go.jp/road/Michi-no-Eki/outline.html> accessed June 07, 2016

[80] MLET Website. Introduction of Roadside Station: Overview <http://www.mlit.go.jp/road/Michi-no-Eki/outline.html> accessed June 07, 2016

[81] So-called the third sector. It is a joint public-private enterprise founded for regional development or urban development. It is one of the ways to introduce private finance and know-how into public projects.

[82] Yamamoto Hisayoshi (2008) *"Kyusyu Chiiki no Michi no Eki niokeru Marketing Senryaku no Jittai to Tenbou"* and Chugoku Industrial Innovation Center (2015) *"Chugoku Chiiki niokeru Michi no Eki no Shiikishinko ni Hatasu Yakuwari oyobi Bosai Kyotenka Katsuyou Chosa"*.

(2) Policies of Ministries

MLIT recognizes “Roadside Stations” are the tool to promote regional revitalization, and it sets “Priority Roadside Stations” and support them since 2014. The support includes; 1) to set up a platform among local municipality and other stakeholders to consult each other, 2) to develop parking and toilets, and 3) to disseminate activities of “Priority Roadside Stations”. In addition to usual functions of “Roadside Stations” such as “industrial promotion”, “transportation hub”, and “information service for tourists”, there have been new functions of “Priority Roadside Stations” such as “disaster prevention” and “promotion of settlement in rural areas”. In fiscal year 2015, 38 facilities were selected as “Priority Roadside Stations”[83].

Especially in recent years, disaster prevention function is recognized further, as “Roadside Station” is equipped with toilets and parking that can be the hub for disaster relief activities.

(3) Policies of Local Governments

Many of the good practice “Roadside Stations” were developed as a result of a long journey seeking for ways to promote local economy and countermeasures against depopulation. Thus, the aim was not the development of “Roadside Station” itself, but promotion of local industry through “Roadside Station”.

Most “Roadside Stations” are developed by local municipalities and operated by joint public-private enterprises. Some local municipalities cover the operation as well, but more and more “Roadside Stations” are operated by private sector including joint public-private enterprises so that funds and management strategies of private sector can be utilized. In case of local municipalities’ operation, maintenance of toilets and operation of shops and restaurants are contracted out or operated by tenant type system in most cases.

Even though operation is done by joint public-private enterprises, investment rate by local municipalities is quite high in most cases. However, in actual operation, collaboration between joint public-private enterprises and local municipalities is limited. According to a survey by Chugoku Industrial Innovation Center in 2015, about 60% of them has collaboration, and the contents of the collaboration is limited to participation in events or exchange of opinions[84].

(4) Progress

1) Overview

As of November 2015, 1,079 “Roadside Stations” are registered all over Japan. Out of them, 606 stations (56%) were developed by road administrators and local municipalities, and 473 stations (44%) were developed by local municipalities. Most “Roadside Stations” have facilities for 3-sets; “direct

[83] MLT (2016) Press release January 27th, “Selection of Priority Roadside Stations for Fiscal Year 2016”.

[84] Chugoku Industrial Innovation Center (2015) *“Chugoku Chiiki niokeru Michi no Eki no Shiikishinko ni Hatasu Yakuwari oyobi Bosai Kyotenka Katsuyou Chosa”*.

sales stores of agricultural products", "shop for locally produced crafts", and "restaurants with concept of Local Production for Local Consumption". Though statistics on sales of all "Roadside Stations" in Japan is not available, nor are all "Roadside Stations" profitable, the sales of the top-level "Roadside Station" amount to several billion yen, and annual number of visitors amounts to more than 1 million. As it is assumed from the continuous increase in number of "Roadside Stations", they are well blended in with Japanese society. There are many rankings and guidebooks on "Roadside Stations". There are more and more visitors taking a drive just to visit "Roadside Stations" themselves. The demand side reasons for this are; 1) people who got tired of standardized goods in cities find novelty and nostalgia in locally produced special products, and buy them as safe and trusted products with traceability, and 2) local people rediscover local brand, and buy locally produced fresh vegetables and marine products. The supply side reasons for this are; 1) sales of direct sales stores and processed products improve the income level of farmers, which directly contributes to regional development; 2) aged/small scale farmers can participate in the market of direct sales stores; and 3) producers can grasp the customers' needs and have a feeling of satisfaction by directly selling the products. On the other hand, the common issues in rural areas in Japan related to "Roadside Station" are reduction of road users and reduction of farmers and fishery producers due to aging society.

2) Case Study

In this section, the Roadside Station named "Tomiura Biwa Kurabu" in Minamiboso City, Chiba Prefecture, one of the candidate municipalities in this Study is introduced[85]. Though Tomiura Town in Minamiboso City was famous for its Biwa (loquat), cut flowers, and swimming beach for summer vacation, it had been severely damaged by import liberalization of agricultural products, collapse of the bubble economy, and depopulation. Under such situation, Tomiura Town (now, Minamiboso City) launched Biwa Kurabu Project in early 1980's for industrial promotion, endorsed by the announcement of the development plan of Tokyo Bay Aqua-Line and other roads in surrounding area. As a result, the Roadside Station named "Tomiura Biwa Kurabu" opened in 1993. In the past, 25-30% of Biwa was sub-standard and abandoned. However, Biwa Kurabu has been developing about 50 unique processed products using these sub-standard Biwa. Also, Biwa Kurabu has developed a system of package order for regional tourism such as fruit picking and agricultural experience tour, and became successful in attracting tourists throughout year. It was awarded the first prize in "National Roadside Station Grand Prix 2000", and was acknowledged as the "National Model Roadside Station" in 2015.

(5) "Roadside Stations" in overseas

"Roadside Station" is well known and frequently introduced to overseas as a Japanese-born tool for regional development, as well as One Village One Product (OVOP). JICA implements model projects of "Roadside Stations". In 2001, Japan Bank for International Cooperation (JBIC) introduced the know-how of "Roadside Station" in its Yen-loan regional development project in Thailand, and experts from Tomiura Town, Chiba Prefecture, and Uchiko Town, Ehime Prefecture participated in the seminar in

[85] Based on the materials provided by Biwa Kurabu on April 5th, 2016.

Thailand in 2003. World Bank has recognized the advantages of “Roadside Station”, and developed a “Roadside Station” guideline in 2004. It has introduced “Roadside Station” to more than 10 countries in Asia and Africa, such as China and Kenya. Minamiboso City in Chiba Prefecture has been continuously participating in the technical cooperation for “Roadside Station” in Vietnam for 10 years.

3.4.4 One Village One Product (OVOP) Movement

(1) Definition

OVOP is the movement for regional promotion which was first advocated by Dr. Hiramatsu in 1979, the governor of Oita Prefecture at that time. In those days, Oita Prefecture suffered from depopulation and rural poverty. Therefore, OVOP was aimed at finding a product that could best reflect each region, and adding value on it through processing and marketing towards national and global market. Not only the tangible product, but also intangible products such as sights, folk songs, and cultural events can be the target. Three principles of OVOP are; 1) Local yet global, 2) Self-reliance and creativity, and 3) Human resource development.

OVOP movement was advocated, being inspired and learned from the regional promotion activities in Oyama Town since 1950’s, in Yufuin Town that had been striving against dam and resort development, and in other regions in Oita Prefecture. Thus, Oyama Town and Yufuin Town had their own regional promotion history long before OVOP was introduced; though their accomplishment is appealed as if it is the result of OVOP movement. It has been 35 years since OVOP was first introduced, and Table 3.13 shows the examples of the fruits of OVOP movement.

Table 3.13 Examples of OVOP Products

Product	Provider (Name of City)	Summary
Konohana Garten	Oyama Agricultural Cooperative (Hita City)	Opened in 1990 by Oyama Agricultural Cooperative to introduce local specialties to consumers. It sells fresh vegetables and processed products. It also has a restaurant operated by housewives of farming families. Now, there are 6 shops in Oita Prefecture and 3 shops in Fukuoka Prefecture. It also has an Online Store.
Sightseeing in Yufuin Town	Tamanoyu, Kamenoi Besso, Musoen, etc.(Yufu Town)	Yufuin Town in 1970's was a deserted hot-spring town. In1971, successors of hot-spring inns carried out a study tour in Europe. After that, they successfully achieved regional development without compromising natural environment. Yufuin nowadays is a world-famous hot-spring tourist destination.
Karinto (Name of a snack that are sticks of dough, fried and coated with molasses)	Azemichi Group (Amagase Town, Hita City)	A women's group from farming families started Karinto making in 1980. The group was awarded the 1st prize by the Minister of Agriculture, Forestry and Fisheries of Japan in the field of senior citizen entrepreneurship/regional revitalization in 2015.
Iichiko Shochu (distilled spirits from barley)	Sanwa Shurui Co., Ltd. (Usa City)	Iichiko Shochu was first developed in 1979. Through Sanwa Shurui's strong marketing strategy, it was merchandized by posters and TV commercials by professional art directors, and became famous in all over Japan. Sanwa Shurui's held 2nd place in sales ranking among Shochu producers in 2013[86]. Oita Prefecture held 3rd place in Shochu sales ranking by prefecture, follwoing Kagoshima and Miyazaki.
Shiitake mushrooms	Oita Prefecture	Some towns like Oyama Town started mushroom harvesting in early 1980's, and prefectural Mushrooms Research and Guidance Center opened in 1989. It has contributed to low cost and high quality production and breed improvement. Nowadays, Oita produces best Shiitake mushrooms in Japan and its production (1,513.5 ton in 2014) accounts for 48% of domestic market share[87].
Kabosu limes	Kawasaki Kabosu Noen (Bungo Ono City)	It produces Kabosu limes in the largest Kabosu farm (160 thousand m^2) in Japan by organic, ultra-low-level agrochemical farming. It sells several Kabosu-processed products by shop and online.
Tomato ketchup	M9 Limited. (Taketa City)	It develops, produces, and sells tomato-processed products. Housewives of tomato farmers started this activity in 1982 using sub-standard/postmature tomatoes. Their tomato ketchup is famous nationwide, though it took more than 10 years with trials and errors to reach current taste.

Source: JICA Study Team

(2) Policies of Ministries

Though there was no support for OVOP from central government, public funds from central government were utilized for actual activities at municipal level[88].

(3) Policies of Local Governments

At the time when OVOP has introduced, there was heavy reliance on government and apathy among local people in Oita Prefecture. Dr. Hiramatsu believed that without changing such behavior and mind,

[86] TEIKOKU Databank
[87] e-stat (2014) Minor forest products production statistics study.
[88] Adachi Fumihiko. (2015). "A Study of One Village One Product Movement: Retrospect and Prospect".

there would be no bright future in Oita. Prefectural government never provided subsidies for OVOP because such assistance would only worse reliance of the local people and prevent success of OVOP. Instead, the prefectural government assisted in product development, distribution, and human resource development.

Prefectural government opened several training schools and provided education for local leaders. About 2 thousand people were trained in 20 years[89]. Through the establishment of institutions such as Agricultural Technology Center, Mushrooms Research and Guidance Center, Livestock Experimental Station, and Institute of Marine & Fisheries Science, the prefectural government offered guidance in production and processing technology[90]. Dr. Hiramatsu himself put emphasis on finding a new market for OVOP products, and advertised them as a top salesman. Also, in early years of OVOP movement, the prefectural government provided each municipality with free TV commercial quota for advertising local specialties[91].

In 2003, Oita Prefecture abolished its OVOP department, and transferred its role to a nongovernmental organization. Though OVOP movement is famous as a regional promotion strategy, it is not the only strategy that Oita Prefecture took for its regional promotion. The then governor, Dr. Hiramatsu enthusiastically invited high-tech industry into Oita, simultaneously with OVOP movement and other several strategies to implement comprehensive regional promotion[92].

(4) Progress

Though there is not up to date data, according to Oita OVOP International Exchange Promotion Committee[93], OVOP products comprised of 338 local specialties, 148 facilities, 133 cultural items, 111 revitalized regions, and 80 items related to environment, coming to 810 products in total in 2002. In local specialties alone, a huge increase in the number of products and amount of sales has seen between 1980 and 2001 where the figures stood at 143 and 35.9 billion yen, and 336 and 141 billion yen, respectively.

Through OVOP movement, Oita Prefecture became famous in Japan and even in the world. It receives many tourists and study tours. There is no doubt that OVOP movement contributed to the internationalization of Oita Prefecture.

(5) OVOP in Overseas

The then governor, Dr. Hiramatsu actively performed local diplomacy to introduce OVOP to abroad. In 1983, OVOP was first introduced to abroad when Dr. Hiramatsu was invited by the mayor of Shanghai, China. After that, OVOP was disseminated to other regions in China. In 1990's, OVOP was introduced

[89] Mukai Kanako, Fujikura Ryo. (2014). "Isson Ippin no Keizoku wo Knou nisuru Yoin".
[90] Oita OVOP International Exchange Promotion Committee. <http://www.ovop.jp/en/ison_p/jissen2.html> accessed August 13, 2016.
[91] Adachi Fumihiko. (2015). "A Study of One Village One Product Movement: Retrospect and Prospect".
[92] Adachi Fumihiko. (2015). "A Study of One Village One Product Movement: Retrospect and Prospect".
[93] Oita OVOP International Exchange Promotion Committee. <http://www.ovop.jp/en/ison_p/seika.html> accessed June 05, 2016

to Malaysia, the Philippines, Indonesia, Thailand, Taiwan, Korea, Mongolia, and so on. On the other hand, JICA also pays attention to OVOP and it disseminates OVOP in African countries such as Malawi and Kenya.

In Oita, OVOP was advocated based on what local people had been implementing against depopulation and environmentally destructive development. On the other hand, OVOP in overseas is based on success story in Japan, and it is advocated by the central government with top-down procedure. In many countries, emphasis is put on products development. For example, in the case of Malawi, OVOP is regarded as something like a low interest loan system by the central government. In the case of Thailand, emphasis is put on training community entrepreneurs who can launch into the global market. Therefore, attention is not paid for local consumers and traditional techniques. OVOP in overseas develops in different ways from that in Japan.

3.4.5 Global Food Value Chain Strategy

(1) Definition

Food value chain establishment aims at connecting and networking of production, processing, distribution, and consumption to add values on agriculture/forestry/fishery products.

It is important for Japan to establish a global food value chain to take advantages of Japan such as high quality, healthy, and safe. In particular, advantages of Japan could be Japanese food (registered as an Intangible Cultural Heritage of United Nations Educational, Scientific and Cultural Organization (UNESCO)), ICT, energy saving and environment friendly technologies, high-tech for production/processing/distribution; cold chain, Point of Sale (POS), and advanced and convenient distribution system.

The followings are specific examples of establishing global food value chains.

- Development of food processing industrial complex and cold chain
- Introduction of Japanese advanced technologies, such as IT agriculture
- Production, distribution, and sales of halal foods
- Collaboration of Tokyo International Conference on African Development (TICAD) with private investments

(2) Policies of Ministries

MAFF is making efforts to establish a global food value chain. There are two important pillars such as the Global Food Value Chain Promoting PPP Council and Bilateral Forum on Agriculture Cooperation. In April 2014, the Global Food Value Chain Promoting Council was established and discussions by governments and private actors have been made. MAFF conducts discussions with ASEAN, China, India, Middle East, Latin American, Africa, Russia and Central Asian countries. In June 2015, First Bilateral Forum between Indonesia and Japan on Agriculture Cooperation was held. Establishment of

food value chain by PPP and investment regulations were the major issues of the forum.

In addition, various tools for global value chain establishment such as information collection and sharing, individual advisement, market development support, financing, and economic assistance are provided. MAFF, JETRO, JBIC, NEXI (Nippon Export and Investment Insurance), JICA etc. have been providing such tools.

(3) Policies of Local Governments

One of the local government, Hokkaido, joins the Global Food Value Chain Promoting PPP Council as a member. Hokkaido presented its efforts at a meeting of the council in May 2014. In addition, Ibaraki Prefecture introduced its potential of food value chain establishment in Vietnam.

(4) Progress

Situation of overseas presence of Japanese agricultural/forest/fishery companies as well as food related companies is summarized in Table 3.14.

Table 3.14 Overseas Presence of Japanese Agricultural/Forest/Fishery as well as Food related Companies

Area/Country	Situation
ASEAN	● Number of food related overseas affiliated companies decreased from 189 in 2005 to 174 in 2009. The number turned into increase and reached to 231 in 2013. ● In 2013, there were 83 overseas affiliated companies in Thailand, 44 in Singapore, 32 in Vietnam, and 31 in Indonesia. ● Growth rate of each county was 88.2% in Vietnam, 52.6% in Malaysia, 41.9% in Singapore, and 29.2% in Indonesia. ● By business field, food processing is the largest at 143, followed by food wholesale trade at 31, outlet store (including department store, supermarket and specialized store) at 25, agriculture/forestry/fishery at 17, and restaurant and catering at 15.
China	● There were 310 food related Japanese companies in 2013. ● By business field, food processing is the largest (173 companies) which occupies 56%.
India	● There were only nine related Japanese companies in the field of agriculture/forestry/fishery, food processing, food wholesale trade, and restaurant and catering.
Middle East	● There were only two overseas affiliated companies (one for food processing and the other for food wholesale trade) in the Middle East in 2013.
Latin America	● There were 54 food related Japanese companies in 1997. The number was slightly decreased to 48 companies in 2009. After 2009, the number increased to 63 in 2013 which was 30% increase. ● By business field, promotion of agriculture/forestry/fishery is the largest (38% and 24 companies), followed by food wholesale trade (31% and 20 companies), and food processing (30% and 19 companies). Latin America has a characteristic of strong penetration of agriculture/forestry/fishery business related companies.
Africa	● There were only eight companies (three for agriculture/forestry/fishery, three for food processing and two for food wholesale trade).
Russia and Central Asia	● There were four food related Japanese companies.

Source: International Development Center of Japan, 2014, Survey on overseas presence of agriculture/forestry/fishery as well as food industry to support food value chain establishment

(5) Related Activities of JICA

Case examples of global food value chain related activities by JICA are listed in Table 3.15.

Table 3.15 Activities related to Global Food Value Chain by JICA

Country	Project Title	Scheme	Project Period
Kenya	Smallholder Horticultural Empowerment Project	Technical Cooperation	November 2006 - November 2009
Vietnam	Strengthening the Capacities for the Field of Management of Vietnam's Crop Production Sector for Improving the Productivity and Quality of Crop's Product	Technical Cooperation	July 2010 - December 2013
India	Study on smart village project to improve livelihood of BOP segment	Study on Promotion of BOP Business	July 2012 - March 2014

Source: JICA, 2014, Related activities for global food value chain establishment

3.5 Relationships between Concepts and Methodologies to Promote Agricultural and Rural Development by PPP

Above mentioned concepts and methodologies to promote agricultural development by PPP are overlapped in some parts. Figure 3.1 presents relationships between such concepts and methodologies. Global food value chain establishment is a broad concept which contains methodologies such as agriculture-commerce-industry collaboration, sixth industrialization, and brand establishment. Roadside station and OVOP have wider ranges. They include additional methodologies such as local production for local consumption and green tourism. Difference between roadside station and OVOP is that infrastructure (roadside station) needs to be a core of activities in roadside station, whereas discovery of useful local resources is a core of OVOP concept.

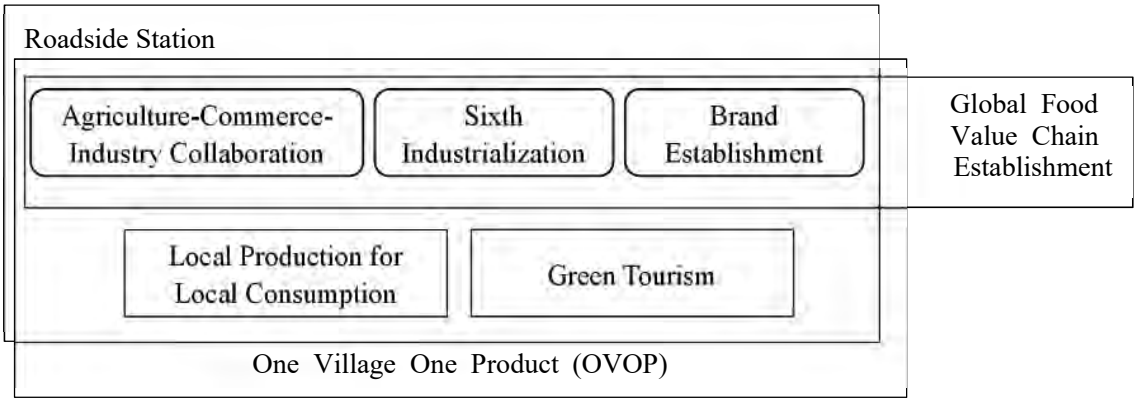

Figure 3.1 Relationships between Concepts and Methodologies to Promote Agricultural and Rural Development by PPP

Chapter 4 Selection of Target Local Governments and Matchmaking Process

4.1 Overall Process of Selection of Local Governments and Matchmaking

Selection of target local governments and matchmaking were done through the steps shown in Figure 4.1. Local governments selected in both countries examined the possibility of partnership through participating in the two field visits in Indonesia by the Japanese side and a field visit in Japan by the Indonesian side. The present chapter describes the selection and matchmaking processes of local governments. Then, the results of the field visits and content of the partnership projects are presented in Chapter 6.

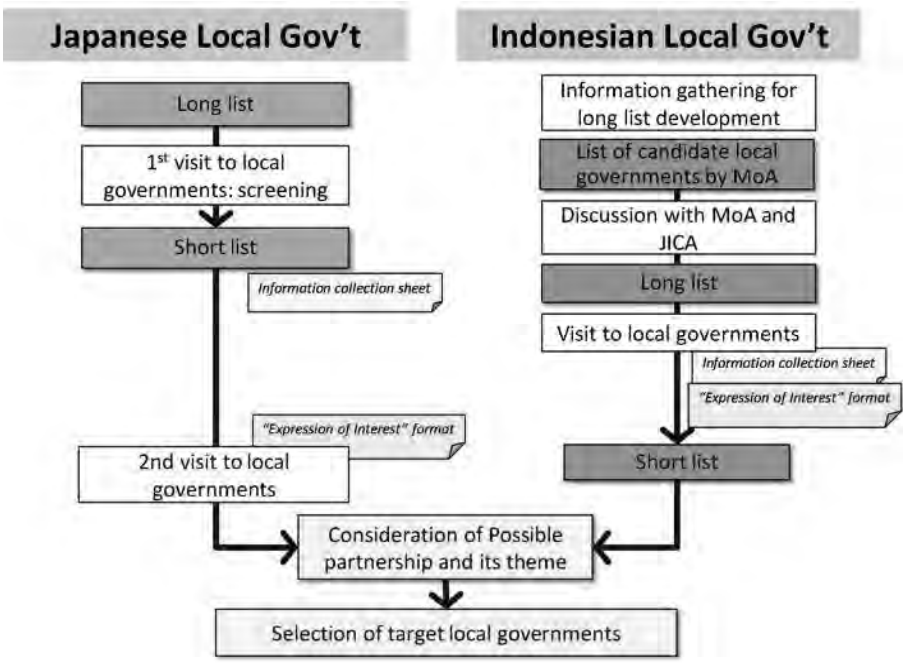

Figure 4.1 Flow of the Selection of Local Governments and Matchmaking Process

In order to easily compile and compare information for the shortlist of candidate local governments, the study team used a standard information collection sheet when it visited local governments. Also, the study team asked each candidate local government to fill out the "Expression of Interest" format, which lists the names of the candidate local governments so as to collect the information on which local government it wishes to partner with and its priority ranking, if there are more than one request.

4.2 Selection of Candidate Local Governments

4.2.1 Selection of Japanese Candidate Local Governments (1st Survey in Japan)

(1) The Long List

The long list of Japanese candidate local governments was developed based on recommendations by JICA's domestic branch offices. The result of the research on experience, know-how, and technology

in the agriculture/livestock sector that Japanese local governments and private companies have was also added to the list. Table 4.1 shows the long list of the Japanese candidates that could cover the four models shown in Chapter 1.

Table 4.1 The Long List of Japanese Candidate Local Governments

	Local Government	Characteristics	Recommended by
1	Hokkaido	The food basket of the nation centered on Agricultural Cooperatives	JICA domestic branch office
2	Fukushima City, Fukushima Prefecture	Fruits processing and sixth industrialization	JICA Indonesia Office
3	Minamiboso City, Chiba Prefecture	Local economic development through sixth industrialization with a focus on roadside stations	JICA domestic branch office
4	Hyogo Prefecture	Agricultural production, food processing and marketing (branding), as represented by Kobe beef, Tamba black beans, etc.	JICA domestic branch office
5	Kobe City, Hyogo Prefecture		
6	Wakayama Prefecture	Agricultural, forestry and fishery production, especially fruits, and related industries	JICA domestic branch office
7	Kochi Prefecture	Japanese citron production and processing, attracting industrial parks, greenhouse horticulture, development of agricultural machinery	JICA domestic branch office
8	Ehime Prefecture	Agriculture processing, distribution, roadside stations. Ehime University is actively involved in collaboration with Indonesia	JICA domestic branch office
9	Kitakyushu City, Fukuoka Prefecture	ICT agriculture	JICA Study Team
10	Oita Prefecture	OVOP and promotion of local economy	JICA Study Team
11	Hitoyoshi City, Kumamoto Prefecture	Production of halal beef	JICA Study Team

Source: JICA Study Team

(2) The Short List

The study team visited local governments listed in the long list to explain the outline of the study and to confirm their initiatives to promote agriculture, their willingness to collaborate with Indonesian local governments, and concrete ideas and necessary conditions for collaboration (5 – 26 April). During the course of this interview, the 2016 Kumamoto Earthquake occurred on 14 April. Therefore, further study was suspended on the three local governments in Kyushu Region (Kitakyushu City, Oita Prefecture, and Hitoyoshi City). As a result, the following short list was developed. The detailed information on each local government is presented in the next chapter.

Table 4.2 The Short List of Japanese Candidate Local Governments

	Local Government	Population (2014)	Possible Theme of Partnership	Target Product	Strong Points	Type of Partnership
1	Hokkaido	5,400,000	1) Rural tourism with premium foods, 2) Halal foods, 3) ICT agriculture, 4) Foods with healthy function claims	Not specified	1) Regional development through "food" and "agriculture, forestry and fishery" 2) Special zone for food industry promotion and collaboration with Muslim world on halal foods 3) Large-scale mechanized agriculture based on vast arable land, 4) Foods with healthy function claims (or value addition of products with additional healthy information)	Knowledge & Experience Sharing
2	Fukushima City, Fukushima Prefecture	293,000	Fruits processing and sixth industrialization	Fruits, dried fruit	Value addition to fruits of Fukushima: a Japanese producing center of fruits	Import from Indonesia/ Knowledge & Experience Sharing
3	Minamiboso City, Chiba Prefecture	42,000	Local economic development with a focus on roadside stations	Fruits and processed products	The award-winning roadside station	Knowledge & Experience Sharing/ Import from Indonesia
4	Hyogo Prefecture *	5,541,000	*Branding of livestock products*	*Beef*	*A prefectural government authorized food system, Branding of Tajima beef and Kobe beef*	*Knowledge & Experience Sharing*
5	Kobe City, Hyogo Prefecture	1,544,000	Promotion of community-supported agriculture under "Gastropolis" concept	Not specified	"Gastropolis" concept, as a new model of regional development	Business Expansion/ Knowledge & Experience Sharing
6	Wakayama Prefecture *	971,000	*Farmers' market*	*Fruits (mandarin orange and Japanese persimmon)*	*Successful farmers' markets operated by agricultural cooperatives*	*Knowledge & Experience Sharing*
7	Kochi Prefecture (Ochi Town)	759,680	Technical advice on production and processing, business expansion in Indonesia	Fruits (Japanese citron)	Globalization of Japanese citron: a local signature agricultural product of Kochi	Business Expansion/ Knowledge & Experience Sharing

*: What is presented in *Italic* is a tentative idea by the study team, as these prefectures preferred to listen to and respond to the needs of the Indonesian side.
Source: JICA Study Team, based on E-Stat

4.2.2 Selection of Indonesian Candidate Local Governments (1st Survey in Indonesia)

(1) The Long List

The short list of Japanese candidate local governments was submitted to the MoA prior to the 1st survey in Indonesia to request it to recommend Indonesian candidate local governments. The MoA then recommended ten local governments to JICA. At the beginning of the 1st survey in Indonesia, the study team interviewed the MoA on the reasons for recommending these candidates. JICA Indonesia Office and the study team added three local governments to the list considering the possibility of partnership with Japanese candidates. As a result, the following 13 local governments were listed in the long list.

Table 4.3 The Long List of Indonesian Candidate Local Governments

	Local Government	Recommen-dation	Characteristics	Date of Visit
1	Aceh Province	MoA	Citrus fruits*1, agro-tourism, coffee	23 -25 May
2	West Pakpak District, North Sumatra Province	MoA	Gambir production, water buffalo grazing, mandarin orange	26 -27 May
3	Indramayu District, West Java Province	MoA	Mango, rice and beef cattle	19 May
4	Sumedang District, West Java Province	MoA	Sweet potato production	19 May
5	Bantaeng District, South Sulawesi Province	MoA	Rice, organic agriculture	-
6	Lima Puluh Kota District, West Sumatra Province	MoA	Gambir, poultry raising, cattle grazing	26 -27 May
7	Sembalun Sub-district, East Lombok District, West Nusa Tenggara Province	MoA	Potatoes, garlics, beef cattle, tourism (trekking at Mount Rinjani)	18 -19 May
8	Lampung Province	MoA	Bananas, Pineapples, Coffee	1 June
9	Mempawah District, West Kalimantan Province	MoA	Aloe production	-
10	Tomohon City, North Sulawesi Province	MoA	Cut flowers, beef cattle, pig farming, tourism	20 May
11	Semarang City, Central Java Province	JICA* 2	Port town	30 -31 May
12	Malang City, East Java Province	JICA* 2	Fruits and food processing	30 -31 May
13	Batu City, East Java Province	JICA* 2	Fruits production and processing, Citrus and Subtropical Fruits Research Institute	30 -31 May

*1: There is “Japanche Citroen” (JC) similar to Japanese “yuzu.” At the time of the 1st Survey in Indonesia, it was not found out whether JC is the same as Yuzu or not.
* 2 : Recommended by JICA Indonesia Office.

Source: JICA Study Team

(2) The Short List

The study team visited 11 out of 13 local governments on the long list during the 1st survey in Indonesia (18 May – 1 June). The remaining two districts were decided not to be on the short list in this study in consultation with JICA Indonesia Office. They are Bantaeng District, South Sulawesi Province where there is duplication of JICA project and Mempawah District, West Kalimantan Province, whose product, aloe vela, was difficult to find a partnership with Japanese local governments. During the visit, the study

team interviewed each local government on the following issues: 1) the status of agricultural promotion in the local government, 2) examples of actual projects and names of cooperatives or private entities involved, 3) its needs for cooperation regarding local economy development, sixth industrialization, production and processing technology, farmers' market, etc., 4) its interests in partnership with a Japanese local government and if so, any possible theme of partnership, and 5) its preference on which Japanese candidate it is interested in partnering with.

At first, it was planned to narrow down the long list into a short list based on the information collected through these visits. However, based on the request of MoA that the candidates be kept in the list as much as possible if there is any possibility of finding a partner, the short list was developed with all the eleven candidates. The case of West Pakpak District, North Sumatra Province was notable. JICA and the study team initially considered that the scheme of local government partnership under this study was not suitable to the district, as it had a strong interest in exporting gambir. On the other hand, MoA strongly requested it to remain in the short list because of its aid acceptance policy to direct new foreign aids to those areas that receive less government budget or existing foreign assistance. The detailed information on each local government is presented in the next chapter.

Table 4.4 The Short List of Indonesian Candidate Local Governments

	Province	District/City	Area (km^2)	Population	Characteristics
1	North Sulawesi	Tomohon City	147	98,686	Environment-friendly agro-tourism development
2	West Nusa Tenggara	East Lombok District	1,606	1,153,773	Agro-tourism development
3	East Java	Malang City	252	857,891	Fruits processing center in Indonesia
4	East Java	Batu City	202	182,392	Highland horticulture and agro-tourism center
5	Central Java	Semarang City	374	1,584,068	Historical harbor town with specialty foods
6	West Java	Indramayu District	2,040	1,682,022	Agro-industry development for high quality tropical fruits
7	West Java	Sumedang District	1,518	1,131,516	Production and processing of unique tropical fruits
8	Lampung	-	34,624	8,026,191	High quality tropical fruits with processing
9	West Sumatra	Lima Puluh Kota District	3,354	365,389	Stop-off points on a major corridor with highland vegetables
10	North Sumatra	West Pakpak District	1,218	44,520	Gambir production and processing
11a	Aceh	Central Aceh District	4,318	213,732	Motherland of Gayo coffee and orange
11b		Aceh Besar District (b1) & Banda Aceh City (b2)	2,974 (b1) 61 (b2)	384,618 (b1) 249,282 (b2)	Agro-tourism development

Source: JICA Study Team based on BPS Dalam Angka 2014 of each local goverfnment

(3) Examination of Possible Partnership Idea

Based on the idea for partnership from the Japanese candidates and expression of interests by the Indonesian candidates, the following partnership would be possible. From the observation during the

visits, there were differences among the local governments on how concrete the idea for collaboration or specific target areas were, their technical levels (whether the technical level and scale of production of i.e. fruits processing, meet the expectation of the Japanese side), and how much the needs of the local governments on both sides match. Table 4.5 includes the feasibility of each partnership based on these criteria.

Table 4.5 Partnership Ideas based on the Interests of Indonesian Local Governments

No	Local Government	Direction of Partnership	Possible Partner	Feasibility
1	Tomohon City, North Sulawesi Province	Linking agriculture and tourism	- Minamiboso City (tourism development centered on roadside station) - Hokkaido (food & tourism)	A
2	Sembalun Sub-district, East Lombok District, West Nusa Tenggara Province	Linking agriculture and tourism, branding and processing of local beef	- Hokkaido (food & tourism, beef cattle) - Minamiboso City (tourism development centered on roadside station)	A
3	Malang City, East Java Province	Fruits processing in Great Malang Area (Malang Raya) which includes both Malang City and Batu City	Fukushima City (fruit processing)	A
4	Batu City, East Java Province			
5	Semarang City, Central Java Province	Food city	Kobe City (“Gastropolis” concept)	A
6	Indramayu District, West Java Province	Value addition through fruits processing	Fukushima City (fruit processing)	B
7	Sumedang District, West Java Province	Value addition through fruits processing	Fukushima City (fruit processing)	B
8	Lampung Province	Value addition through fruits processing	- Fukushima City (fruit processing) - Hokkaido (halal foods and food with health function)	B
9	Lima Puluh Kota District, West Sumatra Province	Local economic development through roadside stations	Minamiboso City (tourism development centered on roadside station)	A
10	West Pakpak District, North Sumatra Province	Export of quality gambir to Japan	Local government who is interested in gambir	?
11	Aceh Province	Utilizing Japanese citron and oranges for development (Central Aceh District)	Kochi Prefecture (Japanese citron production)	A
		Local production for local consumption and linking agriculture and tourism (Banda Aceh City and Aceh Besar District)	- Kobe City (“Gastropolis” concept) - Wakayama Prefecture (local production for local consumption)	B

Note: Feasibility is based on matching of the needs of both sides, technical level, and concreteness of the partnership idea.
Source: JICA Study Team

4.3 Selection of Target Local Governments for Mutual Field Visits

4.3.1 Examination of Possible Partnership Idea based on the Expression of Interests

(1) Interests of Indonesian Local Governments

The Summary of the expression of interests by the Indonesian candidate local governments on which Japanese candidate local governments they are interested in partnering with is shown in Table 4.6. There were many interests for partnership with Hokkaido. This may have been caused by the established reputation of Hokkaido in Indonesia. Also, Indonesian local governments seem to prefer Japanese candidates that have clearer concepts for partnership, such as Minamiboso City, Fukushima City, Kochi Prefecture, and Kobe City.

Table 4.6 Expression of Interests of Indonesian Local Governments

	Local Government	Hokkaido	Fukushima City	Minamiboso City	Hyogo Pref.	Kobe City	Wakayama Pref.	Kochi Pref.
1	North Sulawesi Prov. Tomohon City	2	4	1		3		5
2	West Nusa Tenggara Prov. East Lombok District	1	2	4		5		3
3	East Java Prov. Malang City	4	1	2		3		
4	East Java Prov. Batu City	1	2					3
5	Central Java Prov. Semarang City					1		
6	West Java Prov. Indramayu District	1		3		2		
7	West Java Prov. Sumedang District	3	1					2
8	Lampung Prov.	1	2					
9	West Sumatra Prov. Lima Puluh Kota District	2		1				
10	North Sumatra Prov. West Pakpak District							
11	Aceh Prov.	3				2	4	1
	Point	54	36	29	0	32	4	26

Remarks:1st: 7Points; 2nd: 6Points ; 3rd: 5Points ; 4th: 4Points ; 5th: 3Points ; 6th: 2Points ; 7th: 1Point.
Source: The study team

(2) Interests of Japanese Local Governments

The study team visited all seven Japanese candidate local governments and presented the findings of the 1st field survey in Indonesia, which included the above expression of interests and characteristics of each Indonesian candidate local government (14 June–5 July). Based on the presentation of the findings, the Japanese candidate local governments were asked to express their interests on which Indonesian candidates they are interested in partnering with. At this time, two local governments, Hokkaido and Wakayama Prefecture, decided not to join the study (the reason is explained in Section 4.4.2). Hyogo Prefecture did not express their interests considering that there was no interest expressed to the prefecture from the Indonesian side. The summary of expression of interests by Minamiboso City, Fukushima City, Kochi Prefecture and Kobe City is shown in Table 4.7.

Table 4.7 Expression of Interests of Japanese Local Governments

	Local government	North Sulawesi Prov. Tomohon City	West Nusa Tenggara Prov. East Lombok District	East Java Prov. Malang City	East Java Prov. Batu City	Central Java Prov. Semarang City	West Java Prov. Indramayu District	West Java Prov. Sumedang District	Lampung Prov.	West Sumatra Prov. Lima Puluh Kota District	North Sumatra Prov. West Pakpak District	Aceh Prov. Aceh Besar District & Banda Aceh City	Aceh Prov. Central Aceh District
1	Fukushima City			1	1				2				
2	Minamiboso City	1	3							2			
3	Kobe City					1							
4	Kochi Prefecture												1
	Point	7	5	7	7	7	0	0	6	6	0	0	7

Remarks:1st: 7Points; 2nd: 6Points ; 3rd: 5Points ; 4th: 4Points ; 5th: 3Points ; 6th: 2Points ; 7th: 1Point.
Source: JICA Study Team

(3) Identification of Possible Partnerships and Selection of Local Governments to Participate in the 1st Field Visits

Mutually strong interests in partnership (first to first or first to second priorities) are found in the following combination of local governments of two countries. Based on this, five most likely partnerships are proposed in Table 4.8 with possible theme of cooperation. As for Kochi Prefecture and Aceh Province, two local governmental levels are to be involved, namely, the prefecture and a town for the Japanese side and the province and a district for the Indonesian side[94].

Table 4.8 Most Likely Partnerships and their Possible Theme of Cooperation

	Japanese Local Government	Indonesian Local Government	Possible Theme of Cooperation
1	Fukushima City, Fukushima Prefecture	Malang City and Batu City, East Java Province	Agricultural promotion through agricultural-commercial-industrial integration in fruits production and processing
2	Minamiboso City, Chiba Prefecture	Tomohon City, North Sulawesi Province	Agriculture and tourism promotion through roadside station
3	Minamiboso City, Chiba Prefecture	Lima Puluh Kota District, West Sumatra Province	Agriculture and tourism promotion through roadside station
4	Ochi Town, Kochi Prefecture	Central Aceh District, Aceh Province	Agricultural promotion through utilization of hidden local resources
5	Kobe City, Hyogo Prefecture	Semarang City, Central Java Province	Promotion of urban neighborhood agriculture through the concept of "Gastropolis"

Source: JICA Study Team

In the 2nd field survey, Japanese local governments were to visit Indonesian counterparts to investigate the potential of four out of the five most likely partnerships since Kobe City could not join it due to the influence of terrorism in Bangladesh and schedule. However, there was a sudden request from MoA to prioritize Tomohon City as the potential partner of Minamiboso City and therefore to cancel the visit to Lima Puluh Kota District since the MoA focus on the eastern areas in assistance from overseas. As a result, the potential partnership to be investigated by Japanese local governments in the 2nd field survey became No. 1, 2, and 4 in the above Table in the end. At this time, though it did not have concrete candidate partner local government, Hyogo Prefecture had intended to join the 2nd field survey for its officials' knowledge accumulation; however, it decided not to join due to the terrorism in Bangladesh.

Other possible partnerships were; Fukushima City – Lampung Province (second to second priorities) on agricultural-commercial-industrial integration in fruits production and processing, and Minamiboso City - East Lombok District (third to fourth priorities) on agriculture and tourism promotion through roadside station. These combinations were to be considered if the four most likely partnerships are found to be difficult to realize. It was set that depending on the result of the 2nd field survey and Japan Visit Program, these local governments in Indonesia might be visited in the 3rd field survey.

[94] The mayor of Fukushima City made a courtesy call on JICA President in July when participation in this study was under consideration, and the Mayor explained that the study could be one of the ways to counter rumors against agro-products from Fukushima.

The same four most likely partnerships including Kobe City-Semarang City (No, 1,2,4, and 5 in the above Table) were agreed as the target of the field visit to Japan. However, participants from Semarang City were not able to join the program due to prolonged travel procedures as regulation of the Central Java Province required the Ministry of Interior's permission and official passport for public servants to travel abroad on business. After that, JICA made efforts to invite officials from Semarang City to Kobe City separately, but it was not realized due to the schedule. In addition, JICA proposed to invite East Lombok District to participate in the Japan Visit Program as the District is in the eastern areas where the MoA puts emphasis in providing foreign assistance.

4.4 Issues in the Selection and Matchmaking Process

Through the process of selection of target local governments and considering possible partnerships, the study team obtained the following insights.

4.4.1 Issues in the Selection of Indonesian Local Governments

The Indonesian government requested the study to prioritize the remote areas which have received less investment or domestic/foreign assistance. However, for Japanese private company and local government that seek for partnerships, it is difficult to have benefits from partnership and cooperation with such remote areas far from consuming area, such as West Pakpak District of North Sumatra Province and Central Aceh District of Aceh Province. On the other hand, the Indonesian government does not prioritize areas that have developed to a certain extent such as Semarang City as such areas could attract investment without any outside assistance; though, Japanese side can easily find the benefit from partnership from such areas.

4.4.2 Issues in the Selection of Japanese Local Governments

The local governments that showed strong motivation to cooperate with Indonesia utilizing the schemes of PPP and local government partnership were those who participated in this study through the initiatives of private actors such as private or third-sector companies. On the other hand, for those who were led by the local government itself in participating in this study, the level of participation was not very active. It is assumed that this was because cooperation with a foreign country is not the main mandate of the local government and therefore there was little merit for them to spend time and resources for it. However, it should be noted that there are local governments who are driven by a sense of crisis and show strong motivation to promote regional development by utilizing even the budget for ODA.

The reasons for Hokkaido and Wakayama Prefecture decided not to continue joining the study are as follows:

Hokkaido	● It was difficult for Hokkaido to identify any concrete benefit, such as export of its agricultural products to a new market, in proposed partnerships under this study. Therefore, there was little incentive for the prefecture to continue participating in this study that is also aimed at international cooperation which is not the main mandate of the local government. ● Hokkaido is a large prefecture. Therefore, internal coordination to participate in this study takes more time and effort compared to other local governments. The schedule of the study was too tight for such a local government to consider participation.
Wakayama Prefecture	● The only interest expressed from the Indonesian side for partnership with Wakayama Prefecture was that of the fourth priority by Aceh Province. There was no concrete idea on concept/theme for the partnership from the Indonesian side. ● There was not enough time for the prefecture to consider appropriate theme or private company for the partnership. Because of the time frame, it was difficult for Wakayama Prefecture to further participate in this study.

4.4.3 Issues in the Selection and Matchmaking Process as a Whole

(1) Need for a Theme or Content that Realizes a Win-win Partnership

As shown above, it seemed to be difficult for the Indonesian stakeholders to have a concrete view of a win-win partnership that also has a merit for the Japanese side. At the same time, a merit for the Japanese side was proved to be an essential point to participation of Japanese local governments in this type of study.

The following insights are obtained based on the reasons of some local governments not continuing participation in the study and expression of interests by both sides. 1) It is easier for local governments in both countries to select potential partners if concrete themes/concepts for cooperation (i.e. food and tourism, agricultural-commercial-industrial integration (sixth industrialization), roadside station, etc.) are fixed in advance to a certain extent. 2) With such a concrete idea for cooperation, it is also easier for local governments to consider whether to participate in this kind of study and if so which private companies to invite. It is also easier for prefectural government to consider which municipal government is suitable for partnership.

In considering themes/concepts for cooperation, it is also possible to investigate needs (in which field of agriculture or what kind of agriproducts they want to cooperate) of Indonesian local governments first, though in this study the resource/needs of Japanese local governments were firstly investigated. In this way, it would be possible to cope with the above mentioned reasons for not continuing the participation, and thus, the potential of partnerships would be higher.

(2) Advantage of the Asymmetric Matchmaking Process

At first, it was expected that target local governments would be selected through development of a long

list and then a short list of ten local governments after screening. The potential partnership pairs were expected to be formed from a clean slate by presenting ten candidates against ten, and then five local governments form each side mutually visit, and finally form partnerships. On the other hand, partly due to the natural disaster, the actual process was led by the concept for partnership provided by the Japanese candidates, as the short list of the Japanese candidates was developed first. The development of the short list of the Indonesian candidates and their expression of interests were based on the possible theme of partnership proposed by the Japanese side. Then, the expression of interests from the Japanese side was a response to that of the Indonesian side.

The reason behind this procedure was that the possible themes of partnership on the Japanese side were "approach-based idea," such as roadside stations, sixth industrialization, and "gastropolis". On the other hand, the idea of the Indonesian side was "commodity-based idea," such as promotion of specific agricultural products. It seemed that the concept-based idea proposed by the Japanese side was regarded as fresh and favorable by the Indonesian side who only had commodity-based idea.

Instead of the above mentioned clean slate process, the asymmetric process in which the study team examined the potential partnerships considering in which Indonesian local government the proposed approaches of Japanese local government can be applied was taken. As a result, the potential partnerships and possible idea for partnership became self-evident before mutual visit by local governments from both sides. Since target local governments in this study scattered all over the country, and it was difficult for busy local government officials to visit more than one government in one field survey, it was effective to find out the candidate partner at an earlier stage.

It would be safe to say that this kind of asymmetric matchmaking process, in which a consultant team identifies suitable partner candidates for proposed idea for partnership from one side or provides an idea for partnership to local governments on both sides that have potential for partnership, is the advantage of JICA and its consultant team to play an intermediary role.

Chapter 5 Profile of Candidate Local Governments

5.1 Japanese Local Governments

5.1.1 Hokkaido Prefecture

(1) General

Hokkaido Prefecture is the nation's largest agricultural producing area. The Prefecture has vast agricultural land with cool climate. Large scale cultivation, which is not common in other parts of Japan, is commonly practiced.

(2) Basic Information of the Prefecture

Location of the Prefecture

- Hokkaido is the northernmost Prefecture of Japan and covers the largest land area.
- Land area of the Prefecture was 78,421 km^2 (not including the northern territories) and population was 5,4000,000 in 2014[94]. Population density of the Prefecture was 69 persons/km^2.
- Average annual temperature at prefectural capital, Sapporo City, is 8.2 °C. Average annual precipitation is 1,153 mm[95].
- Total revenue settlement in 2013 (prefectural finance) was 2,476 billion yen[96].

(3) Agriculture and Livestock Business related Information of the Prefecture

- Hokkaido is one of the food supplying centers of Japan. It has 1.15 million ha of fertile agricultural land (25% of total agricultural land in Japan) with cool climate[97].

[94] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[95] Climate Org website (2016) < http://ja.climate-data.org/> accessed August 14, 2016
[96] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[97] Hokuren website (2016) < http://www.hokuren.or.jp/aguri/> accessed August 14, 2016

- Large scale farming is practiced. Cultivated land per household is larger than the other part of Japan[98]. For paddy, it is 10.9 ha in Hokkaido, whereas 1.7 ha is the national average. For upland crops, it is 25.4 ha in Hokkaido, while 1.6 ha is the national average.
- The Prefecture is the leading producer of wheat, sweet corn, sugar beet, potato, onion, and fresh milk in Japan[99].

(4) Interests in Collaborating with Indonesia

Hokkaido is interested in exporting agricultural and livestock products to Indonesia.

Seeding of pasture grass

Grazing of sheep

5.1.2 Fukushima City, Fukushima Prefecture

(1) General

Fukushima Prefecture is the third largest Province in Japan. The Prefecture is divided in three; north-south directed parts as Aizu area, Naka-dori, and Hama-dori. Each has different climate, localities, and industries. The main problem on agriculture is how to overcome harmful rumor after serious accident of nuclear power plant.

(2) Basic Information of the Prefecture

- Located in the most south part of Tohoku region, about 200km from Tokyo. The eastern part faces the Pacific Ocean, the western part faces Niigata Prefecture, northern and western part faces Yamagata Prefecture and Miyagi Prefecture, and the southern part faces Gunma Prefecture, Tochigi Prefecture, and Ibaraki Prefecture.
- As of 2016, land area is 13,783.74 km^2, population is 1,911,500 persons, and population density is 138 persons/km^2 [100].
- Average annual temperature at prefectural capital, Fukushima City is 12.9 °C. Average annual

[98] Hokuren website (2016) < http://www.hokuren.or.jp/aguri/> accessed August 14, 2016
[99] Hokuren website (2016) < http://www.hokuren.or.jp/aguri/> accessed August 14, 2016
[100] Website of Fukushima prefecture (2016) < https://www.pref.fukushima.lg.jp/site/ken-no-sugata/> accessed October 24, 2016

precipitation is 1,193 mm[101].

- Annual Prefecture government revenue in 2016 was 1,881.9 billion[102].

(3) Agriculture and Livestock Business related Information of the Prefecture

- The gross agricultural production in 2011 (before The Great East Japan Earthquake) was 185.1 billion yen, and was the 18th biggest in Japan. Rice was the 7th, fruits was the 10th, livestock was the 18th, and vegetables was the 20th biggest in Japan[103].

- Peaches, pears and apples in Fukushima City, persimmons in Aizu, and strawberries in Iwaki City are famous as high quality fruits. Vegetable cultivation is also famous such as cucumbers in Iwase area. Rice in Aizu is the highest quality in Japan same as rice from Minami-Uonuma, Niigata Prefecture. Japanese sake made in Fukushima Prefecture got high appreciation from the world-class exhibition.

(4) Basic Information of the City

Location of the Prefecture

Location of the City

- Fukushima City is the capital of Fukushima Prefecture, and the center of politics, government, and culture of the Prefecture. It is 270 km from Tokyo and it takes about 80 minutes. Because of the basin-type climate, temperature gap is very large, and that contributes to high quality fruits cultivation.

- Land area in 2014 was 768 km^2, population in April 2016 is 281,455 persons, and population density is 366 persons/km^2 [104].

- Annual municipal government revenue in 2016 was 188.6 billion yen[105].

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[101] Climate OrgWebsite (2016) < http://ja.climate-data.org/> accessed October 24, 2016
[102] Website of Fukushima prefecture (2016) <https://www.pref.fukushima.lg.jp/uploaded/attachment/149784.pdf > accessed October 24, 2016
[103] Website of Fukushima prefecture (2016) < http://www.pref.fukushima.lg.jp/uploaded/attachment/23073.pdf > accessed October 24, 2016
[104] Documents by Fukushima City Government.
[105] Website of Fukushima City (2016) <http://www.city.fukushima.fukushima.jp/uploaded/life/97191_185469_misc.pdf> accessed October 24, 2016

- Rumor due to nuclear power plant accident, decrease in the number of farmers, aging of farmers, and lack of successors are main problems in agricultural sector.

(5) Agriculture and Livestock Business related Information of the City

- Fukushima City accounts for the top of gross agricultural production in all cities, towns and villages in Fukushima Prefecture. Other than rice, main products are fruits such as peaches, apples, cherries and grapes, sharing 60% of total gross agricultural production.
- Modernized fruits sorting facilities are established to stabilize the quality of fruits to be sold. After the disaster in March 2011, the radioactivity measurement facility has been introduced. Fukushima City has the highest quality control facility in Japan.
- Based on the comprehensive agreement, JA Fukuahim Mirai and Ginray Co. Ltd., tries to build the sixth industrialization "Fukushima Model" to be extended to other areas in Japan.

(6) Interests in Collaborating with Indonesia

At first, Fukushima City hoped to increase sales and export of processed fruits and import processed tropical fruits from Indonesia.

Peaches and pears from Fukushima City

Modernized fruits sorting facilities owned by JA Fukushima Mirai

5.1.3 Minamiboso City, Chiba Prefecture

(1) General

In Chiba Prefecture, residential development has been implemented over decades, as it has vast flatlands and inhabitable areas, and it is next to Tokyo. At the same time, it is also one of the major agricultural Prefectures in Japan due to its warm climate and rich land.

(2) Basic Information of the Prefecture

- It is on the East side of the metropolitan region, and the Prefecture itself is the peninsula jutting out into the Pacific Ocean. South-eastern part of the Prefecture faces the Pacific Ocean, the western

part faces the Tokyo Bay, the north-west side faces Tokyo and Saitama Prefecture, and the north part faces Ibaraki Prefecture.

- As of 2015, land area was 5,158 km^2, population was 6,224,000 persons, and population density was 1,207persons/km^2 [106].
- Average annual temperature at prefectural capital, Chiba City is 15.3 °C. Average annual precipitation is 1,435 mm[107].
- Annual Prefecture government revenue in 2013 was 1,641.4 billion yen[108].

(3) Agriculture and Livestock Business related Information of the Prefecture[109]

- Chiba Prefecture is one of the major agricultural Prefectures in Japan due to its warm climate and rich land. Its gross agricultural production in 2014 was 415.1 billion yen, and was the fourth biggest in Japan.
- Chiba Prefecture is the largest producer of Japanese pears, peanuts, green soybeans, and others in Japan, and it is also a large producer of rice, flowers, and livestock.
- In the area close to metropolitan region, high productive urban farming is implemented. The main products are greens such as spinaches and Japanese pears.

(4) Basic Information of the City

Location of the Prefecture

Location of the City

- Minamiboso City is located at the south end of the Boso Peninsula, and surrounded by the sea. It is within 100km from the Tokyo metropolitan region.
- Its main industry is the first industry and tourism, especially, cut flowers, vegetable, and fruit production, and inshore fishing. In recent years, it carries out regional development through

[106] Website of Chiba Prefecture (2016) < https://www.pref.chiba.lg.jp/kouhou/profile/suuji.html> accessed August 22, 2016
[107] Climate Org Website (2016) < http://ja.climate-data.org/> accessed August 22, 2016
[108] e-Stat Website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 23, 2016
[109] Website of Chiba Prefecture (2016) < https://www.pref.chiba.lg.jp/kouhou/profile/sangyou.html> accessed August 22, 2016

roadside stations.

- There are 8 roadside stations in the City, and it has the largest number of roadside station in Japan. Through these roadside stations, the City tries not only sixth industrialization of agriculture by direct selling, but also development of processed products using specialty products, promotion of traditional handcrafts, promotion of tourism by a system of package order for regional tourism such as fruit picking and agricultural experience tour, and ICT support for small tourist businesses. "Tomiuwa Biwa Kurabu", one of the roadside stations in the City was awarded the first prize in "National Roadside Station Grand Prix 2000", and was acknowledged as the "National Model Roadside Station" in 2015.
- Land area in 2014 was 230 km^2, population is 2010 was 42,104 persons, and population density was 183 persons/km^2 [110].
- Annual municipal government revenue in 2013 was 25.2 billion yen[111].

(5) Agriculture and Livestock Business related Information of the City

- Main products are flowers (orchid, cycad, statice, carnation, calendula, iris, stock, freesia, etc.), vegetables (field mustard, celery, horsebean, green peppers, etc.), and fruits such as loquats.
- Main livestock product is raw milk.

(6) Interests in Collaborating with Indonesia

Minamiboso City has an intent to disseminate roadside station to other countries; thus, it is interested in collaborating with Indonesia through roadside station.

Roadside station "Tomiura Biwa Kurabu"

"Loquat Curry" using the specialty product of the region served at the restaurant in Biwa Kurabu.

[110] e-Stat Website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 23, 2016
[111] e-Stat Website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 23, 2016

5.1.4 Hyogo Prefecture

(1) General

Hyogo Prefecture has many kinds of agriculture and livestock activities based on varieties of climate, locality, and other natural environment.

(2) Basic Information of the Prefecture

Location of the Prefecture

- Located at the center of Japan with various agriculture and high-valued livestock.
- As of 2014, land area was 8,400 km^2, population was 5,541,000 persons, and population density was 659.6 persons/km^2 [112].
- Average annual temperature at prefectural capital, Kobe City is 15.7 °C. Average annual precipitation is 1,400 mm[113].
- Annual Prefecture government revenue in 2013 was 2,077.1 billion yen[114].

(3) Agriculture and Livestock Business related Information of the Prefecture

- The gross agricultural production in 2014 was 149.1 billion yen, and was the 20th biggest in Japan, and 34% of Kinki region (6 Prefectures). Hyogo is important as the food production center for Osaka, Kyoto, and Kobe areas. The share of rice is 27%, of vegetable is 28% and of livestock is 36%.
- The gross livestock production in 2014 was 54.2 billion yen, that accounted for 59% of Kinki region (6 Prefectures). Beef cattle was 13.2 billion yen, dairy cattle was 11.6 billion yen, pig was 1.8 billion yen and chicken was 27.4 billion yen.

[112] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do>. accessed October 24, 2016
[113] Climate Org website (2016) < http://ja.climate-data.org/> accessed October 24, 2016
[114] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed October 24, 2016

- Total number of farm household in 2015 was 81,465 (3rd largest in Japan). The ratio of sales farmers (57%) was lower than national average (62%). The ratio of second class part-time farmers was 67%, higher than national average (54%).
- Shipment of Yamada-nishiki (rice for sake) and Tamba-guro (black soy beans) is highest in Japan. Other main products are onions, figs and carnations. Kobe beef and Akashi Tai (snapper) are very famous brand.

(4) Interests in Collaborating with Indonesia

Hyogo Prefecture can accept any requests from Indonesia on agriculture and livestock matters. Hyogo is the first runner of sixth industrialization and its Food Certificate System and Agro Innovation Hyogo Network (to promote multi-sector partnership) may be good reference for Indonesia.

Pasta made from local wheat
in Awaji Noodle Product Company

Flower cultivation and tourism
in Awaji Hana Sajiki Park

5.1.5 Kobe City, Hyogo Prefecture

(1) General

Kobe is the seventh-most populous City in Japan with a population of 1.5 million. The City is surrounded by beautiful rural areas and bountiful sea. Mild climate enables the Prefecture to produce various agricultural and fishery products. Since opening the Kobe Port in 1858, the City has been trading commodities with many foreign countries. As a result, cuisine cultures of various countries have been accumulated in Kobe and it has created unique cuisine culture of Kobe. The City Government introduced "Gastropolis Kobe 2020" concept in 2015 which is one of the new regional development strategies based on foods. For further improvement of its cuisine culture, the City Government is working for identification of unique local products, conservation of biodiversity, and development of foods related human capacity.

(2) Basic Information of the Prefecture

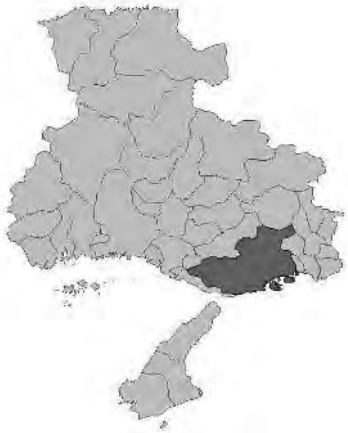
See section 5.1.4 for basic information of Hyogo Prefecture.

(3) Agriculture and Livestock Business related Information of the Prefecture

See section 5.1.4 for agriculture and livestock business related information of Hyogo Prefecture.

(4) Basic Information of the City

Location of the Prefecture



Location of the City

- Kobe City is the prefectural capital of Hyogo Prefecture which is located the central part of Japan. Kobe City is facing the Pacific Ocean through the Seto Inland Sea.
- Land area of Kobe was 557 km^2 (2014), population was 1,544,200 (2010), population density was 2,772 persons/km^2 [115].
- The climate is warm and relatively dry. Average annual temperature is 15.7 °C. Average annual precipitation is about 1,400 mm[116]。
- Total revenue settlement in 2013 (municipality finance) was 744 billion yen[117].
- Decrease of population after 2012 is one of the problems of the City. The young got jobs and moved to areas around Tokyo.
- Many people in the City are engaged in tertiary industries and manufacturing industries. Especially, fashion industries and tourism related industries are well developed.

(5) Agriculture and Livestock Business related Information of the City

- There are about 6,000 farm households in the City. Many of them are distributed in Kita Ward and Nishi Ward. Outturn of agriculture sector is 17 billion yen.
- Major crops are leaf vegetables such as cabbages, Japanese mustard spinaches, and spinaches; fruit

[115] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[116] Climate Org website (2016) < http://ja.climate-data.org/> accessed August 14, 2016
[117] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016

vegetables such as tomatoes; and root vegetables such as potatoes. For fruits, pears, figs, Japanese persimmons, grapes, peaches, and strawberries are the common products. For flowers, shin-teppouyuri (so called Kobe lily), tulip, pansy, and viola are the major ones. For livestock, beef cattle (Kobe beef) is the famous products. Dairy husbandry is also practiced. For rice, not only edible varieties such as Koshihikari but varieties for processing rice wine are cultivated in collaboration with rice wine makers.

- Major agricultural and livestock processed products are wine (named as Kobe Wine) and rice wine.
- There are a number of facilities to play in the nature and interact with animal. It is also possible to experience agricultural and fishery activities in the facilities. Since Kobe City contains not only urban areas but also rural areas and bay areas, it is expected that interaction between urban areas and other areas could raise awareness of citizens on food, especially for local food for local consumption[118]. The City established "EAT LOCAL KOBE" platform to promote local food for local consumption concept[119].
- The City has been promoting the "Gastropolis Kobe 2020" concept from 2015. It is trying to export local agricultural and livestock products, as a part of the related activities. "The chamber of promoting agricultural and livestock products export under the Gastropolis Kobe concepts" was established by the City government, producers, distributers, etc. The City government expects people to identify and enjoy good products of Kobe. "FIND KOBE" is the keyword. The City government conceive that enhancing reputation of local products in foreign countries could raise reputation in the country. As a first step, Kobe exported Kobe Strawberry to Hong Kong in 2014[120].
- The City government authorizes safe and environmentally friendly vegetables produced in the City as "Kobe Shunsai". There are several categories such as organic, semi-organic (less pesticide or less chemical fertilizer). "The chamber of promoting safe agricultural products in Kobe" is in charge of authorizing Kobe Shunsai products. The logo of the products is "Nana-chan". The products can be found in green grocers and general merchandising stores in the City. Green grocers and general merchandising stores that intently promote Kobe Shunsai are registered as "Promotion shops of local production for local consumption in Kobe"[121].
- "Kobe Nisan-ga-Roku Project" to develop new processed products started in 2012 increased its number of participants. Currently, seven universities, 50 private companies, and 20 organizations are participated in the project. The project successfully developed new products such as sweets and bread by using local agricultural products. It is also contributing to creating a network among participants.

[118] Prepared based on Agriculture and fishery of Kobe website (2016) < http://ja.climate-data.org/> accessed August 14, 2016
[119] EAT LOCAL KOBE website (2016) < http://eatlocalkobe.org/ > accessed August 14, 2016
[120] Prepared based on FIND KOBE Gastropolis Kobe website (2016) < http://findkobe.com/> accessed August 14, 2016
[121] Prepared based on Kobe Shusai website (2016) < http://www.city.kobe.lg.jp/business/promotion/industry/syokuanzenansin.html > accessed August 14, 2016

- To support new businesses developed through communications facilitated by "Kobe Nisan-ga-Roku Project" and so on, "Next Stage Challenge Project" has been implemented since 2014. The project supports new businesses such as development of door-to-door delivery system by farmers/fisherpersons, and new product development using fruits produced in Kobe by SMEs.

(6) Interests in Collaborating with Indonesia

Asian countries including Indonesia are improving their economic situations rapidly. Kobe City Government is interested in organizing PR activities in Indonesia in hope of exporting its agricultural and livestock products in the future. Kobe also expects to increase the number of Indonesian tourists. Kobe conceives that collaboration with Indonesia should start from capacity development and people-to-people exchange. It is expected that such collaboration will create business partnership in the future.

Direct sales farmers' market at JA: Rokko no Megumi

Yuge Farm: Restaurant

5.1.6 Wakayama Prefecture

(1) General

It locates at the western side of the Kii Peninsula, the largest peninsula in Japan. It is a large fruit producer, and it produces the largest amount of tangerines, persimmons, and Japanese plums in Japan as of 2014[122].

[122] JA Wakayama Kennoh (2016) <https://www.wk-kennoh.or.jp/agri/sugata/index.html> accessed October 04, 2016

(2) Basic Information of the Prefecture

Location of the Prefecture

- As of 2014, land area was 4,725 km^2, population was 971,000 persons, and population density was 206 persons/km^2 [123].
- Average annual temperature at prefectural capital, Wakayama City, is 16.2 °C. Average annual precipitation is 1,526 mm[124].
- Total revenue settlement in 2013 (prefectural finance) was 598 billion yen[125]。

(3) Agriculture and Livestock Business related Information of the Prefecture

- As of 2014, the total cultivated land area is 342 km^2, and 216 km^2 (more than 60%) of the total is for fruit production[126].
- In Wakayama Prefecture, there are several well-functioning direct selling farmers' markets operated by JA (Japan Agricultural Cooperatives).

(4) Interests in Collaborating with Indonesia

- Wakayama Prefecture intends to have a pragmatic economic partnership with Asian countries with growing economy. It already has partnership with Hong Kong, Taiwan, Vietnam and India.
- Wakayama Prefecture receives Indonesian trainees every year through The Japan Agricultural Exchange Council, and they learn tangerine production.

5.1.7 Ochi Town, Kochi Prefecture

(1) General

Kochi enjoys warm climate. It is famous for greenhouse horticulture as well as orange

[123] e-Stat Website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[124] Climate Org Website (2016) < http://ja.climate-data.org/> accessed October 04, 2016
[125] e-Stat Website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[126] JA Wakayama Kennoh (2016) <https://www.wk-kennoh.or.jp/agri/sugata/index.html> accessed October 04, 2016

production/processing. Especially regional development based on production and processing of Yuzu Orange is recognized as a success story of local economic development.

(2) Basic Information of the Prefecture

- The Prefecture occupies a part of Shikoku Island located southland of Japan and facing the Pacific Ocean.
- Land area of the Prefecture was 7,104 km^2 and population was 738,000 in 2014[127]. Population density of the Prefecture was 104 persons/km^2.
- Average annual temperature at prefectural capital, Kochi City, is 16.9 °C. Average annual precipitation is 2,470 mm[128].
- Total revenue settlement in 2013 (prefectural finance) was 468 billion yen[129].

(3) Agriculture and Livestock Business related Information of the Prefecture

- The Prefecture enjoys warm climate and longer sunshine hours in winter. It has variety of natural conditions ranging from coastal areas to mountainous areas[130].
- Agriculture in the Prefecture is led by profitable horticulture mainly in lowland areas. In mountainous areas, horticulture and beef cattle production are practiced, taking advantage of cool summer[131]. Agricultural outturn of the Prefecture is 93 billion yen. Vegetable production accounts for 58%. Ratio of vegetable production, especially for glasshouse horticulture, is higher than other Prefecture. Kochi is called a production center of horticultural products[132].
- The Prefecture is known as the top producer of Yuzu, a type of acidic orange. Yuzu cultivation was initially promoted by a famous revolutionist Mr. Shintaro Nakaoka in 1860s. It had not been diffused rapidly but became popular in 1965. At present, many farmers in the Prefecture are involved in cultivation and processing. Yuzu is recognized as a signature agricultural product.
- The Prefecture is also famous for other types of orange production such as Tosa Buntan and Shimanto Bushukan[133].
- The Prefecture is the top producer of condiment vegetables, such as eggplants, Japanese gingers, and small sweet green peppers. Livestock products, such as Tosa Red Beef Cattle and Tosa Jiro

[127] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[128] Climate Org website (2016) < http://ja.climate-data.org/> accessed August 14, 2016
[129] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[130] Live in Kochi website (2016) < http://www.pref.kochi.lg.jp/~chiiki/iju/shoukai/munic/ochicho.shtml> accessed August 14, 2016
[131] Live in Kochi website (2016) < http://www.pref.kochi.lg.jp/~chiiki/iju/shoukai/munic/ochicho.shtml> accessed August 14, 2016
[132] Local production for local consumption in Kochi (2013) Kochi Regional Center, Chugoku-Shikoku Regional Agricultural Administration Office, MAFF
[133] Live in Kochi website (2016) < http://www.pref.kochi.lg.jp/~chiiki/iju/shoukai/munic/ochicho.shtml> accessed August 14, 2016

Local Chicken are also becoming famous[134].

- Because of its warm climate, the Prefecture is known as a production center of early crop rice. Most rice farmers harvest rice in August. Early varieties such as "Tosapika" and "Nangoku Sodachi" can be harvested even around July 20. Some farmers are practicing double cropping which is not common in Japan[135].

(4) Basic Information of the Town

Location of the Prefecture

Location of the Town

- Ochi Town is located in the central part of Kochi Prefecture. It is a town with a wealth of nature, such as Ishizuchi mountain system and a clear stream named Niyodo River[136].
- Land area of the town was 112 km^2 in 2014 and population was 6,374 in 2010[137]. Population density of the town was 57 persons/km^2.
- Total revenue settlement in 2013 (municipality finance) was 5.7 billion yen[138].
- The municipal flower is cosmos. The cosmos festival is organized at "Miyanomae Park" every year to attract tourists[139].
- Niyodo River is recognized as the best water quality river in Japan. Many people visit the river to enjoy various types of outdoor activities such as canoe journey, rafting, and camping[140].
- Okabayashi Farm in Ochi Town is a participant of survey in Indonesia of this study and known as one of the leading companies in Japan on sixth industrialization and rural area vitalization. The farm was given an award "Discover treasures of rural Japan" by MAFF on 17 October, 2016.

[134] Live in Kochi website (2016) < http://www.pref.kochi.lg.jp/~chiiki/iju/shoukai/munic/ochicho.shtml> accessed August 14, 2016
[135] Live in Kochi website (2016) < http://www.pref.kochi.lg.jp/~chiiki/iju/shoukai/munic/ochicho.shtml> accessed August 14, 2016
[136] Ochi Town website (2016) <http://www.town.ochi.kochi.jp/> accessed August 14, 2016
[137] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[138] e-Stat website (2016) <http://www.e-stat.go.jp/SG1/estat/eStatTopPortal.do> accessed August 14, 2016
[139] Ochi Town website (2016) <http://www.town.ochi.kochi.jp/> accessed August 14, 2016
[140] Ochi Town website (2016) <http://www.town.ochi.kochi.jp/> accessed August 14, 2016

(5) Agriculture and Livestock Business related Information of the Town

The town is famous for open field vegetable farming such as gingers and bell peppers. It is also famous for Niitaka Pears, Buntan Oranges and premium tea production[141].

(6) Interests in Collaborating with Indonesia

Kochi Prefecture and Ochi Town are interested in collaborating with Indonesia in terms of orange processing and regional development based on the orange processing.

Orange production at Okabayashi Farm

Orange processed products by Okabayashi Farm

[141] Live in Kochi website (2016) < http://www.pref.kochi.lg.jp/~chiiki/iju/shoukai/munic/ochicho.shtml> accessed August 14, 2016

5.2 Indonesian Local Governments

5.2.1 Tomohon City, North Sulawesi Province

(1) Summary

Tomohon City is located on the plateau at altitudes about 800-1,100m in North Sulawesi Province, the northern end of the Sulawesi Island. It is about 1 hour by land from Manado, the capital City of the Province. More than 90% of the population is Christian (most of them are Protestant), and Tomohon City is the heartland of the Minahasans, the ethnic group of the area. With its cool climate, it is one of the resort areas to escape the heat. It is also famous as the producing area of highland vegetables and flowers, especially for chrysanthemum. Tomohon is rich in tourist resources such as beautiful volcanoes like Mt. Lokon whose shape is similar to that of Mt. Fuji, and Mt. Mahau, trekking courses, hot spring areas, Lake Linow, Lake Tondano, waterfalls, and so on. In recent years, provincial government and private enterprises have promoted tourism in North Sulawesi Province which has world famous diving spot, Bunaken Island. Tomohon City has the potential to attract more and more tourists if it promotes itself as the highland resort of Tomohon, together with the diving resort of Bunaken.

(2) Basic Information of the Province

- North Sulawesi Province is located at the eastern area of Indonesia, farthest north of Sulawesi Island.
- Land area of the Province was 15,273 km^2, and population was 2,387,000 in 2014[142]. Population density was 156 persons/km^2.
- Average annual temperature at provincial capital, Manado, is 26.6 °C. Average annual precipitation is 2,780 mm[143].
- Rural poverty rate of the Province in 2009 was about 12%. The number was lower than the national average of 17%. It was ranked No. 22 from the highest among 32 Provinces/areas[144].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 34.8% (national average 37.2%), ratio of underweight was 16.5% (national average 19.6%), and ratio of wasting was 9.9% (national average 12.1%). All the figures were lower than national averages[145].

(3) Agriculture and Livestock Business related Information of the Province

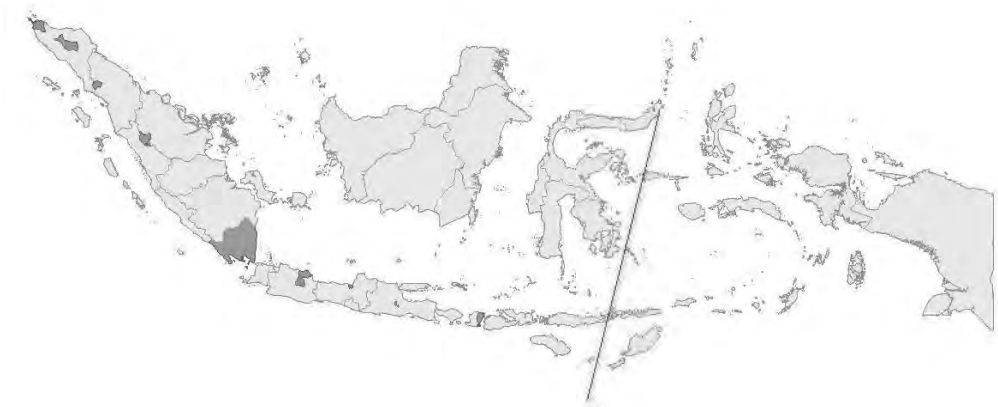
- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about

[142] BPS-Statistics of Sulawesi Utara Province (2015) Sulawesi Utara Dalam Angka 2015
[143] Climate Org Website (2016 < http://ja.climate-data.org/> accessed June 18, 2016
[144] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[145] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015

34% in the Province. The number was lower than the national average of 40.8%[146].

- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. North Sulawesi Province does not account for high provincial market share of the above products[147].
- Major agricultural and livestock products for export are crude coconut oil, coconut related products, processed meat, fruits, cloves, and nutmegs[148].

(4) Basic information of the City



Location of the City

- Tomohon City is located on the plateau at altitudes about 800-1,100m in North Sulawesi Province, the northern end of the Sulawesi Island. It is about 1 hour by land from Manado, the capital City of the Province.
- Land area of the City was 147.21 km^2, population was 98,686, and population density was 670 persons/km^2 in 2014[149].
- Annual municipal government revenue in 2015 was 545 billion Rupiahs[150].

(5) Agriculture and Livestock Business related Information of the City

- Agricultural land is 8,747 ha (total of paddy, upland, and plantation crops). It accounts for 59.4% of the total land area[151].
- Major agricultural and livestock products are as follows.
  Food crops: Rice and maize.
  Horticultural crops: Highland vegetables such as cabbages, and etc. Carrots, cucumbers, and challis.

[146] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[147] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security
[148] Global Business Guide website <http://www.gbgindonesia.com/> Accessed on June 18th, 2016
[149] BPS-Statistics of Tomohon City (2015) Tomohon Dalam Angka 2015
[150] BPS-Statistics of Tomohon City (2015) Tomohon Dalam Angka 2015
[151] BPS-Statistics of Sulawesi Utara Province (2015) Sulawesi Utara Dalam Angka 2015

Main destination is Manado, but vegetables from Tomohon area also distributed to out of Sulawesi Island, such as Papua and Maluku where highland vegetables are not produced.
Commercial corps: Cut flowers such as chrysanthemums, roses, and orchids. There are about 50 farmers' groups of flower producers. Each group consists of 3-10 members.
Livestock: Pig, chicken for eggs, and broiler.

- There are some big scale poultry farms like 30 employees, keeping 60,000 chickens, and producing 30,000 eggs each day. Eggs from Tomohon are popular due to dark yellow yolks, and no case of avian influenza. Main destinations are Manado and out of Sulawesi Island.
- Processing of agricultural products other than banana chips are rarely conducted.

(6) Situation of Agro-processing

- Agro-processing is hardly conducted. Exception is banana chips. In addition, there are potato chips, Bakso (meat balls), smoked bonitos, and milk chips.
- In the past, an SME tried processing of carrot-pineapple juice, but preservation method was the bottleneck.
- The City Office of Agriculture hopes to produce juice of Pakoba (eugenia sp) that is unique to Tomohon City in the future.
- There is a factory utilizing steam from geothermal power plant, producing brown sugar from Aren, and exporting the product.
- Kawangkoan in Minahasa District near Tomohon is famous for its peanuts, and in Tomohon City, too, peanut snack (Kacang Shanghai) is produced.

(7) Tourism

- It has intention to connect agricultural development and tourism promotion such as highland vegetable production and beautiful scenery of terraced field, paddy field and rice planting experience, etc. Awareness on organic agricultural and livestock products is also high.
- Tomohon City acknowledges herself as "Kota Bunga (flower City)". In every August, Tomohon International Flower Festival is held (in 2016, it was held from 8-13th, August), and tourists from inside and outside of Indonesia visit Tomohon. They stay overnight either in Tomohon or Manado. Until 2008, flowers produced in Tomohon was not enough to decorate all vehicles for flower festival parade, and they bought flowers from Java to make up for the shortage, but currently, Tomohon produces enough flowers for the parade. Many countries like the US, Australia, New Zealand, China and Japan also join the parade. Tomohon is rich in tourist attracts like 7 mountains, 7 lakes, and 7 waterfalls. However, special products suitable for Tomohon souvenir have not yet been developed.
- In 2015, the Agricultural, Livestock and Fisheries Office of Tomohon City established a 2ha tourist

farm so-called “Show Window”. It was originally established to introduce tourists Tomohon’s flower cultivation so that it can further attract tourists; however, so far, it does not function well for tourism promotion. Instead, it functions as a training center for farmers to provide seedlings and technical trainings. The Agricultural, Livestock and Fisheries Office of Tomohon City plans to expand it to 10 ha, and strengthen its tourism function.

- In Tomohon, there is a hotel manager who seeks for environmentally-concerned tourism modeled after Yufuin. She manages a hotel integrated in a vast garden.
- In Woloan village, there are communities who build and sell the traditional wooden raised flooring type houses. Once they find the buyer, they dissemble the house, and assemble it again at the site.
- Though Tomohon City is rich in tourism resources such as waterfalls, trekking trails, observation platforms at heights, hot spring areas, and so on, these resources are not managed well for tourists. Some waterfalls are not accessible as routes are closed, or tracking trails are not easy to find for foreign tourists.
- Chartered flights between several cities in China and Manado have started operation in 2016, and the number of Chinese tourists has dramatically increased.

(8) Interests in Collaborating with Japan

Tomohon City intends to promote tourism and agriculture through roadside station. It expects to learn management method of roadside station through collaboration with Japanese local government.

Mt. Lokon and water lilies

Beautiful scenery of terraced fields and Mt. Mahau from Rurukan observatory, 1.000-1,100m high

5.2.2 East Lombok District, West Nusa Tenggara Province

(1) Summary

East Lombok District is located at the eastern part of Lombok Island. The population is a half of total of Lombok Island. In contrast to tourism development in the western part of Lombok Island, main

industries in East Lombok is agriculture and livestock. Sembalun sub-District is suitable area for almost all kinds of highland vegetable cultivation under the highland climate that exceeds the altitude 1,000m. At the same time, Sembalun is the stopover to climb Mt. Rinjani with many tourism resources.

(2) Basic Information of the Province

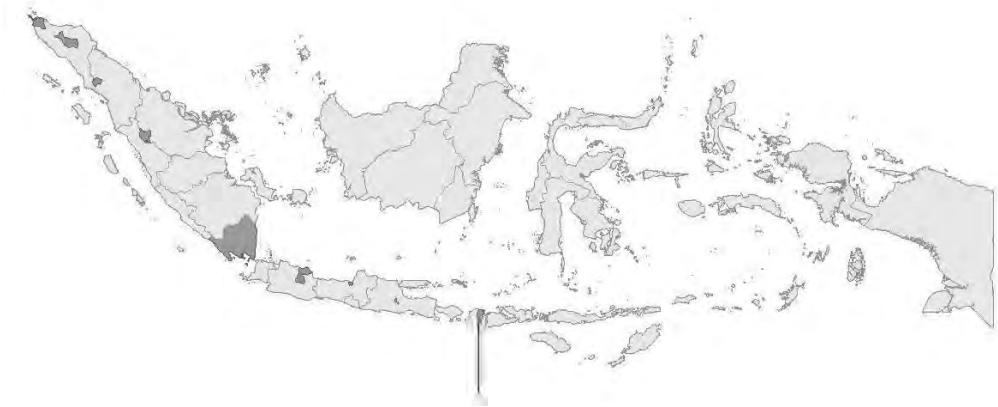
- West Nusa Tenggara Province is located at the center area of Indonesia, and east of the Bali island where is famous as a tourist destination.
- Land area of the Province was 20,153 km^2, and population was 4,774,000 in 2014[152]. Population density was 237 persons/km^2.
- Average annual temperature at provincial capital, Mataram, is 26.1°C. Average annual precipitation is 1,782 mm[153].
- Rural poverty rate of the Province in 2009 was about 18%. The number was a little higher than the national average of 17%. It was ranked No. 13 from the highest among 32 Provinces/areas 2009[154].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 45.3% (national average 37.2%), ratio of underweight was 25.7% (national average 19.6%), and ratio of wasting was 11.9% (national average 12.1%). Figures of stunting and underweight were higher than national averages[155].

(3) Agriculture and Livestock Business related Information of the Province

- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about 45% in the Province. The number was higher than the national average of 40.8%[156].
- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. West Nusa Tenggara Province accounts for high provincial market share of groundnuts (more than 3%)[157].
- Major agricultural and livestock product for export is wheat.

[152] BPS-Statistics of Nusa Tenggara Barat Province (2015). Nusa Tenggara Barat Dalam Angka 2015
[153] Climate Org Website (2016) < http://ja.climate-data.org/> Accessed on June 18th, 2016
[154] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[155] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015.
[156] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015.
[157] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security

(4) Basic Information of the District[158]



Location of the City

- East Lombok District is located at the eastern part of the Lombok Island in West Nusa Tenggara Province.
- Land area of the District was 1,605.55 km^2, population was 1,153,773 persons, and population density was 719 persons/km^2 in 2014.
- Annual municipal government revenue in 2015 was 1,694 billion Rupiahs.

(5) Agriculture and Livestock Business related Information of the District

- Agricultural land is 76,699 ha (total of paddy, upland, and plantation crops). It accounts for 47.8% of the total land area[159].
- Major agricultural and livestock products are as follows.
  Food crops: Rice, maize, and cassava
  Horticultural crops: Chilies, tomatoes, potatoes, garlics, shallots, eggplants, cucumbers, mangoes, papayas, pineapples, jackfruits, watermelons etc.
  Commercial corps: Tabaco, coconuts, etc.
  Livestock: Beef cattle, goat, local chicken, broiler, etc.
- Utilizing difference of heights from seashore to Mt. Rinjani for agriculture and livestock. Rinjani area becomes a candidate of Geopark in UNESCO.
- Lower dry land is suitable for Tabaco cultivation. East Lombok is the largest Tabaco producer in the Province. However, recently the lower demand leads decrease of the cultivation in East Lombok.
- East Lombok breeds 123,000 of beef cattle, and is the national center of beef cattle production. JICA conducted the project of beef cattle development plan based on local resources in East Indonesia in 2006-2011.

[158] Lombok Timur Dalam Angka 2014.
[159] BPS-Statistics of Nusa Tenggara Barat Province (2015). Nusa Tenggara Barat Dalam Angka 2015

(6) Information of Sembalun Sub-District

- Land area of Sembalun sub-District was 217 km^2, population was 19,577 persons, and population density was 90 persons/km^2 in 2014. The height is from 390m to 3,726m at the peak of Mt. Rinjani. Average annual precipitation is 1,752 mm[160].
- Almost all kinds of highland vegetables such as potatoes, chilies, garlics, cabbages, carrots, lettuce, tomatoes etc., fruits such as strawberries, oranges and melons, and cash crops such as Arabica coffee and cacao are planted. The harm-free soil is regarded as the most suitable to vegetable cultivation.
- Foreign investment from Singapore had operated modernized export-oriented vegetable firm but withdrew several years ago. A part of the abandoned facilities is used as rental greenhouse for vegetable and fruits cultivation like melons sold in Aeon Mall in Tangerang, West Java.
- Some farmers produce potatoes and chilies under contract with large companies like Indofood.
- Beef cattle breeding in Sembalun is mainly grazing. Generally, beef cattle breeding in East Lombok are at cattle shed. Grazing in Sembalun contributes to high quality beef.
- Sembalun is one of the entrances of trekking route to Mt. Rinjani, but there are a few hotel facilities. Lombok botanical garden will be opened in 2018 on the way from Selong (capital City of East Lombok District) to Sembalun.

(7) Situation of Agro-processing

- In Sembalun, recently, Arabica coffee is produced and processed. There is a need to find the market.
- Most highland vegetables from Sembalun is shipped to Selong as fresh vegetables, but it is partly processed. Vegetable snack using carrots, strawberries, and potatoes is tested, and black garlic is also processed. There is also a need to find the market for these processed products.

(8) Interests in Collaborating with Japan

East Lombok District government wants to connect agriculture and tourism mainly in Sembalun sub-District.

[160] Lombok Timur Dalam Angka 2014

Sembalun area seen from Geopark observatory

Vegetable cultivation in Sembalun and Mt. Rinjani

5.2.3 Malang City, East Java Province

(1) Summary

Malang City is located at the center of East Java Province. The population is 850 thousands persons and the climate is not so hot and comfortable. Malang City is the center of processing and distribution of agricultural products. Malang City tries to conduct farmer's market and organic certification of all agricultural products from the City.

(2) Basic Information of the Province

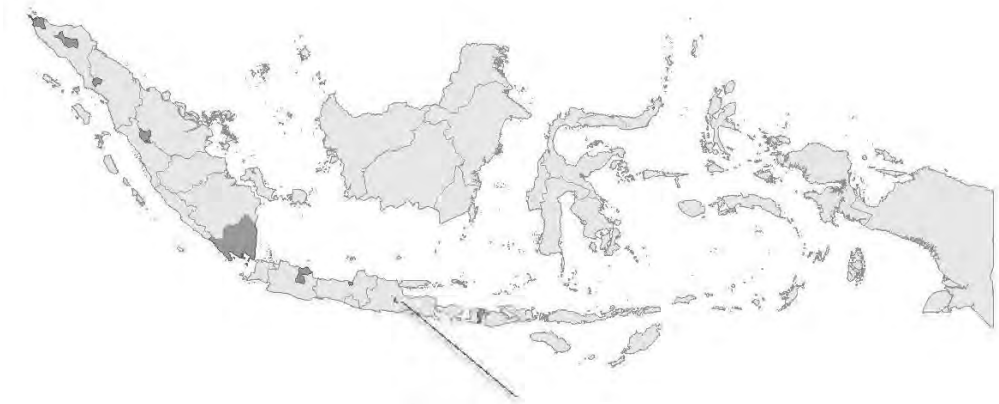
- East Java Province is located at the eastern part of the Java Island.
- Land area of the Province was 47.995 km^2, and population was 38,610,000 in 2014. Population density was 805 persons/km^2 [161].
- Average annual temperature at provincial capital, Surabaya, is 27.1°C. Average annual precipitation is 1,679 mm[162].
- Rural poverty rate of the Province in 2009 was about 21%. The number was a little higher than the national average of 17%. It was ranked No.11 from the highest among 32 Provinces/areas in 2009[163].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 35.8 % (national average 37.2 %), ratio of underweight was 19.1 % (national average 19.6 %), and ratio of wasting was 11.4 % (national average 12.1 %). All the figures were lower than national averages[164].

[161] BPS-Statistics of Jawa Timur Province (2015) Jawa Timur Dalam Angka 2015
[162] Climate Org Website (2016) < http://ja.climate-data.org/> accssed June 18, 2016.
[163] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[164] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas

(3) Agriculture and Livestock Business related Information of the Province

- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about 38 % in the Province. The number was lower than the national average of 40.8%[165].
- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. The Province accounts for high provincial market share of sugarcane (ranked No.1 at 44.1% market share), soybeans (ranked No.1 at 37.9% market share), maize (ranked No.1 at 36.0% market share), groundnuts (ranked No.1 at 24.4% market share), fruits (ranked No.2 at 21.1% market share), rice (ranked No.2 at 17.8% market share), meat (ranked No.2 at 15.6% market share), and vegetables (ranked No.4 at 9.6% market share)[166].
- Major agricultural and livestock products for export are processed meat and palm oil. Prioritized agricultural and livestock commodity for investment has not been identified[167].

(4) Basic Information of the City



Location of the City

- The City is located at the center of East Java Province. It takes about 1.5 hours by direct flight from Jakarta, and about 2.5 hours from Surabaya by car.
- Land area of the Province was 252.1 km^2 and population was 857,892 in 2014[168]. Population density was 3,403 persons/km[169].
- Annual District government revenue is 1,765 billion Rupiahs[170].

(5) Agriculture and Livestock Business related Information of the City

- Agricultural land is 1,609 ha (total of paddy, upland, and plantation crops). It accounts for 6.4% of

of Indonesia 2015

165 Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015

166 Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security

167 Global Business GuideWebsite <http://www.gbgindonesia.com/> accessed June 18, 2016.

168 BPS Provinsi Jawa Timur (2015) Jawa Timur Dalam Angka 2015

169 BPS Kota Malang (2015) Kota Malang Dalam Angka 2015

170 BPS Kota Malang (2015) Kota Malang Dalam Angka 2015

the total land area[171].

Major agricultural and livestock products are as follows.
Food crops: Rice, cassava, etc.
Horticultural crops: Mushrooms, mangoes, etc.
Commercial corps: Sugarcane, etc.
Livestock: Beef cattle, etc.

- Malang City is a calm highland City, and a famous tourist destination with neighboring Batu City. With Batu City and Malang District, Malang City is included in the Malang Raya Area as the coordinator.

- The scale of agricultural sector in Malang City is small but its agricultural products are certified as organic products. Supply from farmers of Malang City is not enough, so other farmers of the Malang Raya Area supply agricultural products to Malang City with requirement to get organic certification. Malang City conducts farmers' market regularly in which farmers put price by themselves.

(6) Situation of Agro-processing

- Malang City has large-scale horticultural market with many agricultural products from East and Central Java Province, especially fruits. Due to this, Malang City is the center of fruits processing. There is a private fruit processing company that obtains the HACCP certification to export its processed products. The company also plays a role to give technical advice to farmers and SMEs to promote their production and quality.

- There are about 20 food processing SMEs in Malang, and there is product development competition among them. The main agro-processing product is fruit/vegetable chips, and there is a variety of such chips from Papaya, salak, jackfruit, apple, purple potatoes, and etc., produced and sold. Also in recent years, many SMEs have started to produce apple pies and apple strudel (pastry with apple-filling) and there is a keen competition. Other than these, jam, jelly, steamed bun, dodol (kneaded sweets), and many other processed products have been developed and disappeared one after another.

- Malang City, together with Batu City, is one of the main tourism areas in East Java Province. Most agro-processed products are sold at souvenir shops. On the roadside to Surabaya, there are many souvenir shops, and the number and scale of them have been getting bigger and bigger.

(7) Interests in Collaborating with Japan

Malang City is interested in processing technology in Japan to be utilized in Malang City. They hope to export processed products to Japan.

[171] BPS Provinsi Jawa Timur (2015) Jawa Timur Dalam Angka 2015

Horticultural market in Malang City

Sourvenir shop with fruit processed products in Malang City

5.2.4 Batu City, East Java Province

(1) Summary

Batu City is located on the plateau neighboring Malang City at the center of East Java Province. Batu had developed highland vegetables and fruits (such as apples) farming and is famous as a tourist destination with many tourist spots to be visited. Tourism encourages farmers not only production of agricultural products but also its processing and sales. Batu has started so-called sixth industrialization in Indonesia.

(2) Basic Information of the Province

See section 5.2.3 for basic information of East Java Province.

(3) Agriculture and Livestock Business related Information of the Province

See section 5.2.3 for agriculture and livestock business related information of East Java Province.

(4) Basic Information of the City

Location of the City

- Batu City is located on the plateau neighboring Malang City at the center of East Java Province.
- Land area of the Province was 199.09 km^2 and population was 182,392 in 2014. Population density was 916 persons/km^2 [172].
- Annual City government revenue is 701.5 billion Rupiahs[173].

(5) Agriculture and Livestock Business related Information of the City

- Agricultural land is about 3,323 ha (total of paddy, upland, and plantation). It accounts for 16.7% of total land area[174].
- Major agricultural and livestock products are as follows.
  Food crops: rice, maize, sweet potatoes, etc.
  Horticultural crops: almost all highland vegetables, mushrooms, apples, oranges, avocados, guavas etc.
  Livestock: dairy cattle etc.
- Batu City calls itself as "City of apple", the very rare area to produce apples in Indonesia. Apple production of Batu City in 2015 was 70,843 tons, and that accounts to about 30% of the total production in Indonesia[175]. Most of the apples are utilized as fruit tourism farm or materials of processed products as juice, chips and other sweets. Very few for fresh eating.
- Batu area is famous as a tourist destination with many theme parks such as Jatim land, apple tourism farms, and hot springs.
- In highlands, not only vegetables but also flowers are cultivated. Some of them are exported.
- In Batu City, Indonesian Citrus and Semi Tropical Fruits Research Institute (ICSFRI) under the MoA is located to conduct research and development of citrus seedling improvement at national level.

(6) Situation of Agro-processing

- 6th Industrialization has been tried by farmers' groups, stimulated by tourism. Batu City government supports farmers to improve quality of their products by organic certification and guidance for cultivation.
- Apples are made into chips, juice, apple soda, apple vinegar, dodol, apple pies, and apple strudels. Other than apples, mushroom processed/frozen food, bread from yam, drink from Aloe, and many other agro-processed products are produced.

[172] BPS Kota Batu (2015) Kota Batu Dalam Angka Tahun 2015
[173] BPS Kota Batu (2015) Kota Batu Dalam Angka Tahun 2015
[174] BPS Provinsi Jawa Timur (2015) Jawa Timur Dalam Angka 2015
[175] Calculated based on statistics from BPS (2015) Statistik Tanaman Sayuran dan Buah-buahan Semusim Indonesia 2015, and BPS Kota Batu (2015) Kota Batu Dalam Angka.

- Farmers have developed processed products for tourism, and there are many kinds of sweets for souvenir. But the quality and packaging still need to be improved.

(7) Interests in Collaborating with Japan

Batu City wants to collaborate with Japan in food security, sixth industrialization (integration of production, processing and marketing), and strengthening of farmer's institution.

Apples for processing

Processed products from apples and other fruits

5.2.5 Semarang City, Central Java Province

(1) Summary

Central Java Province is located in the central western part of Java Island. Total land area is 32,544 km^2. Total population was 33,523,000 in 2014. Population density is 1,030 person/km^2 [176].

(2) Basic Information of the Province

- Rural poverty rate of the Province in 2009 was about 20%, which is higher than national average of 17%. It is ranked in the twelfth from the highest among 32 Provinces/areas[177].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 36.8% (national average 37.2%), ratio of underweight was 17.6% (national average 19.6%), and ratio of wasting was 11.1% (national average 12.1%). All the figures were lower than national averages[178].
- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was

[176] BPS-Statistics of Jawa Tengah Province (2015) Jawa Tengah Dalam Angka 2015
[177] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[178] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015

around 31% in the Province. This ratio is lower than the national average 40.8%[179].

(3) Agriculture and Livestock Business related Information of the Province

- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. The agricultural products in the Province with higher market share in the national market are groundnuts (21.7%, ranking second), soybeans (20.1%, ranking second), maize (17.7%, ranking second), rice (16.3%, ranking third), vegetables (15.1%, ranking third), fruits (12.6%, ranking third), meat (12.0%, ranking third), and sugarcane (7.5%, ranking third)[180].
- There is no remarkable exporting agricultural and livestock product in the Province. However, high investment opportunities for agricultural products are reported[181].

(4) Basic Information of the City

Location of the City

- Semarang City is the capital City of Central Java Province located in the northern coastal area. The City is one of the five largest cities in Indonesia. The City has 373.67 km^2 of land area, 1,584,068 population with its density of 4,239person/km^2 [182].
- Semarang City consists of 16 districts. The population, agricultural employment and agricultural area are shown in the table below. Agricultural area are centered in Mijen, Gunungpati, Benyumanik, Tembalang in the south.
- Average annual rainfall is 2,780mm, which is centered in the season from October to March.

[179] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[180] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security
[181] Global Business Guide website <http://www.gbgindonesia.com/> accessed June 18, 2016
[182] BPS Kota Semarang (2015) Kota Semarang Dalam Angka Tahun 2015

Table 5.1 Population, Agricultural Employment and Agricultural Area（2014）

		Population (Person)	Farmers (Person)	Agricultural labor (person)	Total employment in agriculture (person)	Agricultural area (ha)	Average agricultural area (ha/HH)
1	Mijen	59,425	4,000	5,873	9,873	2,835	0.29
2	Gunungpati	77,308	5,493		5,493	3,959	0.72
3	Banyumanik	131,330	2,483		2,483	1,146	0.46
4	Gajah Mungkur	63,594		25	25	3	0.12
5	Smg. Selatan	79,939			0		
6	Candisari	79,629			0	20	
7	Tembalang	154,692	538	444	982	1,117	1.14
8	Pedurungan	178,444	1,057	1,702	2,759	456	0.17
9	Genuk	95,211	6,635	3,018	9,653	619	0.06
10	Gayamsari	73,850	115		115	9	0.08
11	Smg. Timur	77,987			0		
12	Smg. Utara	128,110			0	13	
13	Smg. Tengah	70,317			0	5	
14	Smg. Barat	158,480	117	107	224	56	0.25
15	Tugu	31,592	780	2,438	3,218	546	0.17
16	Ngaliyan	124,160	5,722	4,926	10,648	1,347	0.13
	合計	1,584,068	26,940	18,533	45,473	12,132	0.27

Source: Kota Semarang Dalam Angka, Semarang City in Figure, 2015.

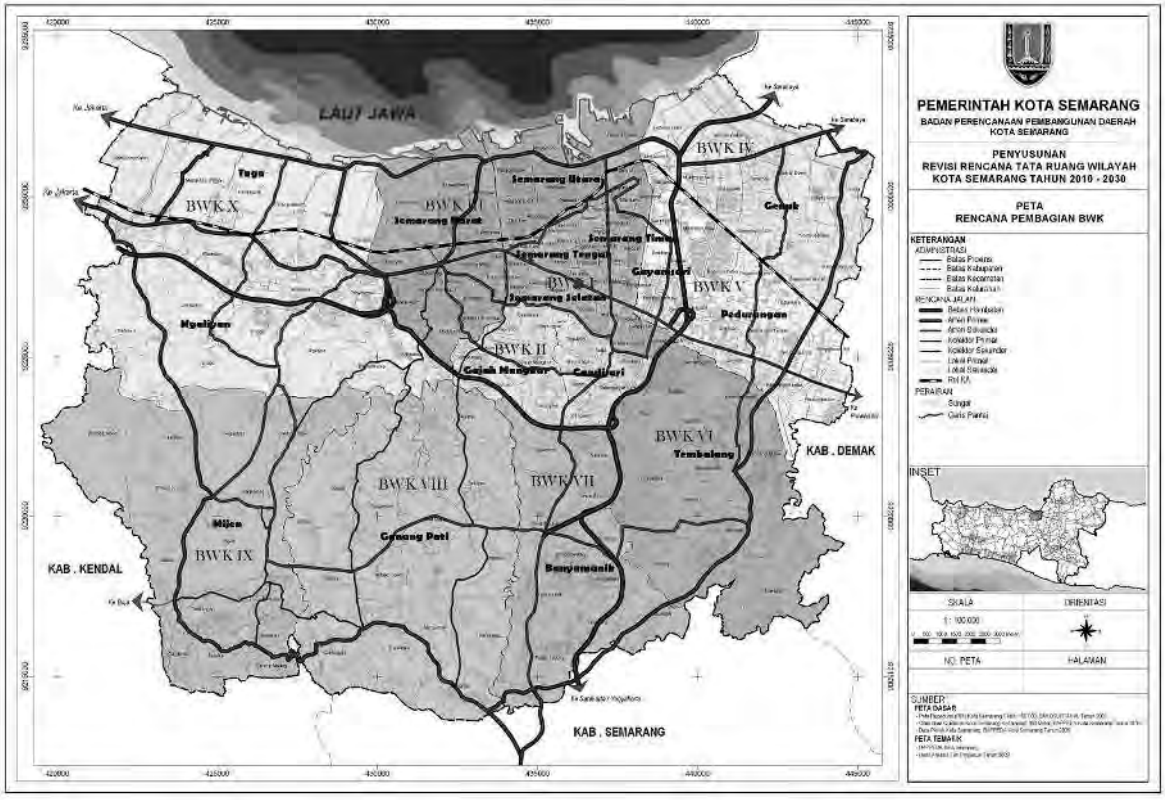


Figure 5.1 Administrative Map in Semarang City

Source: Semarang City.

(5) Agriculture and Livestock Business related Information of the City

- Major industrial sector of Semarang is tertiary industry. GRDP consists of commercial sector (31%), industry (27%), construction (15%), services (12%) and agriculture (1%). Major export

product is clothes, which amounts to US$ 380,000 in 2014.

- Agricultural areas in the City is 9,068 ha accounting for 24.3% of total area.
- Major agricultural and livestock products are as follows.

  Food crops: rice, cassava, etc.
  Horticultural crops: bananas, papayas, jackfruits, etc.
  Commercial corps: sugarcane, etc.
  Livestock: Beef cattle, Dairy cattle, broiler, etc.

- Semarang City is well known for food City. The City is the center of Javanese traditional foods such as *lumbia*, *soto*, and *sate kannbing* and also known for tasty Chinese food. Sweets processing made of local products is also encouraged by City government. Tourism for dining out local foods as well as agro-tourism for eating durian in rural area is popular in the City.
- Many of industries of *jamu*, traditional medicinal herb, as well as glove tobacco are located in and surrounding area of the City. Many industrial parks are being developed within 30 minutes' drive area of the City.
- The City is a port city with international port equivalent to those of Jakarta and Surabaya. In the City, there are many historical buildings in the Dutch colonial era remained. Kota Lama is one of those areas where whole historical city landscape is remained undeveloped. Kota Lama is registered for the candidate for World Heritage site. A group of private sector those who understand the value of historical landscape is trying to conserve, renovate and reutilize those historical buildings as a whole town to attract tourists. Some historical buildings have been renovated and utilized as café and art museum, attracting young people.
- The agriculture in Semarang is promoted towards the diversification and intensification with science and technologies targeting the Semarang urban market. Demand for horticultural crops is increasing rather than food crops like rice. These products are sold at traditional market, traders, supermarkets, shops and restaurants. Municipal agricultural office promotes suburban agriculture targeting Semarang urban market. Agricultural extension center of City government multiplies seedling of orchard and sells to farmers and general citizens. This center also starts farmers' market for dairy products. Municipal orchard rent out the orchard to farmers and starts farmers market to sell fruits at site.
- There is an emerging trend targeting the urban market. One young entrepreneur has started hydroponic production of fresh vegetables to sell those products to the supermarkets and restaurants for two years. These activities are followed by other young entrepreneurs.
- Municipal government promotes agro-tourism in rural area. They developed tourism village named *Desa Wisata* where farmers are showing their daily activities to urban children and foreign tourists. One of those villages is Kandri village. Kandri village is located near the reservoir constructed by

Japanese Yen Loan. Those areas are being developed as a tourist destination. Tourists visiting the reservoir also visit Kandri village.

- There also exists a private company who operates tourism horticultural farm located in the suburb of Semarang City. This has demonstration farm as well as restaurants and shops for their products and farm inputs. This is located along the main road; 400 - 500 tourists visit the farm on weekend. This company has 6 orchards other than the demonstration farm. In addition, the company supports 15 villages to promote fruits production in those villages for their income generation. The company has a training institute where they invite promising young farmers. Trained farmers go back to their villages and start promoting fruit production with necessary inputs and infrastructure supported by the company. Village farmers can sell their products to the company operated shop or their own markets.

(6) Situation of Agro-processing

Main agro-processing products in rural areas in Semarang are fried chips and sweet stuff utilizing local materials such as cassava; spring rolls, health foods utilizing medicinal herbs. Women in rural area are involved in these agro-processing.

(7) Interests in Collaborating with Japan

The City has a concern in collaborating with Japan under the theme of Gastropolis.

Table 5.2 Major Crops and Production Area (1) (MT)

		Paddy	Upland rice	Maize	Sweet potatoes	Cassava	Mung bean	Ground nuts	Long bean	Chili
1	Mijen	6,142	76	534	186	2,116		43	96	
2	Gunungpati	12,354		284	23	2,751		100		9
3	Banyumanik	1,202		214		946		63		135
4	Gajah Mungkur	0								
5	Smg. Selatan	0								
6	Candisari	0								
7	Tembalang	4,708	7	439		1,127	18	74	68	
8	Pedurungan	766		4						
9	Genuk	993		32		18		5		4
10	Gayamsari	85								
11	Smg. Timur	0								
12	Smg. Utara	0								
13	Smg. Tengah	0								
14	Smg. Barat	224	153			54				
15	Tugu	5,758		73		85		14		
16	Ngaliyan	5,046	913	1,162	81	2,221	117	175	10	8
	Total	37,278	1,149	2,742		9,318	135	474	174	156

Source: Semarang in future 2015

Table 5.3 Major Crops and Production Area (2) (MT)

		Egg plant	Kale	Spinach	Mango	Rambutan	Durian	Banana	Jack fruit	ginger
1	Mijen				110		6,000	66	14	4,000
2	Gunungpati				540	130,314	5,883	278,480	1,332	7,500
3	Banyumanik				13,700			380		
4	Gajah Mungkur				125	8		36	50	
5	Smg. Selatan				675	17		23	58	
6	Candisari				90	45	15	44		
7	Tembalang				6,190			16,830	155	10
8	Pedurungan				2,699			690		
9	Genuk	51			1,296			8,834	86	
10	Gayamsari				142			42		
11	Smg. Timur		70		55			25		
12	Smg. Utara				0			464		
13	Smg. Tengah				60			4		
14	Smg. Barat		32		1,237			20		
15	Tugu		86	49	3,771	52		694	15	
16	Ngaliyan	5	2	1	0					6,500
	Total	56	190	50	30,690	130,436	11,898	306,632	1,710	18,010

Source: Semarang in future 2015

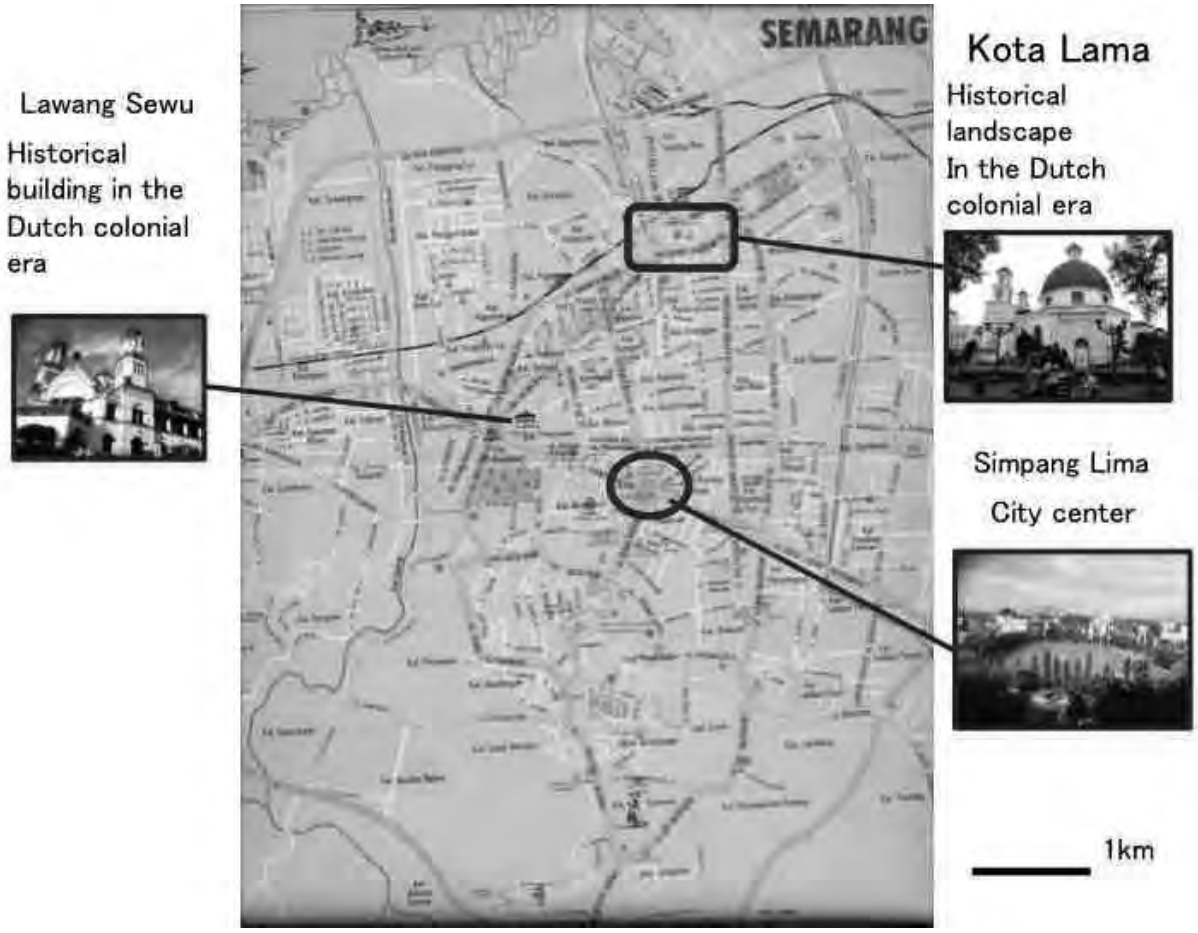


Figure 5.2 City Map of Semarang

Source: Tourism Map of Semarang City

Figure 5. 3 Kota Lama Area

Source: Oen's Semarang Foundation

Photo 1: Hydroponic farming company targeting restaurants

Photo 2: Hydroponic farm

Photo 3: Hydroponic farm

Photo 4: Agricultural extension center multiplies orchard seedlings to sell farmers and other customers

Photo 5: Agricultural extension center

Photo 6: Agricultural extension center

Photo 7: Farmers market at municipal orchard

Photo 8: Municipal orchard

Photo 9: Medicinal herb farm by private sector

Photo 10: Semarang City: Simapang Lima

Photo 11:Semarang City: Lawang Sewu : Historical building

Photo 12: Kota Lama : historical building in Dutch colonial era

Photo 13: Kota Lama : Historical building

Photo 14: Kota Lama : Antique shops along the street

Photo 15:Kota Lama : Historical landscape

Photo 16: Kota Lama

Photo 17: Kota Lama : Railway station

Photo 18: Kota Lama : Historical building left without maintenance

Photo 19: Kota Lama : Historical building left without maintenance

Photo 20: Kota Lama : Renovated historical building utilized for coffee shop

Photo 21: Kota Lama : Renovated as coffee shop

Photo 22: Kota Lama

Photo 23: Kota Lama

Photo 24: Kota Lama : renovated as museum

Photo 25:Tourism village (Desa Wisata) :Kandri

Photo 26: Kandri village

Photo 27: Kandri village

Photo 28: Private tourism farm: Hortimart

Photo 29: Restaurant of Hortimart

Photo 30: Hortimart: Orchard

Photo 31: Hortimart: Vehicle for touring farm

Photo 32: Hortimart: shop

Photo 33: Restaurant with view

5.2.6 Indramayu District, West Java Province

(1) Summary

Indramayu District is situated in central area of rice production in Java Island. The District is also famous for Gedong Gincu mango with red color skin. Gedong Ginch mango is sold at high-class supermarkets in Jakarta by name of "Indramayu Mango".

(2) Basic Information of the Province

- West Java Province is located at mid-west part of Indonesia and close to the national capital, Jakarta City.
- Land area of the Province was 35,378 km^2 and population was 46,030,000 in 2014[183]. Population density was 1,301 persons/km^2.
- Average annual temperature at prefectural capital, Bandung City located on the plateau, is 23.3°C. Average annual precipitation is 2,164 mm[184].
- Rural poverty rate of the Province in 2009 was about 14.5%. The number was lower than national average of 17%. It was ranked No.18 from the highest among 32 Provinces/areas[185].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 35.3% (national average 37.2%), ratio of underweight was 15.7%

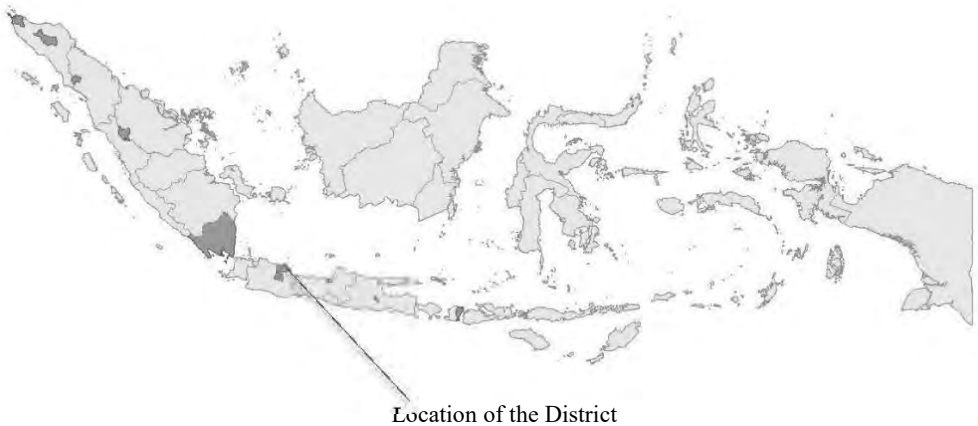
[183] BPS Provinsi Jawa Barat (2015) Jawa Barat Dalam Angka 2015
[184] Climate Org website (2016) < http://ja.climate-data.org/> accessed June 18, 2016
[185] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia

(national average 19.6%), and ratio of wasting was 10.9% (national average 12.1%). All the figures were lower than national averages[186].

(3) Agriculture and Livestock Business related Information of the Province

- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about 20% in the Province. The number was lower than the national average 40.8%[187].
- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. The Province accounts for high provincial market share of vegetables (ranked No.1 at 36.6% market share), fruits (ranked No.1 at 26.9% market share), meat (ranked No.1 at 21.1% market share), rice (ranked No.1 at 20.7% market share[188]), groundnuts (ranked No.3 at 14.8% market share), soybeans (ranked No.4 at 5.4% market share), sugarcane (ranked No.4 at 4.2% market share), and maize (more than 4% market share)[189].
- Major agricultural and livestock products for export are rubber and rubber products. Prioritized agricultural and livestock commodity for investment has not been identified[190].

(4) Basic Information of the District



Location of the District

- The District is located on the northern coast of West Java Province.
- Land area of the Province was 2,099 km^2 and population was 1,708,551 in 2014[191]. Population density was 814 persons/km^2.
- Annual District government revenue is 2,560 billion Rupiahs[192].

[186] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[187] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[188] Including market share of Banten Province
[189] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security
[190] Global Business Guide website <http://www.gbgindonesia.com/> accessed June 18, 2016
[191] BPS Provinsi Jawa Barat (2015) Jawa Barat Dalam Angka 2015
[192] BPS Provinsi Jawa Barat (2015) Jawa Barat Dalam Angka 2015

(5) Agriculture and Livestock Business related Information of the District

- Agricultural land is 172,266 ha (117,792 ha for paddy and 54,474 ha for upland). It accounts for 84.4% of total land area which is 204,011 ha[193].
- Major agricultural and livestock products are as follows.
  Food crops: rice, soybeans, maize, etc.
  Horticultural crops: mangoes, yardlong beans, mung beans, shallots, chili peppers, cucumbers, eggplants, guavas, etc.
  Commercial corps: sugarcane, coconuts, etc.
  Livestock: beef cattle, sheep, broiler chicken, local chicken, etc.
- The District is famous for mango production, especially for Gedong Gincu mango with red color skin.
- Various fruits such as melons, watermelons, and papayas are produced. Goat and duck raising are commonly practiced.
- One of the most important industries of the District is marine salt production. Shrimp and fish cracker production is rapidly growing.
- Major markets of agricultural and livestock products are Jakarta, Bandung, Tangerang, Bekasi, and Kalimantan.

(6) Situation of Agro-processing

- As for horticultural products, mangos are processed to juice, syrup, jam, chips, and sweet stuff in Indramayu. Buyers are visiting a mango processing factory in Indramayu for business from Yogyakarta, Jakarta, Singapore, etc. The factory is usually operated by family members but employs about 15 villagers in the high season. Only mangos are processed in the factory in the form of cottage industry.
- As for livestock products, salted duck eggs are one of the famous products of the District. Salted eggs made in Indramayu are made a sale in Kalimantan and Sumatera.

(7) Interests in Collaborating with Japan

Indramayu hopes to export its agricultural and livestock products to Japan. It is also interested in collaborating with Japan in terms of fruits (such as mango) processing.

[193] BPS Provinsi Jawa Barat (2015) Jawa Barat Dalam Angka 2015

Gedong Gincu mango made in Indramayu

Fruits processing site in Indramayu (domestic factory)

5.2.7 Sumedang District, West Java Province

(1) Summary

Sumedang District is located on the plateau neighboring the provincial capital, Bandung City. The District is nicely located to produce highland vegetables and fruits.

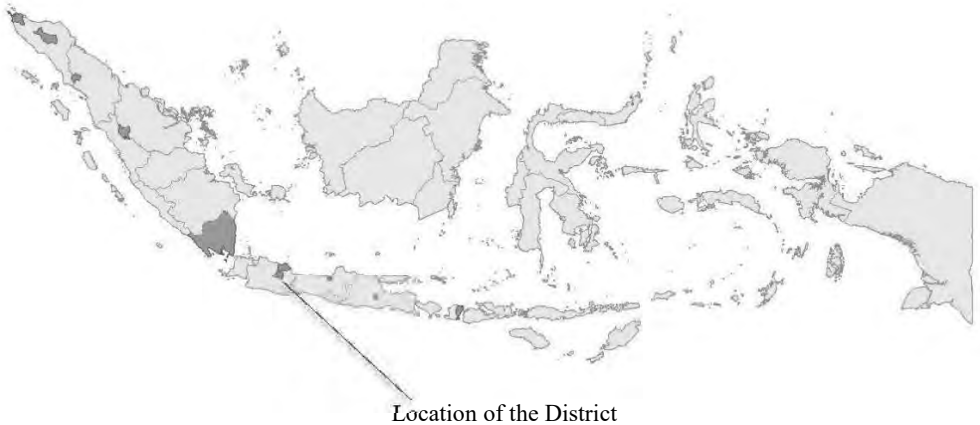
(2) Basic Information of the Province

See section 5.2.6 for basic information of West Java Province.

(3) Agriculture and Livestock Business related Information of the Province

See section 5.2.6 for agriculture and livestock business related information of West Java Province.

(4) Basic Information of the District



Location of the District

- The District is located in the central part of West Java Province, neighboring the provincial capital Bandung City.

- Land area of the Province was 1,522 km^2 and population was 1,131,516 in 2014[194]. Population density became 743 persons/km^2.
- Annual District government revenue is 2,095 billion Rupiahs[195].

(5) Agriculture and Livestock Business related Information of the District

- Agricultural land is 113,090 ha (33,143 ha for paddy and 79,947 ha for upland). It accounts for 74.5% of total land area of 151,833 ha[196].
- Major agricultural and livestock products are as follows.
  Food crops: rice, cassava, maize, soybeans, sweet potatoes, etc.
  Horticultural crops: salak, sawo, mangoes, chili peppers, potatoes, cucumbers, cabbages, mushrooms, etc.
  Commercial corps: coconuts, etc.
  Livestock: beef cattle, daily cattle, buffalo, sheep, broiler chicken, etc.
- The District is a production center of Chilembu sweet potatoes. Chilembu sweet potatoes have been registered as a Geographical Indications products in Indonesia. It can be harvested only 10 ton from 100 ha and price is higher than other types of sweet potatoes. The product can be found in most part of Java Island but it might not be genuine products.
- The District is searching possibility of exporting horticultural crops such as Chilembu sweet potatoes, bananas, sawo, salak, and mangoes.
- The District is famous for tofu production (Tofu Sumedang). The tofu are produced mainly by domestic factories.

(6) Situation of Agro-processing

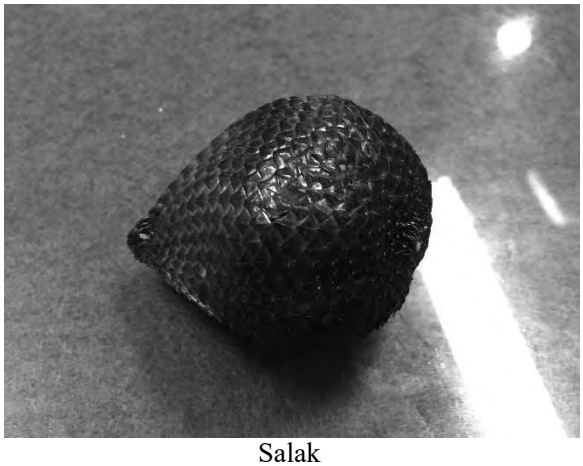
- The most famous product is tofu. It is nationally-known as "Tahu Sumedang" and produced mainly in the form of cottage industry.
- Sawo is difficult to preserve. The District has been trying to develop good preservation method of Sawo by applying cold storage and packaging. Until now, no effective method is identified. (Note: Technically speaking, preservation method of Sawa must be classified into post-harvest technology rather than agro-processing.)

(7) Interests in Collaborating with Japan

- According to the District, Chilembu sweet potateso and Gedong Gincu mangoes were already exported. The District wants to promote export of horticultural corps other than these two. Prioritized crops are salak and sawo.

[194] BPS Kabupaten Sumedang (2015) Kabupaten Sumedang Dalam Angka Tahun 2015
[195] BPS Kabupaten Sumedang (2015) Kabupaten Sumedang Dalam Angka Tahun 2015
[196] BPS Provinsi Jawa Barat (2015) Jawa Barat Dalam Angka 2015

- The District wants to learn preservation technology of Sawo from Japan.



Salak

Scenery of Sumedang

5.2.8 Lampung Province

(1) Summary

Lampung Province calls itself one of the largest “agriculture Provinces” of the nation and produces oil palm, rubber, and fruits such as bananas and pineapples in large-scale plantations, as well as rice, corn, cassava, cacao, black peppers, coffee and sugarcane. It is also one of the livestock centers, especially cattle and poultry raising. The Province is famous for high quality tropical fruits, and fruits processing is also active.

(2) Basic Information of the Province

Location of the Province

- Lampung Province is located on the southern tip of Sumatra Island located in the western part of Indonesia, with Java Island to the south across the Sunda Strait (Selat Sunda).
- The development of Lampung Province has been promoted with a large number of migrants from outside, especially Java.
- As of 2014, the area of the Province was 34,624 km^2, with a population of 8,026,191 and population

density of 232/km^2 [197].

- The annual average temperature of Bandar Lampung, the capital City, is 26.9ºC, and the average rainfall is around 2,122 mm[198].
- The revenue of the Province was 4,698 billion rupiahs in 2014[199].
- The rural poverty rate of Lampung Province in 2009 was around 21%, which was higher than the national average at around 17%. This was the ninth highest among the 32 Provinces studied[200].
- As for malnutrition among children under 5 years of age, the ratio of stunting children was 42.6% which was higher than the national average of 37.2%. The ratio of underweight was 18.8% (against the national average of 19.6%), and 11.8% was wasting (against the national average of 12.1%)[201].

(3) Agriculture and Livestock Business related Information of the Province

- The proportion of the population working in agriculture in the formal and informal sectors in 2013 was about 51% in Lampung Province, which was higher than the national average of 40.8%[202].
- Of the major agriculture and livestock production in Indonesia including rice, corn, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits, Lampung Province has a high market share in sugarcane (the second highest share at 33.3%), corn (the third, 11.6%), soybean (the 6th, 2.2%), rice (>3%), and fruits (>3%)[203].
- The major agricultural exports of Lampung Province include coffee, tea, herbs and spices, crude palm oil, and canned fruits and vegetables. It is said that the investment opportunities are high in the agriculture sector in general, though products are not specified[204].
- Lampung Province produces a variety of high quality fruits, including bananas, pineapples, durians, mangosteen, and dragon fruits. Gunung Sewu Group produces bananas and pineapples in large-scale plantations, as well as tapioca starch. Fruits from Lampung Province, especially bananas, have an established brand name as Lampung products. Mangosteen from Lampung is exported to China and Hong Kong.

(4) Situation of Agro-processing

- As mentioned in Chapter 2, Table 2.7, plantation farming and related agro-processing by large scale enterprises are conducted in Lampung Province.

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197 BPS-Statistics of Lampung Province (2015) Lampung Dalam Angka 2015
198 Climate Org Website (2016) < http://ja.climate-data.org/> accecced 18 June, 2016.
199 BPS-Statistics of Lampung Province (2015) Lampung Dalam Angka 2015
200 Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
201 Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
202 Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
203 Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security
204 Global Business Guide Website. <http://www.gbgindonesia.com/> accecced June 18, 2016.

- For example, in Central Lampung District, “Great Giant Pineapple” of Gunung Sewu Group owns pineapple plantation, and it produces and exports canned pineapples and juice at a large scale. Its main target is export, and products below standard are sold at local market.
- There are some enterprises that produce processed products of bananas, pineapples, dragon fruits, jambu crystal, and etc. in East Lampung District.
- In addition, there are many large scale enterprises producing tapioca and cattle feed.
- Except above mentioned large scale enterprises, there are SMEs processing banana chips and shaved ice with durian syrup in Bandar Lampung City. There, there are many shops selling banana chips with variety of flavors, many kinds of fruit chips, coffee, durian dodol, and so on.
- Banana chips and sale pisang are ubiquitous in Indonesia, but bananas in Lampung are famous for its high quality and good taste, and they are also cheaper due to large amount of production. Thus, bananas are special products from Lampung.
- There is an outlet shop subsidized by the Office of Agriculture, and farmers’ cooperatives bring and sell products there. Examples are fruit chips, coffee, juice, rice, goat milk powder, milk candies, and so on.

A souvenir shop selling banana chips


Various types of fruit chips are sold

5.2.9 Lima Puluh Kota District, West Sumatra Province

(1) Summary

Lima Puluh Kota District is situated at the middle of the major road connecting provincial capital of West Sumatra (Padang City) and provincial capital of Riau Province (Pekanbaru City). The District is famous for gambir and livestock production. It also has several sightseeing places such as Harau Canyon.

(2) Basic Information of the Province

- West Sumatra Province is located the western area of Indonesia, the midland of Sumatra, facing the Indian Ocean.
- Land area of the Province was 42,297 km^2 and population was 5,132,000 in 2014[205]. Population density was 121 persons/km^2.

[205] BPS Provinsi Sumatera Barat (2015) Sumatera Barat Dalam Angka 2015

- Average annual temperature at prefectural capital, Padang, is 27.0°C. Average annual precipitation is 4,040 mm[206].
- Rural poverty rate of the Province in 2009 was about 11%. The number was lower than national average of 17%. It was ranked No.25 from the highest among 32 Provinces/areas[207].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 39.2% (national average 37.2%), ratio of underweight was 21.2% (national average 19.6%), and ratio of wasting was 12.6% (national average 12.1%). All the figures are higher than national averages[208].

(3) Agriculture and Livestock Business related Information of the Province

- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about 39% in the Province. The number was slightly lower than the national average 40.8%[209].
- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. The Province accounts for high provincial market share of oil palm (ranked No.5 at 5.4% market share), rice (more than 3% market share), and vegetables (more than 3% market share)[210].
- Major agricultural and livestock products for export are cacao, fruits, cinnamon, crude palm oil, palm kernel, processed foods, and essential oil. Agriculture and planation crops has been prioritized for investment[211].

(4) Basic Information of the District

Location of the District

- The Province is located at the midland of West Sumatra Province, neighboring Riau Province.

[206] Climate Org website (2016) < http://ja.climate-data.org/> accessed June 18, 2016
[207] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[208] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[209] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[210] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security
[211] Global Business Guide website <http://www.gbgindonesia.com/> accessed June 18, 2016

- Land area of the Province was 3,354 km^2 and population was 365,389 in 2014[212]. Population density was 109 persons/km^2.
- Annual District government revenue is 1,098 billion rupiahs[213].

(5) Agriculture and Livestock Business related Information of the District

- Agricultural land is 50,445 ha (31,116 ha for paddy, 2,200 ha for upland, and 17,129 ha for plantation crops). It accounts for 15.0% of total land area which is 335,430 ha[214].
- Major agricultural and livestock products are as follows.
  Food crops: rice, cassava, etc.
  Horticultural crops: chili peppers, eggplants, cucumbers, oranges, mangosteen, rambutan, etc.
  Commercial corps: gambir, cacao, coffee, tobacco, oil palm, cinnamon, etc.
  Livestock: buffalo, beef cattle, chicken egg, broiler chicken, etc.
- Livestock business is active as production of chicken egg and broiler chicken is larger than other Districts.
- The District is situated at the middle of the major road connecting provincial capital of West Sumatra (Padang City) and provincial capital of Riau Province (Pekanbaru City). There are sightseeing points such as Harau Canyon. The District could be a good resting point for drivers.

(6) Situation of Agro-processing

- The District is the largest producer of gambir in Indonesia. The District government promotes gambir processing in cooperation with the central government. Gambir contains rich of catechin. It is used as a material of chemical and gambir tea, a type of health food.

(7) Interests in Collaborating with Japan

The District is interested in promotion of agro-tourism and collaborating with Japan under the theme of roadside station.

[212] BPS Kabupaten Lima Puluh Kota (2015) Lima Puluh Kota Dalam Angka 2015
[213] BPS Kabupaten Lima Puluh Kota (2015) Lima Puluh Kota Dalam Angka 2015
[214] BPS Provinsi Sumatera Barat (2015) Sumatera Barat Dalam Angka 2015

Harau Canyon

Souvenir shops at Harau Canyon

5.2.10 West Pakpak District, North Sumatra Province

(1) Summary

West Pakpak District was separated from Dairi District in July 2003. The population is 45,000 persons. The District is the production center of gambir, a material of Asen-Yaku, and wants to utilize this gambir for regional development. Recycle system that combines feed from gambir and beef breeding has been considered.

(2) Basic Information of the Province

- North Sumatra Province is located at the western part of Indonesia, and at the east of Aceh Province.
- Land area of the Province was 72,981 km^2, and population was 13,767,000 in 2014. Population density was 189 persons /km^2 [215].
- Average annual temperature at provincial capital, Medan, is 26.8°C. Average annual precipitation is 2,137 mm[216].
- Rural poverty rate of the Province in 2009 was about 12%. The number was a little lower than the national average of 17%. It was ranked No.21 from the highest among 32 Provinces/areas in 2009[217].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 42.5% (national average 37.2 %), ratio of underweight was 22.4 % (national average 19.6 %), and ratio of wasting was 14.9 % (national average 12.1 %). All the figures are higher than national averages[218].

[215] BPS-Statistics of Sumatera Utara Province (2015) Sumatera Utara Dalam Angka 2015
[216] Climate OrgWebsite (2016) < http://ja.climate-data.org/> accessed on June 18, 2016
[217] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[218] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015

(3) Agriculture and Livestock Business related Information of the Province

- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about 43% in the Province. The number was higher than the national average of 40.8%[219].
- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. The Province accounts for high provincial market share of oil palm (ranked No.1 at 39.9% market share), vegetables (ranked No.2 at 19.6% market share), maize (ranked No.4 at 6.9% market share), fruits (ranked No.4 at 5.9% market share), rice (ranked No.5 at 6.7% market share), sugarcane (ranked No.5 at 3.9% market share), meat (ranked No.6 at 6.3% market share), and groundnuts (more than 3% market share)[220].
- Major agricultural and livestock products for export are crude palm oil, rubber, tobacco, herb/chili, coffee, tea, areca palm, and coconut oil. Prioritized agricultural and livestock commodity for investment has not been identified[221].

(4) Basic Information of the District

Location of the District

- West Pakpak District is located at inland of North Sumatra Province, and mountainous area at west of the Toba Lake.
- Land area of the Province was 1,218.3 km^2 and population was 44,520 in 2014. Population density was 37 persons/km^2[222].
- Annual District government revenue is 463.7 billion rupiahs[223].
- West Pakpak District was separated from Dairi District in July 2003. It takes 1.5 hours to the capital City, Salak, from Sidikarang, the capital City of Dairi District. There is no available accommodation facility in Salak.

[219] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[220] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security
[221] Global Business GuideWebsite <http://www.gbgindonesia.com/> accessed June 18, 2016
[222] BPS Kabupaten Pakpak Bharat (2015) Pakpak Bharat Dalam Angka 2015
[223] BPS Kabupaten Pakpak Bharat (2015) Pakpak Bharat Dalam Angka 2015

(5) Agriculture and Livestock Business related Information of the District

- Agricultural land is 102,354 ha (total of paddy, upland, and plantation crops). It accounts for 84.0% of the total land area[224].

- Major agricultural and livestock products are as follows.
  Food crops: Rice, maize, etc.
  Horticultural crops: Oranges, pineapples, etc.
  Commercial corps: Gambir, coffee, patchouli, etc.
  Livestock: Water buffalo, pig etc.

- Farm area of gambir is 910 ha, and the production is 1,527 ton/year. Most gambir are exported via India, but 80% of total gambir production of the world is from Indonesia. In North Sumatra Province, only West Pakpak District produces gambir. Gambir is also dying material for batik. Local government tries to make printer ink from gambir.

- Patchouli (Nilam) is produced as a material for Patchouli oil that is used for aromatherapy. 80% of the total production of the world is from Indonesia.

- At public pastureland (about 30 h) in the District, 25 Asian water buffaloes are grazed. Each buffalo has its owner, but they are jointly grazed. In this region, buffalo is traditionally preferred to beef for eat. The price of buffalo meat and beef is almost the same in this region, and according to the person in charge at the District Office of Agriculture, it is 130,000-260,000Rp./kg. Most buffaloes bred in this district are sold inside the district or for captive consumption.

- Farmers tap the trees (Strax Benzoin Dryand) in forest, dry the sap in the sun, and sell it to brokers as a raw material for benzoin[225]. According to the District Office of Agriculture, there are 3-4 places in the district where they can tap the trees, and about 100 farmers engage in this work at each place. Annual production of the sap per tree is about 1kg, and the price is 910,000-1,170,000 Rp./kg in Indonesia. However, the Office does not have the detail information such as selling price to the brokers, annual production and sales quantity, and household income from this. Styracaceae grow wild in this area, but there are cases that farmers plant them.

- Inside the district, there is a cattle feedlot and biogas factory subsidized and technically supported by BPTP (Institute for Agricultural Technology), Medan branch in 2015. There keep Brahman Indian cattle, and after several years, they are to be sold to a cattle feed company in Medan. The cattle shed is with roof and cement floor, and there are containers for food and water for every two cows. The floor is sloping to collect excreta in the biogas tank. The biogas fermented in the tank is gathered in another tank through pipes, but these pipes do not function well.

[224] BPS Kabupaten Pakpak Bharat (2015) Pakpak Bharat Dalam Angka 2015. This figure may include meadow and community forest.
[225] Benzion is taped from Styracaceae, and material for aroma chemical, cosmetics, antiseptics, ointment, acidum benzoicum, etc.

- As cattle feed, rapes of gambir is added to assorted feed of maize, bran, rice crumbs, and syrup. Before added to the feed, rapes of gambir is made to silage by adding urea. According to the District Office of Agriculture, gambir contains more proteins than maize. Maize are sold as materials for cattle feed to out of district, and that is an important part of farmers' income. Therefore, by using gambir rapes as feed, farmers can sell more maize.

- Orange production is recommended by the District Office of Agriculture, and conducted in many places in the district. Production is done in the garden at small scale or at farm land. Oranges in the district can be harvested in about 3 years, and they are sweet with many seeds. To protect from damages from flies, fly blotting papers are hanged to each tree. Young plants are planted at regular intervals, and treated well. However, on the roadside from Medan to West Pakpak District, oranges are commonly sold, and competition seems keen. As the district is far from market, transportation cost would be the bottleneck.

(6) Situation of Agro-processing

- Gambir contains high level of catechin. Other than materials of medicine, gambir is processed to Gambir tea. District Government Corporation has started marketing it, but currently it is only sold by word of mouth.

- District Government Corporation tries to produce ink from gambir. First, it tries to be applied as the ink for election to be put as the voted sign. It also seeks the possibility to sell it as printer ink.

(7) Interests in Collaborating with Japan

West Pakpak District expects Japan to be an export destination of gambir. It also expects Japan to support processing technology of gambir.

Gambir leaves

Gambir tea, produced and sold
by the West Pakpak District-owned enterprise

5.2.11 Central Aceh District, Aceh Province

(1) Summary

Takengon, the District capital of Central Aceh, is located on the plateau and facing Lake Laut Tawar. The District is a production center of Gayo Cofee[226]. Gayo Coffee is commonly cultivated with shade trees. Recently, it is becoming popular to plant orange trees as shade trees. The orange is named Keprok Gayo Aceh Orange. The price of Keprok Gayo Aceh Orange is higher than other oranges.

(2) Basic Information of the Province

- The Province is located at the western area of Indonesia, farthest north of Sumatra Island.
- Land area of the Province was 56,771 km^2 and population was 4,907,000 in 2014[227]. Population density was 86 persons/km^2.
- Average annual temperature at prefectural capital, Banda Aceh, is 27.3°C. Average annual precipitation is 1,734 mm[228].
- Rural poverty rate of the Province in 2009 was about 24%. The number was higher than national average of 17%. It was ranked No.6 from the highest among 32 Provinces/areas[229].
- As of 2013, prevalence of malnutrition among children under 5 years of age in the Province was as follows. Ratio of stunting was 41.5% (national average 37.2%), ratio of underweight was 26.3% (national average 19.6%), and ratio of wasting was 15.7% (national average 12.1%). All the figures are higher than national averages[230].

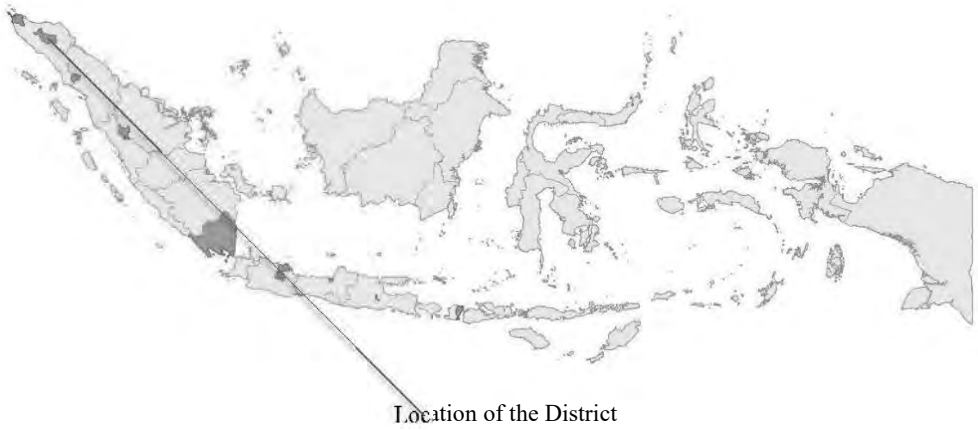
(3) Agriculture and Livestock Business related Information of the Province

- Proportion of labor force employed in the formal and informal agriculture sector in 2013 was about 45% in the Province. The number was higher than the national average 40.8%[231].
- Major agricultural and livestock products of Indonesia are rice, maize, soybeans, sugarcane, oil palm, meat, groundnuts, vegetables, and fruits. The Province accounts for high provincial market share of soybeans (ranked No.3 at 7.0% market share), and oil palm (ranked No.3 at 6.1% market share)[232].
- Major agricultural and livestock products for export is coffee. Planation crops has been prioritized

[226] "Gayo" is a name of ethnic group in the area.
[227] BPS Provinsi Aceh (2015) Aceh Dalam Angka 2015
[228] Climate Org website (2016) < http://ja.climate-data.org/> accessed June 18, 2016
[229] Cervantes-Godoy and Dewbre (2010) Economic Importance of Agriculture for Sustainable Development and Poverty Reduction: Findings from a Case Study of Indonesia
[230] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[231] Food Security Council, Ministry of Agriculture and World Food Program (2015) Food Security and Vulnerability Atlas of Indonesia 2015
[232] Prof. Dr. Bustanul Arifin (2014) The State of Indonesia's Food Security

for investment[233].

(4) Basic Information of the District



- The District is situated at central inland of the Province.
- Land area of the District was 4,454 km^2 and population was 192,204 in 2014[234]. Population density was 43 persons/km^2.
- Annual District government revenue is 1,205 billion rupiahs[235].
- Altitude of the District ranges from 200-2,600m; half of the area is at altitude between 750 and 1,500m with undulating highland. The District capital Takengon is at 1,250m elevation, facing Lake Laut Tawar (water area 55 km^2).
- Temperature is between 20-28ºC, relatively cool in Indonesia. Annual precipitation is 2,184 mm which is lower than Indonesian national average (2,700 mm). Sunshine rate (ratio of sunshine hours to hours of daylight) is 42.9%. Fog rises commonly in the morning around Lake Laut Tawar.
- Typical soil types are podzolic brown, podzolic red-yellow (conglomerate and alluvial), lithosol, complex red podzolic, complex tonzina (sedimentary rocks), andosol (igneous rocks), and latosol.

(5) Agriculture and Livestock Business related Information of the District

- Agricultural land is 54,036 ha (14,016 ha for paddy, 20,291 ha for upland, and 19,729 ha for plantation crops[236]). It accounts for 12.5% of total land area which is 431,839 ha[237].
- Major agricultural and livestock products are as follows.
  Food crops: rice, etc.
  Horticultural crops: chili peppers, shallots, potatoes, highland vegetables such as tomatoes, oranges (famous for Keprok Gayo Aceh Orange), avocados, jackfruits, etc.

[233] Global Business Guide website <http://www.gbgindonesia.com/> accessed June 18, 2016
[234] BPS Kabupaten Aceh Tengah (2015) Aceh Tengaht Dalam Angka 2015
[235] BPS Kabupaten Aceh Tengah (2015) Aceh Tengaht Dalam Angka 2015
[236] BPS Provinsi Aceh (2015) Aceh Dalam Angka 2015
[237] BPS Kabupaten Aceh Tengah (2015) Aceh Tengaht Dalam Angka 2015

Commercial corps: coffee (famous for Gayo Coffee), etc.
Livestock: buffalo, goat, etc.

- The District is a production center of Gayo Coffee. Most farmers (80-90%) cultivate coffee. Recently, sophisticated coffee shops started their business in Takengon and they are full with young people.

- Mixed planting is applied for coffee and orange cultivation. The cultivation system is called "Tumpang Sari" cultivation. Orange trees function as shade tree in the system. Farmers can avoid concentration of busy farming seasons. Harvesting seasons of coffee are November-January and March-May, whereas the harvesting season of orange is May-August.

- A type of orange, so called JC (Japanese Citron[238]), is used as rootstock for graft seedlings of Keprok Gayo Aceh Orange and Siam Orange. JC is considered as good rootstock since it is strong to disease and drying. It is also said that JC can speed up orange trees growing.

(6) Situation of Agro-processing

- The most famous product for agro-processing is Gayo Coffee. It is nationally and internationally known. There is a large scale coffee producers' cooperative in Takengon supported by USAID etc. The cooperative is exporting coffee to the USA and other countries after applying quality control. There are also buyers visiting Central Aceh to procure coffee directly from producers. Previously, coffee was exported in the form of raw beans but it is now exported after primary processing or roasting. It could be recognized as a successful case of sixth industrialization in Indonesia. Recently, many coffee shops serving Gayo Coffee started business in Takengon or Aceh Province and visited by many young people.

- Although sixth industrialization of coffee became successful, agro-processing of other products including oranges is not taken place.

(7) Interests in Collaborating with Japan

The District is interested in collaborating with Japan under the theme of cultivating and processing of oranges such as JC and Keprok Gayo Aceh.

[238] Despite the orange is called "Japanese Citron (JC)" in Central Aceh, it seems different from Yuzu in Japan.

Tumpang Sari (mixed) cultivation of
Gayo Coffee and Keprok Gayo Aceh Orange

Nursery center at Takengon
(graft seedling of Keprok Gayo Aceh Orange
using JC as rootstock)

Entrance of processing factory of the Coffee
Producers' Cooperative

Processing factory of the Coffee Producers'
Cooperative

5.2.12 Aceh Besar District

(1) Summary

Aceh Besar District is located in the northeast of Aceh Province. The District surrounds Banda Aceh, capital City of Aceh Province. Most of the territory lies on mainland and the rest of that lies on the archipelago.

(2) Basic Information of the District

Location of the District　　Aceh Besar District

- Aceh Besar District consists of 23 sub-districts, 68 administrative units, and 604 villages.
- Total land area is 2,974 km^2. Total population was 384,618 persons in 2014 and population density was 129 person/km^2. The revenue of the District is 1,266 billion rupiahs[239].
- The District lies on the coastal area to mountainous area at 1700m above sea level. 44% of the total land is slope land.
- The District is located in the equatorial area with its temperature of 25-29ºC.

(3) Agriculture and Livestock Business related Information of the District

- Agricultural land is 94,176 ha accounting for 31.7% of the total area. Suitable area for paddy is 23,000 ha and that for horticulture is 13,000 ha. 59% of the total area is protected area which is 171,362 ha. Most of protected area is forest area[240].
- Major agricultural and livestock products are as follows.

  Food crops: rice, cassava, maize, soybeans, mungbeans, groundnuts.
  Horticultural crops: chili peppers, spinaches, rambutan, watermelons, bananas, mangoes, papayas
  Commercial corps: coconuts, candle nuts, pinang, etc.
  Livestock: cattle, buffalo, goat, ground cock, broiler, etc.
- Aceh Besar has the first irrigation scheme in Aceh Province. Aceh Besar provides agricultural products to the capital City, Banda Aceh.
- Agro-tourism activities are envisaged in Saree located in the east of the District. It combines roadside coffee shop for tourists and fruit harvesting in the horticultural center. Saree sub-district prepared a master plan which contained the development and improvement of bus terminal, access road, restaurants, and shop street. Horticulture center also has a plan to develop and improve destination place, shop, guesthouse, and walk way. Passengers between Medan and Banda Aceh that amount to 1,000-3,000 persons a day on weekend pass through Saree. Their plan expects these

[239] Aceh Besar Dalam Angka 2015
[240] Aceh Besar Dalam Angka 2015

passengers to stop and rest in Saree.

- Aceh Besar is the most promoted area for livestock. The number of the beef cattle is the second highest in the Province and those of buffalo, goat, poultry for eggs and broilers are the first place in the Province. They expect the investment in breeding cattle feeding and production of frozen beef.

(4) Situation of Agro-processing

One of the major agro-processing products in Aceg Busar is fried chip of cassava. This is not specific product in Aceh Busar but seen everywhere in Indonesia. In Saree, Department of Agriculture collaborating with farmer groups and agricultural high school has started developed new products such as taro juice for adding value. Women group in rural areas are involved in this processing.

(5) Interests in Collaborating with Japan

The District is interested in collaborating with Japan under the theme of agro-tourism and gastropolis, especially agro-tourism promotion in Saree.

Coffee shop in Saree


Horticulture center in Saree

5.2.13 Banda Aceh City

(1) Summary

Banda Aceh City it the capital of the Aceh Province located in the northwestern coast of the Province. The City is known for the place where Muslim was initially introduced to Indonesia. Recently, the City promotes tourism to invite several events and meeting. Masjid Raya Baiturrahman and the Tsunami museum are tourism destination of the City.

The City has restaurants and coffee shops where they provide specialty foods such as Mie Aceh, curry with bonito/tuna curry and Aceh coffee.

(2) Basic Information of the City

Location of the City

Map of Banda Aceh City
Source: Banda Aceh in Figure 2015

- Banda Aceh City consists of 9 sub-districts of which 5 are coastal districts. Fisheries have a potential for development; Banda Aceh tries to improve fishery facilities such as cold storage.
- Total land area is 61.36 km^2. Total population was 249,282 persons in 2014 and population density is 4,063 person/km^2 [241].
- The City is located in the equatorial area with its average temperature of 25-29ºC[242].

(3) Agriculture and Livestock Business related Information of the City

- Agricultural land is 282 ha accounting for 4.5% of the total area. Suitable area for paddy is only 72 ha. Most agricultural products are from North Sumatra Province[243].
- Major agricultural and livestock products are as follows.

[241] Banda Aceh in Figure 2015
[242] Banda Aceh in Figure 2015
[243] Banda Aceh in Figure 2015

Food crops: rice
Horticultural crops: mangoes, jackfruits
Commercial corps: N/A
Livestock: N/A

(4) Situation of Agro-processing

Food processing of fishery products are popular in Banda Aceh. Agro-processing is not developed as those for marine products. Major agro-processing products are *dendeng* (dried beef), bean curd, and *tempeh*.

(5) Interests in Collaborating with Japan

The City is interested in collaborating with Japan under the theme of gastropolis.

Chapter 6 Matchmaking Results and Future Direction of Collaboration

6.1 Mutual Field Visits to Substantiate the Partnership

6.1.1 Selected Most Likely Partnership

As explained in Chapter 4, the following local governments shown in Table 6.1 participated in the mutual field visits (two visits by the Japanese local governments to Indonesia and one visit by the Indonesian side to Japan) organized by the present study. This section presents the overview of these visits.

Table 6.1 Partnership Pairs and their Participation in the Field Visits

	Japanese Local Gov.	Indonesian Local Gov.	Possible Theme of Cooperation	1st Visit to Indonesia	Visit to Japan	2nd Visit to Indonesia
1	Fukushima City, Fukushima Prefecture	Malang City and Batu City, East Java Province	Agricultural promotion through agricultural-commercial-industrial integration in fruits production and processing	○	○	○
2	Minamiboso City, Chiba Prefecture	Tomohon City, North Sulawesi Province	Agriculture and tourism promotion through roadside station	○	○	○
3	Ochi Town, Kochi Prefecture	Central Aceh District, Aceh Province	Agricultural promotion through utilization of local citrus fruits	○	○	○
4	Kobe City, Hyogo Prefecture	Semarang City, Central Java Province	Promotion of urban neighborhood agriculture through the concept of "Gastropolis"		×(tried 3 times, but not realized)	○
(5)	Hyogo Prefecture	East Lombok District, West Nusa Tenggara Province	Not decided at the time of mutual visit (as a result of mutual visit, decided as agricultural exchange)		○ (participated without candidate partner)	○

Note: No.5 is not matchmaking, but exchange. Hyogo and East Lombok became exchange partners after 2nd visit to Indonesia.
(Source: JICA Study Team)

6.1.2 1st Field Visit in Indonesia by Japanese Local Governments

The 1st field visit in Indonesia by Japanese local governments was held from July 24th to August 2nd, 2016 (Fukushima Team joined until July 29th due to participants' schedule). As mentioned in 4.3 of this report, the field visit was conducted in three teams, i.e., Fukushima Team, Minamiboso Team, and Kochi Team, based on the destination shown in Table 6.1. Table 6.2 shows the participants from each Japanese local government.

Table 6.2 1st Field Visit Participants from Japanese Local Governments

Name of Local Gov.	Position
Fukushima City, Fukushima Pref.	Chief, 6th industrialization Subsection, Agricultural Promotion Section, Agricultural Policy Planning Department, Fukushima City
	Director, Planning Department, JA Fukushima Mirai
	President, Ginray Co., Ltd.
Minamiboso City, Chiba Pref.	Vice Director, Planning and Finance Department, General Affairs Division, Minamiboso City
	Vice President, Chibaminamiboso Inc.
Ochi Town, Kochi Pref.	JICA Shikoku Branch Office
	President, Okabayashi Farm Co., Ltd.

The schedule of the 1st field visit in Indonesia is shown in Table 6.3. Common activities for all three teams were; a) discussion and presentation on agricultural promotion policies and expectations on cooperation with Indonesian local governments by Japanese local governments at MoA of Indonesia, and b) reporting to the Embassy of Japan in Jakarta and JICA Indonesia Office[244]. Report to MoA of Indonesia was also scheduled, but it was canceled due to MoA's schedule; thus, it was conducted by the Study Team on August 2nd. Also, each team discussed where and what to observe in the coming Japan Visit Program by Indonesian local governments based on the survey results. Following is the detailed activities of each team.

Fukushima Team visited Malang City and Batu City in East Java Province. As a result of discussion with Agricultural Offices in the two cities and field visit to fruit processing factories and apple tourism farms, participants from Fukushima noticed that they put emphasis on processing before establishing supply chain for fresh fruits, and considering all that, there were not so much varieties in processing products in Malang and Batu. Fukushima team perceived that it would be better to put more emphasis on producing good quality fresh fruits. For future direction, Fukushima team and Malang/Batu agreed that they would try to have the common vision so that they can cope with globalization, and for that purpose, Fukushima team would further explain the concept of "Fukushima Model" for 6th industrialization of agriculture in the coming Japan Visit Program.

Minamiboso Team visited Tomohon City in North Sulawesi Province. Minamiboso City expects to implement a technical cooperation project to introduce roadside station in Tomohon through JICA Partnership Program (JPP) after this Study. Through discussions with BAPPEDA (Badan Perencanaan Pembangunan Daerah) North Sulawesi Province, Mayor of Tomohon City, BAPPEDA, Agriculture, Tourism and other related offices of Tomohon City, the intention of Tomohon City was confirmed that it would promote agriculture and tourism through roadside station. It was also confirmed that Tomohon City strongly expected cooperation with Minamiboso City for its technical transfer on establishment and management of roadside station. Thus, Minamiboso team conducted field visits to consider where to establish the roadside station, what would be the key content of the roadside station, what to sell at the roadside station (flowers, processed agricultural products, etc.), what type of

[244] Report to Embassy of Japan and JICA Indonesia Office was made by Minamiboso Team and Kochi Team, as Fukushima Team already left for Japan.

tourism to promote, and so on.

As a result, the team found out that there were many tourism resources in Tomohon, and there was a possibility to induce much more tourists to visit Tomohon if it appeals itself together with nearby Manado (Bunaken Island) etc. that are already popular among foreign tourists. On the other hand, the team was not able to find the special products to be the key products to sell at the roadside station. Therefore, they recognized the necessity to verify the tourism resources in broader areas including Manado and Bitung, to identify where to establish the roadside station, to clarify the concept of Tomohon roadside station, and to prepare for the JPP proposal together with Tomohon City in the next field visit in Indonesia.

Kochi Team visited Banda Aceh, the capital city of Aceh Province and Central Aceh District. There, they discussed with BAPPEDA and related offices of Aceh Province, vice governor of Central Aceh, and BAPPEDA and related offices of Central Aceh District. They also visited markets in Takengon, the capital city of Central Aceh, seedling center of Central Aceh, and coffee/orange farmers, and discussed with Orange Producers' Association members. As a result, they found out that the local "Japanche Citroen" (JC) similar to Japanese "yuzu" identified in the 1st field survey of the study was not the same as Yuzu, mixed planting of coffee and oranges was usually applied in this region and their production technique was rather high and fields were managed well, and currently oranges were sold to local markets and consumed locally. They recognized that to proceed the cooperation between Ochi Town and Central Aceh District further, first of all, it is necessary to develop Indonesian human resource who can be the business partner of Okabayashi Farm, and for that purpose, further involvement of local government in Japanese side is essential.

Table 6.3 Schedule of 1st Field Visit in Indonesia by the Japanese Local Governments

Team			Fukushima Team	Kochi Team	Minamiboso Team
Destination			East Java Province Malang City, Batu City	Aceh Province Aceh Tengah District	North Sulawesi Province Tomohon City
2016/7/24	Sun	AM	Travel by air (Haneda 10:15→JKT 15:55 NH855) (with Kikuchi)	Travel by air (Haneda 10:15→JKT 15:55 NH855) (with Kikuchi)	Travel by air (Haneda 10:15→JKT 15:55 NH855) (with Kikuchi)
		PM	Move from Airport (JKT) to Hotel (with Kikuchi) Stay at Century Park Hotel (JKT)	Move from Airport (JKT) to Hotel (with Kikuchi) Stay at Century Park Hotel (JKT)	Move from Airport (JKT) to Hotel (with Kikuchi) Stay at Century Park Hotel (JKT)
2016/7/25	Mon	AM	9:00 Meeting at the Ministry of Agriculture of Indonesia	9:00 Meeting at the Ministry of Agriculture of Indonesia	9:00 Meeting at the Ministry of Agriculture of Indonesia
		PM	Courtesy Call at JICA Indonesia Field Survey at Markets in Jakarta Stay at Century Park Hotel (JKT)	Travel by air (JKT 12:25→Banda Aceh 16:45 QG836+QG992) Stay at Hermes Palace Hotel (Banda Aceh)	Travel by air (JKT 13:15→Manado 17:35 GA626) Stay at Swiss Belhotel Maleosan Manado
2016/7/26	Tue	AM	Travel by air (JKT 08 : 50→ Surabaya 10 : 25 GA308) Travel by land (Surabaya→Malang 2hours)	9:00 Meeting at BAPPEDA Aceh Province (with Office of Agriculture, Aceh Prov.)	10:00 Meeting at BAPPEDA Province Sulawesi Utara (with Office of Agriculture & Livestock) Presentation by Minamiboso Team
		PM	13:00 Meeting at Office of Agriculture, Kota Malang Presentation by Fukushima Team 15:00 Field Visit in Malang (fruit processing factories CV. Kajeye Food, etc.) 21:00 Visit Gadang Market (fruits market) Stay at Hotel Santika Premier Malang	Travel by land (Banda Aceh→ Takengon 8hours) Stay at Bayu Hill Hotel (Takengon)	Travel by land (Manado→Tomohon 1hour) 15:00 Meeting at Bappeda Kota Tomohon Stay at Gardenia Country Inn (Tomohon)
2016/7/27	Wed	AM	8:00 Start from Hotel Santika Malang Travel by land (Malang→Batu 0.5hour) 9:00 Meeting at Office of Agriculture, Kota Batu Presentation by Fukushima Team	9:00 Meeting with Office of Agriculture and BAPPEDA, Kab. Aceh Tengah Presentation by Kochi Team 10:30 Field survey at markets in Takengon 11:00 Field survey at seedling center, Kab. Aceh Tengah	10:00 Presentation and discussion with Mayor of Tomohon, BAPPEDA, Office of Agriculture, and other related offices @Showwindow
		PM	11:00-16:00 Field Visit in Batu (apple farmers, apple processd food maker, highland vegetable cultivation, etc..) Stay at Kartika Wijaya Hotel (Batu)	12:30 Site visit to orange/coffee fields 17:00 Interview and discussion with Orange Producers Assosication Stay at Bayu Hill Hotel (Takengon)	14:00 Field visit (vegetable fields, tourists sites) Stay at Gardenia Country Inn (Tomohon)
2016/7/28	Thu	AM	9:00 Meeting at Office of Agriculture, Kota Batu 10:30 Visit Sourvenior Shop, Batu 12:00 Visit Sourvenior Shop, Malang Travel by land (Batu→Surabaya 2.5hours)	9:30 Coutesy call & Meeting at Governor office (with vice governor)	8:00 Field visit (sightseeing and cultural sites)
		PM	Travel by air (Surabaya 15:50→JKT 17:25 GA321) Travel by air (JKT 21:25→Haneda 07:10+1 NH856) Overnight Flight	Travel by land (Takengon→Banda Aceh 8hours)	13:00 Field visit (traditional handicrafts, flower farmers) Stay at Gardenia Country Inn (Tomohon)
2016/7/29	Fri	AM	Arrive at Haneda 07:10		9:00 Wrap-up meeting at BAPPEDA Tomohon City(with Agricultural and Tourism Agencies)
		PM		14:30 Coutesy call to Head of BAPPEDA Presentation by Kochi Team Meeting at BAPPEDA Aceh Province (with Office of Agriculture, Aceh Prov.) Stay at Hermes Palace Hotel (Banda Aceh)	Travel by land (Tomohon→Manado 1 hour) Travel by air (Manado 16:15→Jakarta 18:25 GA601) Stay at Century Park Hotel (JKT)
2016/7/30	Sat	AM		Travel by air (Banda Aceh 10:05→ JKT 12:55 GA141)	Day Off
		PM		Stay at Century Park Hotel (JKT)	Stay at Century Park Hotel (JKT)
2016/7/31	Sun	AM		Day Off	Day Off
		PM		Stay at Century Park Hotel (JKT)	Stay at Century Park Hotel (JKT)
2016/8/1	Mon	AM		9:00 Reporting survey results at JICA Indonesia Office	9:00 Reporting survey results at JICA Indonesia Office
		PM		13:30 Reporting survey results at Embassy of Japan Travel by air (JKT 21:25→Haneda 07:10+1 NH856)	13:30 Reporting survey results at Embassy of Japan Travel by air (JKT 21:25→Haneda 07:10+1 NH856)
2016/8/2	Tue	AM		Arrive at Haneda 07:10	Arrive at Haneda 07:10
			10:00 Meeting on field survey results and Japan visit with MOA (by consultant team)		

6.1.3 Overview of Japan Visit Program

Stakeholders from Indonesian local governments were invited to Japan for 10 days from 6th to 15th of September, 2016. This Japan Visit Program was aimed at; a) understanding the activities by Japanese local governments and private sector for agricultural and regional development through lectures and visit to government offices, JA, roadside stations and other related facilities, and b) considering future possible cooperation with prospective partner local government (As mentioned in 4.3 (3) of this report, participants from Semarang City, the prospective partner of Kobe City were not able to join the program. Participants from East Lombok District participated in the program based on the proposal by JICA for the purpose of knowledge exchange. The mayor of Tomohon City, North Sulawesi Province was enthusiastic about the partnership with Minamiboso City and was to participate in the program on their own budget. Minamiboso City was going to accept his visit. However, MoA requested that the mayor should visit Minamiboso City after the partnership between the two cities settled down. Thus, the mayor decided not to join the program in September. In December, 2016, outside the scope of this study, members of the municipal assembly of Tomohon visited Minamiboso City. The mayor himself still seeks for the opportunity to visit Minamiboso).

As shown in the Table below, nine members from four Indonesian local governments and MoA participated in the program, and they visited Japanese local governments in two teams, namely, "Agriculture and Tourism Team" (visited Minamiboso, Hyogo, and Kobe), and "Fruit Production and Processing Team" (visited Kochi, Ochi, and Fukushima).

Table 6.4 Participants of Japan Visit Program and Destination in Japan

Destination in Japan	No	Indonesian Local Gov. / Position
● Minamiboso City ● Hyogo Pref. ● Kobe City	**Ministry of Agriculture**	
	1	Head of Asia and Pacific Sub Division, Center for International Cooperation
	Tomohon City, North Sulawesi Province	
	2	Head of Agriculture, Livestock and Fisheries
	3	Head of BAPPEDA
	East Lombok District, West Nusa Tenggara Province	
	4	Head, Office of Agriculture and Livestock
	5	Head of BAPPEDA
● Kochi Pref. & Ochi Town ● Fukushima City	**Malang City and Batu City, East Java Province**	
	6	Head of Section Agro business and Socialization, Office of Agricultural Agency of Malang City
	7	Head of Agricultural and Forestry Services
	Central Aceh District, Aceh Province	
	8	Head of Increasing Seed Production, Aceh Province
	9	Head of Paddy and Palawija Production, Central Aceh District

The detailed schedule of each team is shown in Table 6.5. Common activities were; a) courtesy call to the Embassy of Indonesia in Tokyo, b) lecture on agricultural promotion and PPP in Japan, c) lecture on JICA schemes for future partnership programs, d) visit to "antenna shops," selling local specialty products, of local governments, and e) reporting session on the results of Japan Visit. In each local government, participants had lectures on agriculture/regional development promotion policies and

visited roadside stations, processing factories, Japan Agricultural Cooperatives (JA) and related facilities. There, they learned each local government has been making efforts, responding to the local needs and situation. Also, prospective partner local governments discussed the activities to do in the coming 2nd field visit in Indonesia, and future direction of partnership.

The following is the main contents of the presentations by participants from each City/District from Indonesia at the reporting session of Japan Visit Program.

(1) Malang City and Batu City, East java Province

In Malang and Batu, organic farming is active. Malang City has large-scale agriproduct market, and both cities attract many tourists. However, in Indonesia, agriproducts are commonly sold at traditional markets, and there has not yet been the system of farmers' direct sales market like JA in Japan. We eager to introduce the system in Indonesia. Within the partnership with Fukushima City, we hope to develop human resources.

(2) Tomohon City, North Sulawesi Province

Agricultural promotion policy in Minamiboso City is consistent from production to marketing. In Kobe City, the policy is also consistent, and it promotes agriculture together with other sectors such as tourism. Based on what we observed in Japan, the level of agro-processing and marketing needs to be raised, and infrastructure and information dissemination for tourism should be developed more in Tomohon. In the partnership with Minamiboso City, we hope to develop human resources on management of roadside station. In the partnership, Tomohon City will establish roadside station and information dissemination hub. To seek for win-win relationship, we will be able to introduce roadside stations in Minamiboso and show loquat products video at Tomohon roadside station.

(3) Central Aceh District, Aceh province

As we learned policies and activities in Kochi Prefecture and Umaji village and Ochi town, we though prefectural and municipal governments collaborate well in agricultural and regional development. In Umaji and Ochi, there are variety of processed products. In Fukushima City, 6th industrialization is active, and they utilize tourism well in promoting agriculture. We would like to introduce these knowhow in Aceh, too. In the partnership with Kochi/Ochi, we expect human resource development and facilities for 6th industrialization.

(4) East Lombok District, West Nusa Tenggara Province

What we learned in this program is that we should not wait the partner to appear, but rather, we should take initiative to find our own partner. The key word is "consistent policy, and gradually involve all stakeholders". We want to promote our region through agriculture and tourism, and especially, there is a necessity for value-addition on agriproducts. There is tourism resource, but is not effectively utilized to attract overnight tourists.

Table 6.5 Schedule of Japan Visit Program

<Agriculture and Tourism Team>

Date	Time	Activities
6-Sep	~	Jakarta (6:15) →Narita (15:50) (ANA836)
	16:30 ~ 18:00	Arrive at Narita, Move to hotel
	18:00 ~ 19:00	Orientation on Stay in Japan
7-Sep	8:30 ~ 9:00	Move to Embassy of Indonesia in Tokyo
	9:00 ~ 9:30	Courtesy Call on Embassy of Indonesia in Tokyo
	10:30 ~ 11:30	Program Orientation
	11:30 ~ 13:00	Lunch
	13:00 ~ 14:30	Lecture on Agricultural Promotion and PPP in Japan
	15:00 ~ 17:00	Lecture on JICA Schemes for Future Partnership Programs
	18:00 ~ 19:30	Dinner with JICA
	19:30 ~ 20:00	Move to hotel
8-Sep	10:00 ~ 12:00	Move to Umihotaru
	12:00 ~ 13:00	Move to Minamiboso City Office
	13:30 ~ 14:00	Courtesy Call on Vice Mayor of Minamiboso City
	14:10 ~ 15:00	Field visit: Roadside Station Hana Kurabu
	15:10 ~ 17:00	Field visit: Roadside Station Tomiura Biwa Kurabu
	17:00 ~ 17:30	Move to hotel
9-Sep	8:30 ~ 9:30	Move to Roadside Station Chikura Shiokaze
	9:30 ~ 10:30	Field visit: Roadside Station Chikura Shiokaze
	11:00 ~ 12:00	Field visit: Roadside Station Wadaura WAO
	12:30 ~ 14:00	Lunch @ organic farm restaurant/ lecture on organic farming
	14:30 ~ 16:00	Field visit: 6th industrialization of agriculture
	16:40 ~ 17:40	Field visit: Roadside Station Furari Tomiyama
	17:40 ~ 18:00	Move to hotel
10-Sep	8:30 ~ 8:40	Move to Roadside Station Tomiura Biwa Kurabu
	9:00 ~ 10:30	Lecture on Agricultural Promotion Policy of Minamiboso City
	10:40 ~ 12:10	Lecture on Management Methods of Roadside Stations
	12:10 ~ 13:30	Lunch
	13:30 ~ 15:00	Reflection and discussion on way forward
	15:00 ~ 17:00	Move to Tokyo
11-Sep	12:30 ~ 13:00	Check-out
	13:17 ~ 15:55	Move (Shinagawa-Shin Kobe)
	16:00 ~ 16:30	Move to Hotel
12-Sep	8:15 ~ 9:00	Move to Oshibedani Orchard
	9:00 ~ 9:30	Field visit: Oshibedani Orchard
	9:30 ~ 10:00	Field visit: Kobe Winery
	10:00 ~ 10:30	Field visit: Rokko no Megumi
	11:00 ~ 12:00	Field visit: Yuge Farm
	12:00 ~ 13:00	Lunch @ Yuge Farm
	13:30 ~ 14:00	Courtesy call on Kobe City Office
	14:10 ~ 15:30	Lecture on Culinary City, Kobe
	17:00 ~ 17:30	Courtesy call on JICA Kansai Office
	17:30 ~ 18:00	Move to hotel
13-Sep	8:45 ~ 8:50	Move to Hyogo Prefectural Office
	9:00 ~ 9:30	Courtesy call on Hyogo Prefectural Office
	9:30 ~ 10:30	Lecture on Agricultural Promotion Policy of Hyogo Prefecture
	10:30 ~ 11:30	Move to Awaji Mengyo
	11:30 ~ 13:30	Field visit: Awaji Mengyo and lunch
	14:00 ~ 14:30	Field visit: Awaji Hana Sajiki
	15:30 ~ 18:30	Move (Shin Kobe- Tokyo)
14-Sep	9:00 ~ 9:30	Move to JICA
	9:30 ~ 10:00	Paper works
	10:00 ~ 12:35	Reporting session on results of Japan Visit
	12:40 ~ 13:30	Lunch
	14:00 ~ 15:00	Field visit: Antenna Shops of several prefectures in Tokyo
	15:30 ~ 18:30	Visit Asakusa, Akihabara
15-Sep	7:00 ~ 8:15	Move to Haneda
	10:00 ~ 16:00	Haneda—Jakarta (10:15-15:55, ANA855)

<Fruit Production and Processing Team>

Date	Time	Activities
6-Sep	～	Jakarta (6:15) →Narita (15:50) (ANA836)
	16:30 ～ 18:00	Move to hotel
	18:00 ～ 19:00	Orientation on Stay in Japan
7-Sep	8:30 ～ 9:00	Move to Embassy of Indonesia in Tokyo
	9:00 ～ 9:30	Courtesy Call on Embassy of Indonesia in Tokyo
	10:30 ～ 11:30	Program Orientation
	11:30 ～ 13:00	Lunch
	13:00 ～ 14:30	Lecture on Agricultural Promotion and PPP in Japan
	15:00 ～ 17:00	Lecture on JICA Schemes for Future Partnership Programs
	18:00 ～ 19:30	Dinner with JICA
	19:30 ～ 20:00	Move to hotel
8-Sep	6:00 ～ 11:30	Haneda—Kochi (8:00—9:25) (NAN561) Move (Kochi—Umajimura)
	11:30 ～ 13:00	Lunch
	13:00 ～ 14:30	Lecture by JA Umajimura
	14:30 ～ 15:30	Field visit: JA Umajimura, Processing factory of Yuzu
	15:30 ～ 17:30	Move (Umajimura-Kochi)
9-Sep	8:00 ～ 9:00	Move (Kochi City-Ochi Town)
	9:00 ～ 10:30	Lecture on Ochi Town Regional Development Action Plan
	10:40 ～ 11:30	Field visit: Ochi Tourist Direct Sales Shops
	11:30 ～ 13:00	Lunch
	13:30 ～ 14:30	Courtesy Call on Ochi Town Office
	14:40 ～ 15:40	Field visit: Okabayashi Farm, Processing factory
	15:40 ～ 17:30	Lecture by Okabayashi Farm
	17:30 ～ 18:30	Move (Ochi Town-Kochi City)
10-Sep	9:00 ～ 10:00	Move (Kochi City-Ochi Town)
	10:00 ～ 11:30	Lecture on Regional Development Action Plan by Kochi Prefecture
	11:30 ～ 12:50	Lunch
	13:00 ～ 14:30	Workshop: Yuzu Processing
	14:40 ～ 16:00	Discussion with Okabayashi Farm
	16:00 ～ 17:00	Move (Ochi Town-Kochi City)
11-Sep	8:30 ～ 9:00	Move to airport
	9:00 ～ 11:30	Kochi—Haneda (10:10-11:30, ANA564)
	12:30 ～ 13:00	Move (Haneda-Tokyo)
	14:00 ～ 15:40	Move (Tokyo-Fukushima)
	16:00 ～ 18:00	Sightseeing in Fukushima City
12-Sep	8:30 ～ 10:00	Visit Fukushima Minkaen
	11:00 ～ 12:00	Field visit: Vegetable cutting factory
	12:30 ～ 14:00	Lunch
	14:30 ～ 16:00	Lecture on Agricultural Promotion Poloicy of Fukushima City
	16:00 ～ 16:30	Courtesy Call on Fukushima City Office
	16:30 ～ 17:00	Move to hotel
13-Sep	8:30 ～ 8:50	Move to JA Fukushima Mirai
	9:00 ～ 10:00	Field visit: JA Fukushima Mirai, JA direct sales shop
	10:00 ～ 12:00	Field visit: JA Fruit sorting facility, JA Farming support center
	12:15 ～ 13:15	Lunch
	13:30 ～ 15:00	Field visit: Tourist Farm
	15:00 ～ 18:00	Move (Fukushima-Tokyo)
14-Sep	9:00 ～ 9:30	Move to JICA
	9:30 ～ 10:00	Paper works
	10:00 ～ 12:35	Reporting session on results of Japan Visit
	12:40 ～ 13:30	Lunch
	14:00 ～ 15:00	Field visit: Antenna Shops of several prefectures in Tokyo
	15:30 ～ 18:30	Visit Asakusa, Akihabara
15-Sep	7:00 ～ 8:15	Move to Haneda
	10:00 ～ 16:00	Haneda—Jakarta (10:15-15:55, ANA855)

6.1.4 2nd Field Visit in Indonesia by Japanese Local Governments

The Japanese local governments visited Indonesia for the second time under this study from September 27th to November 3rd, 2016. Unlike the 1st field visit, Japanese local governments visited Indonesia in separate schedules since it was impossible to find dates that are suitable for all participants. The participants and schedule are shown in Table 6.6. The detailed activities of each team are presented in Table 6.7.

Table 6.6 2st Field Visit Participants from Japanese Local Governments

Schedule of Visit	Name of Local Gov.	Position
Sep. 27th – Oct. 6th	Minamiboso City, Chiba Prefecture	Vice President, Chibaminamiboso Inc.
		General Manager, Director, Chibaminamiboso Inc.
Oct. 13th – 18th	Hyogo Prefecture	Assistant Manager, Agricultural Innovation, Agricultural Administration Division, Agricultural & Environmental Affairs Department
		Assistant Director, Agriculture & Horticulture Division, Agricultural & Environmental Affairs Department
	Kobe City, Hyogo Prefecture	Director, Agricultural Promotion Center
		Assistant Manager, Agriculture and Fisheries Promotion Division, Economic and Tourism Bureau
Oct. 16th-22nd	Ochi Town, Kochi Prefecture	Mayor, Ochi Town
		President, Okabayashi Farm Co., Ltd.
		Manufacturing Manager, Okabayashi Farm Co., Ltd.
Oct. 30th-Nov. 3rd	Fukushima City, Fukushima Prefecture	President, Ginray Co., Ltd.
		Professor, Chuo Graduate School of Strategic Management, Chuo University

Following up on the findings of the 1st field visit, Minamiboso City interviewed the Office of Agriculture, Livestock and Fishery, Office of Culture and Tourism, farmer groups, and private actors in the tourism sector, and researched the situation of agriculture and tourism in Tomohon City. As for the agriculture, the team focused on grasping the situation of organic vegetable farming and flower farming. In terms of tourism, the team visited major tourist attractions that were not visited last time in and around Tomohon, through which the team grasped Tomohon's relative position and potential. As a result, the Minamiboso team found that the potential of tourism in Tomohon was high in the area and the city even had the potential to function as a hub for various tourist attractions in the area. The two cities agreed to implement a roadside station project utilizing the JICA's JPP scheme starting from the next year. The two sides discussed and agreed on the direction of JPP project, counterpart, and division of roles.

Hyogo Prefecture participated in the 2nd field visit as a case with no proposed partner. Therefore, there was no participant from the private sector. However, as explained later, the destination of Hyogo Prefecture was changed to East Lombok District from the originally planned Semarang City. Hyogo Prefecture energetically utilized the limited time to visit farms and tourism sites, meet with farmers' groups, and discuss with district officials, based on the will of the district to develop a roadside station.

This visit was the first meeting between Kobe City and Semarang City since Kobe City did not

participate in the 1st visit and Semarang City did not participate in the Japan Visit Program. There was no participant from the private sector from Kobe City. During the visit, Kobe City presented its "culinary city" initiative to Semarang City. Participants from the city also visited suburban agriculture sites, agro-tourism sites, and tourism development sites in Semarang City. Then, the two sides discussed the possibility of partnership. They confirmed that they share common characteristics such as port, the city famous for foods, and history of cross cultural exchange. On the other hand, as mentioned in the following section, some differences and challenges for partnership were also identified.

In the 1st visit to Indonesia, only a private company representative participated from Ochi Town, Kochi Prefecture. In the 2nd visit, the mayor of the town participated in the visit. The mayor and the team met with the head of the Office of Agriculture of Aceh Province and the Governor of Central Aceh District. The team also conducted site visits to the farms and a market, and discussed with farmers' groups. The two local governments discussed the long-term roadmap prepared by the Japanese side based on the result of the 1st visit, and agreed in principle to start partnership with human resource development (HRD) with a view to expanding it to business development in the future. The basis of the cooperation is to discover hidden local resources such as unused citrus fruits and to respect local values.

Fukushima City originally expected to partner with the area centered on Malang City in fruits processing. However, as the result of the 1st visit to Indonesia, the team found out that there was larger chance for cooperation in production. Therefore, the 2nd visit focused more on Batu City, the production center of apple, and the team visited farmers' groups and discussed with the stakeholders on the future cooperation.

Table 6.7 Schedule of 2nd Field Visit in Indonesia by the Japanese Local Governments

<Minamiboso Team>

			Mimamiboso Team
Destination			Tomohon City, North Sulawesi Province
9/27	Tue	AM	Travel by air (Haneda 10.15→JKT 15.55 NH855)
		PM	Move from airport (JKT) to hotel Stay at Swiss-Belhotel Airport Jakarta (JKT)
9/28	Wed	AM	Travel by air (JKT 5.30→Manado 9.55 GA602) Travel by land (Manado → Tomohon 1h) Lunch
		PM	12.30-13.30 Flower market "Pasar Bunga" and traditional market "Pasar Tomohon" 14.20-14:50 Courtesy call to the Mayor 15:15-17:00 Discussion on JICA Partnership Program (JPP) with BAPPEDA, Agriculture Office, Tourism Office, Office of Public works, Office of Cooperative Stay at Mountain View Resort & SPA
9/29	Thu	AM	8:00 Visit flower shops 8.30-9:45 Interview with Market Public Corporation (Perusahaan Daerah Pasar: PDP) 10.00-12.00 Visit to Show Window and interview with Office of Agriculture, Livestock and Fishery Lunch
		PM	13:00-13:30 Interview with flower farmer (chrysanthemum) 14:00-16:00 Interview with Office of Culture and Tourism and Indonesia Hotel Restaurant Association (Perhimpunan Hotel dan Restoran Indonesia: PHRI) 17:00-19:30 Visit Highland Resort hotel and interview with the manager Stay at Mountain View Resort & SPA
9/30	Fri	AM	9:30-11:30 Interview with farmers' group leaders at Rurukan village
		PM	Lunch 14:00-15:30 Visit to Sugar parl processing factory (potential industrial tourism site) 16:00-16:30 Visit to processing and marketing sites of groundnuts in Kawangkoan Stay at Mountain View Resort & SPA
10/1	Sat	AM	8:00 Leave hotel. Trekking at Mount Mahawu 11:00-12:00 Visit Bukit Doa (religious tourism, park)
		PM	Lunch on the Lake Tondano Visit to Pulutan village (pottery village), Bukit Kasih and hot spring, and Stone monument "Watu Pinabetengan" Stay at Mountain View Resort & SPA
10/2	Sun	AM	8.00 Travel by land (Tomohon → Sawangan 1h) 9:00 Visit ancient cemetary with Waruga and confirm the rafting site Travel by land (Sawangan →Bitung 1jam) Visit the observatory in Airmadidi on the way Observe Bitung city (port, etc.)
		PM	Lunch Visit Taman Marga Satwa Tandurusa mini zoo Travel by land (Bitung →Tomohon 2h) Stay at Gardenia Country Inn
10/3	Mon	AM	Travel by land (Tomohon→Manado 1h) Look for the tourist information in Manado 10:00-12:30 Manado→Bunaken island with a chartered boat (45 min), observe the island, and back to Manado (1 h)
		PM	Lunch Visit the North Sulawesi Museum Travel by land (Manado → Tomohon 1h) Stay at Gardenia Country Inn
10/4	Tue	AM	9.00-11.00 Discussion on JICA Partnership Program (JPP) with BAPPEDA, Agriculture Office, Tourism Office, Office of Public works, Office of Cooperative 11:30 Courtesy call to the Mayor Travel by land (Tomohon →Manado 1h)
		PM	Lunch Travel by air (Manado 16.15→JKT 18.25 GA601) Stay at Atlet Century Hotel (JKT)
10/5	Wed	AM	10:00-11:00 Report to MoA
		PM	13:30 Report to JICA Indonesia Office Travel by air (JKT 21.25→Haneda 07.10+1 NH856)
10/6	Thu	AM	Arrive at Haneda 07.10

<Hyogo Team> <Kobe Team>

			Hyogo Team	Kobe Team
Destination			East Lombok District, West Nusa Tenggara Province	Semarang City, Central Java Province
10/13	Thu	AM	Travel by air (Osaka 10.50→Denpasar 16:50 GA883)	Travel by air (Haneda 10.15→JKT 15.55 NH855)
		PM	Travel by air (Denpasar 19:30→Lombok 20:15 GA7048) Stay at D' Max Hotel & Convention	Travel by air (JKT 19:10→Semarang 20.20 GA246) Stay at Hotel Ciputra Semarang
10/14	Fri	AM	Praya→Selong 9:00 Discussion with District Agriculture Office and BAPPEDA.	8:00-10:30 Discussion with Semarang City: Courtesy call to Deputy Mayor, Discussion with Agriculture Office, BAPPEDA, and Tourism Office. 10:40 Visit Mijen Agriculture Extention Center (BPP) 11:45 Visit to Kampung Jamu (herb garden)
		PM	Site visits in East Lombok District: Selong (port, traditional market, agri-business sub terminal, livestock market, etc.) Selong→Sembalun Stay at Pesona Rinjani	13:00 Site visit: Kebun Dinas Cepoko Gunung Pati (observe vegetables and guava farming and sales, meeting with farmers, Lunch) 16:00-17:00 Site visit: Crispy Farm Stay at Hotel Ciputra Semarang
10/15	Sat	AM	Site visits in East Lombok District: agriculture and tourism (Sembalun)	9:00-12:00 Visit to Kandri, an agro-tourism village
		PM	Site visits in East Lombok District: agriculture and tourism (Sembalun) Sembalun→Selong Wrap up meeting with East Lombok District Stay at Green Hayaq Hotel	13:00-17:00 Presentation on and site visit to Kota Lama Stay at Hotel Ciputra Semarang
10/16	Sun	AM	Selong→Sengigi	Site visit: Tourist attractions 8:30 Visit to Hortifarm (horticulture farm for tourists)
		PM	Observation of Sengigi Stay at Kila Sengigi Meach Hotel	cont. Stay at Hotel Ciputra Semarang
10/17	Mon	AM	Travel by air (Lombok 9:40 →JKT 10:40 GA435)	8:00-9:30 Wrap-up discussion with Semarang City
		PM	13:30 Report to JICA Travel by air (JKT 19:35→Kuala Lumpur 22:40 MH724, Kuala Lumpur 23:45-Osaka 07:15+1)	Travel by air (Semarang 13:50 →JKT 15:00 GA239) 17:00 Report to JICA Office Travel by air (JKT 23:30→Haneda 05:50+1 NH5480)
10/18	Tue	AM	Arrive at Osaka 7:15	Arrive at Haneda 08:50

<Kochi Team>

			Kochi Team
Destination			Central Aceh District, Aceh Province
10/16	Sun	AM	Travel by air(Haneda 10.15→JKT15.55 NH855)
		PM	Move from airport (JKT) to hotel Stay at Ibis Styles Jakarta Airport (JKT)
10/17	Mon	AM	Travel by air (JKT 6:30→Banda Aceh 9:20 GA140) Travel by land (Banda Aceh→Takengon)
		PM	19:30 Discussion over dinner with Governor of Central Aceh District Stay at Bayu Hill Hotel (Takengon)
10/18	Tue	AM	8:00 Visit market in Takengon 9.00 Discussion with coffee farmers group 10.00 Discussion with orange farmers group 11:00 Visit coffee/orange mixed production site
		PM	13:30 Discussion at District Agriculture and Food Crops Office of Central Aceh 16:30 Observatory with a panoramic view of Takengon Stay at Bayu Hill Hotel (Takengon)
10/19	Wed	AM	10.00 Travel by land (Takengon→Banda Aceh)
		PM	Stay at Hermes Palace Hotel (Banda Aceh)
10/20	Thu	AM	9.00 Courtesy call and Discussion with Provincial Agriculture and Food Crops Office of Aceh
		PM	Travel by air (Banda Aceh 15.40→JKT 18.35 GA147) Stay at Century Park Hotel (JKT)
10/21	Fri	AM	10:00 Report to Embassy of Japan
		PM	13:30 Report to JICA Office Travel by air (JKT21.25→Haneda 07.10+1 NH856)
10/22	Sat	AM	Arrive at Haneda 07.10

<Fukushima Team>

			Fukushima Team
Destination			Malang City and Batu City, East Java Province
10/30	Sun	AM	Travel by air (Haneda 10.15→JKT16.05 NH855)
		PM	Travel by air (JKT18.35→Surabaya19.50 SJ256) Stay at The Alana Surabaya
10/31	Mon	AM	Travel by land (Surabaya 7:00→Batu 9:30) 9:30 Discussion with Office of Agriculture, Batu City 10:30 Coutesy Call to Mayor, Presentation in Gov High-rank Official Meeting
		PM	14:00 Site visits such as farmers' group (Gapoktan) Stay at Kartika Wijaya
11/1	Tue	AM	8:30 Meeting with PT. BWR 9:30 Meeting with farmers group and young farmers' leaders 11:00 Discussion with Office of Agriculture, Batu City on the next step Travel by land (Malang →Batu 0.5h)
		PM	13:00 Interview with Market Office of Malang City 15:00 Discussion with Office of Agriculture, Malang City on the next step
11/2	Wed	AM	Travel by air (Malang 8:30 → JKT 9:50 SJ251)
		PM	Discussion with Dirjen Horticulture, MoA. Report to JICA Travel by air (JKT21.25→Haneda 07.10+1 NH856)
11/3	Thu	AM	Arrive at Haneda 07.10

6.2 Results of the Matchmaking

6.2.1 Partnership 1: Fukushima City and Malang City/Batu City

(1) Present Conditions and Collaboration Needs

1) Fukushima City

Fukushima City is the capital city of Fukushima Prefecture and its value of agricultural products is the 2nd highest in all cities and villages in the prefecture[245]. About 60% of its agricultural products is fruits such as peaches, apples, pears, and so on. That is why Fukushima City calls itself as "the treasure box of fruits". Because of their variety and high quality, those fruits tend to be distributed as fresh ones, rather than materials for processing.

However, since the nuclear plant accidents that happened after the Great East Japan Earthquake in March 2011, rumors has damaged agricultural production, and the sales amount has drastically dropped including that of fruits. In addition to that, existed problems since before the earthquake, such as depopulation, aging of farmers, shortage of successors, and increase of abandoned farmland, have become more serious.

In order to guarantee food safety and to dispel the rumor, Fukushima City and JA Fukushima Mirai has worked hard to decontaminate farmland, conduct full inspection of all rice bags, and encourage all farmers voluntary pre-inspect radioactive residuals before their shipment. With those large amounts of

[245] Statistics of MAFF, 2016 <http://www.maff.go.jp/j/tokei/kouhyou/sityoson_sansyutu/H26/index.html>

inspection data, they have done their best to guarantee safety of their agricultural products. As a result, by now Fukushima has established and operated the most sophisticated food safety management system that automatically and strictly rejects the shipment of radioactive contaminated products. Top sales by the mayor of Fukushima City and fruits promotion by the Miss Peach Campaign Crew (for sales promotion) have also publicized the food safety. The Sweets Contest has been held every year for developing new original fruits products.

Under the support from Fukushima City, JA Fukushima Mirai concluded the Comprehensive Business Alliance with Ginray Co., Ltd., a local and long-standing bakery, to promote the integration of production, processing, and sales of fruits and agricultural products as the sixth industrialization in the name of "Fukushima Model". In order to recover from serious sales drop of fresh fruits and other agricultural products in Fukushima, this "Fukushima Model" tries to dig up the hidden demand and look for new buyers together with farmers and processors. This model brought to deliver the processed apple as materials of apple pies to a major fast food company, and led new movement of processing fruits as materials of sweets and breads in local companies.

Fukushima City wants to extend this new "Fukushima Model" not only to domestic market but also to overseas, and increase the income of local farmers and processors by export of processed fruits from Fukushima and import of processed tropical fruits from overseas. At the same time, Fukushima City thinks that the application of the most sophisticated food safety management system of Fukushima to overseas will contribute to dispel the rumor of agricultural products of Fukushima.

From these viewpoints, Fukushima City wants to collaborate a local city of Indonesia that is famous for fruits production and processing, and is interested in application of "Fukushima Model".

2) Malang City/Batu City

Malang City and Batu City are located at the center of East Java Province and both are neighbor cities, famous for one of the production and processing centers of agricultural products in Java Island.

Malang City, Batu City and the neighbor Malang District form a wide area called "Malang Raya" (it means Great Malang Area), in which they connected each other in production and processing of agricultural products. That is why Malang City and Batu City are regarded as one package. Malang District plays a role of agricultural production and supply of materials for processing, Batu City plays a role of agricultural production and primary processing, and Malang City plays a role of secondary processing and marketing, respectively. Malang City has the central function of coordination in Malang Raya area.

Agricultural products from Malang City are said to be organic, and the City supports farmers in the city to get organic certification[246]. There is a core market named Pasar Induk Gadang which is the transit market of agricultural products from production area to consumption area by traders. About 20 fruit processing companies, including the one with HACCP certification to export its products produce fruit

[246] According to the interview with the Head of the Office of Agriculture of Malang City.

chips, apple strudel, and other new processed foods.

Batu City is famous not only for its developed cultivation area of highland vegetables and fruits, but it is also a very attractive tourist destination with 4 million visitors a year. Batu is one of the apple production areas, which is rare in Southeast Asia, and apple production of Batu City in 2015 was 70,843 tons, accounting to about 30% of the total production in Indonesia[247]. Apples are processed to drink, sweets, and so on. Other than apples, Batu produces many kinds of fruit such as keprok oranges, crystal guavas, strawberries, and persimmons. City government has promoted to apply the organic certification to fruits and vegetables. Through tourism development, some farmers or farmers' groups have already tried to produce, process, and sell by themselves. It means that there are some cases of sixth industrialization.

However, it is still difficult to control the price fluctuation of agricultural products in Malang City and Batu City. On the other hand, there is a dilemma as there is a tendency to increase usage of chemical fertilizer and pesticide at farmer's level instead of the promotion of organic farming by city government. In addition, the variety of processed products is still limited mainly to fried fruit chips. It is easy to start the production of fried chips once introducing vacuum fryer, so excessive competition among processors would happen.

Malang City wants to support a fruit processor company with HACCP to export its products to Japan. So, it needs a Japanese partner to import the products. The company intends to export semi-products such as fruit jam and puree rather than final products like fruit chips.

Batu City wants to collaborate with Japan to improve the quality of vegetables and fruits, especially apples to strengthen the competitiveness of agricultural products against imported ones, and to learn new processing technology from Japan. In addition, Batu City wants to learn packaging technique of processed products and sales channel development including export. Batu City has established a city-owned enterprise PT. Batu Wisata Resources (BWR) to develop tourism and control price fluctuation of agricultural products, and hopes to get advice on the management of BWR from Japan.

(2) Process of Matchmaking

Because Fukushima City, Malang City and Batu City wanted to export fruit processed products, this matchmaking, at first, started to discuss about trade among them. For example, Ginray Co., Ltd. imports tropical fruit materials such as dry fruits, jam and puree from the company with HACCP certificate in Malang City, and it, in turn, imports processed Japanese fruits such as peaches and pears from Ginray Co., Ltd. In this interaction, it was expected to realize matchmaking between Ginray Co., Ltd. and a fruit processing company in Malang City.

However, in the 1st field visit in Indonesia, Fukushima side found that the fruit processing company in Malang City had not yet been ready to do business with Fukushima side, because the production facility

[247] Calculated based on statistics from BPS (2015) Statistik Tanaman Sayuran dan Buah-buahan Semusim Indonesia 2015, and BPS Kota Batu (2015) Kota Batu Dalam Angka.

was still small as home industry level and the product variation was limited mostly to fried fruit chips under severe competition among other companies. Also, fruit processing industry had tended to depend on fruit materials supplied not from farmers or farmer's groups, but from intermediate traders of the fruit market in Malang City. Fukushima side understood that the relationship between company and farmers or farmers' groups was not so dense. From these findings, Fukushima side decided to put the first priority on applying "Fukushima Model" to generate more income for farmers under the integration among production, processing, and marketing, rather than rushing to export/import of fruit materials between private sector in Malang and Fukushima. Fukushima side had sincerely explained this process to Malang side. As a result, keeping the future cooperation possibility, the matchmaking between Ginray Co., Ltd. in Fukushima and a fruit processing company in Malang City was not progressed this time.

On the other hand, through field visits to production and processing sites of apples in Batu City, Fukushima side came up with the assumption that Batu City needed the branding of the products and the production area by the integration of production, processing and sales of agricultural products to stabilize the price and compete against imported agricultural products. Through discussion between Fukushima and Batu, both sides understood that "Fukushima Model" would be effective for the branding of apples and the production area. Ginray Co., Ltd. proposed to support the branding of Batu City in the long run with its comprehensive business partner, JA Fukushima Mirai. Batu City started to consider the proposal.

Fukushima side thinks that Malang Raya area is important as a center of the integration of production, processing and sale of agricultural products including fruits, and this is shared by Malang City and Batu City. But Fukushima side sees the role of two cities is different. Malang City should play a role as a marketing hub of agricultural processed products in the future with the effective wholesale market and its related facilities as warehouses and refrigeration equipment. On the other hand, Batu City should play a role to improve quality of agricultural products and its primary processing and to supply them safely and stably. It is important for Batu City to proceed the branding of production area with differentiation of production and processing of agricultural products from other regions and strengthening of farmers' organization. In this viewpoint, Fukushima side decided to use two-level approach. That is, the collaboration with Batu City first, and with Malang City at appropriate time in the future.

(3) Result of the Matchmaking

Through above process, Fukushima side, mainly by Ginray Co., Ltd., plans to propose a project, titled "Supply Chain Reconstruction of Horticulture Products in Batu City and the Co-Branding with Fukushima" as the Feasibility Survey for the Private Sector for Utilizing Japanese Technologies in ODA Project.

On October 31, 2016, during the 2nd field visit in Indonesia, after courtesy call to the mayor of Batu City, Fukushima team explained this proposal to the mayor, the agricultural policy advisor, and the director of Office of Agriculture in Batu City at the high-ranking official meeting of the city. Batu City

side basically appreciated the proposal.

Figure 6.1 is the concept of collaboration between Fukushima City and Batu City, proposed by Fukushima side.

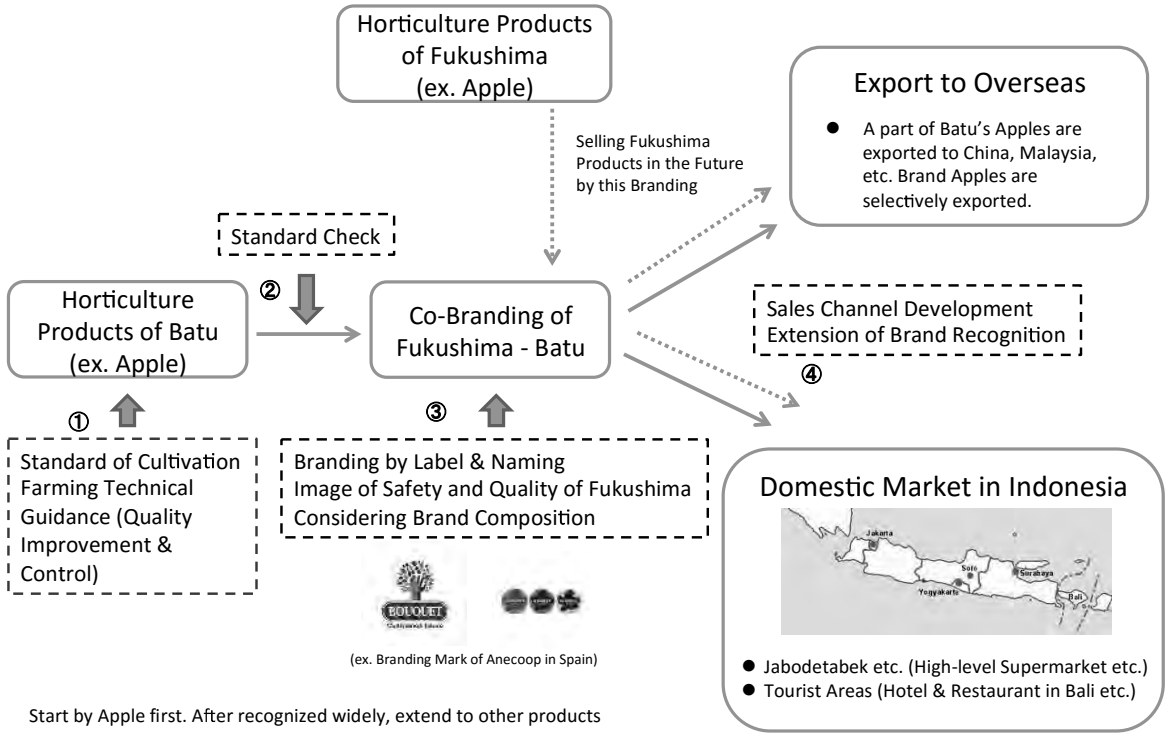


Figure 6.1 General Concept of Fukushima-Batu Collaboration

Source: Ginray Co., Ltd.

1) Outline of the Collaboration

At first, in order to stably supply high quality and safety horticulture products from Batu City to market, this collaboration creates the system to improve the product quality and guarantee it. In this system creation, Batu City will try to establish its branding, utilizing the know-how of Fukushima side to realize safety and high quality products. From the viewpoint of Fukushima, this is export of its know-how as "Fukushima Model" to utilize it for the branding of production area.

In this system, Batu City will establish the Batu brand of horticulture products, and develop sales channels to sell them to high-level supermarket in Indonesia to compete with imported products and export to overseas such as China and Malaysia. On the other hand, Fukushima side will build up the co-branding with Batu and sell the Fukushima products in Indonesia and other countries in the future, utilizing the co-brand.

In the branding, because Fukushima side will provide its know-how to Batu City, both sides will sign

the “technical advice and co-branding” contract in which Batu City will pay “fee” for technical advice and quality certification to Fukushima side as the brand label usage fee. This may be a kind of license business in export of “Fukushima Model”. But Fukushima side does not first prioritize the revenue of the fee in this collaboration.

Apples in Batu City are supposed to be the first target. In Indonesia, influenced from recent health boom, the consumption demand of apples (including both imports and production in Indonesia) has increased from 306 thousand tons in 2008 to 381 thousand tons in 2014[248]. To meet this demand, apples are imported from the US, Australia, New Zealand, and China. The supply chain of those imported apples is not limited in large cities but also village area in regions. Nevertheless, the domestic apple production volume is declining since 2012. Batu is almost the only production area of apples in Southeast Asia. Batu apples have not yet competed with imported ones as fresh products because of their smaller size, lower quality but higher price than imported ones. Apples in Batu City are mainly picked by visitors in tourism farms and/or used for materials of processed products. But the variety of processed products is limited and it is difficult to raise the added value.

Fukushima City has produced high quality apples, and had transferred the cultivation know-how and technique to China and other countries since before. JA Fukushima Mirai has established the brand of apples of Fukushima, including cultivation technique, farm coaching, and sorting of apples. This know-how could be utilized for apples in Batu City.

2) Actors and Implementation Structure of Collaboration

Fukushima side will compose the core team that consists of Ginray Co., Ltd. (main actor) and JA Fukushima Mirai as the comprehensive business partner, and supported by Fukushima City. Batu City side will compose the core team that consists of Office of Agriculture and PT. BWR, supported by Batu City. Fukushima City and Batu City will cooperate mutually to promote products.

In Batu City side, PT. BWR will play an important role in this collaboration. PT. BWR is 100% owned by Batu City and was established for tourism development. According to the mayor, main actor of tourism in Batu is private sector and Batu City thinks it is necessary to increase the involvement of public sector for investment balance. However, PT. BWR is not so active after the establishment. Now, PT. BWR is under restructuring its organization by inviting manager from outside. Batu City expects that PT. BWR will not only develop tourism, but also stabilize the price of agricultural products.

In this collaboration, PT. BWR is expected to guarantee the quality of horticultural products of Batu as the third party, to look for buyers, and to play core roles to realize branding of products and production area. In this sense, Ginray Co., Ltd. and JA Fukushima Mirai will provide know-how of farm coaching and quality control. At the same time, mainly JA Fukushima Mirai will support the HRD of leader

[248] Sholikah Rahmawati (2014), “Preferensi Konsumen terhadap Apel Lokal dan Impor dengan Metode Multifishbein untuk Upaya Peningkatan Pemasaran Apel Lokal”, Universitas Gadjah Mada, <http://etd.repository.ugm.ac.id/index.php?mod=penelitian_detail&sub=PenelitianDetail&act=view&typ=html&buku_id=67260> accessed December 08, 2016, and BPS (2014), Buletin Statistik Impor Desember 2014, BPS (2015), Buletin Statistik Impor Desember 2015

farmers and farm coaches. Figure 6.2 is the image of implementation structure of this collaboration.

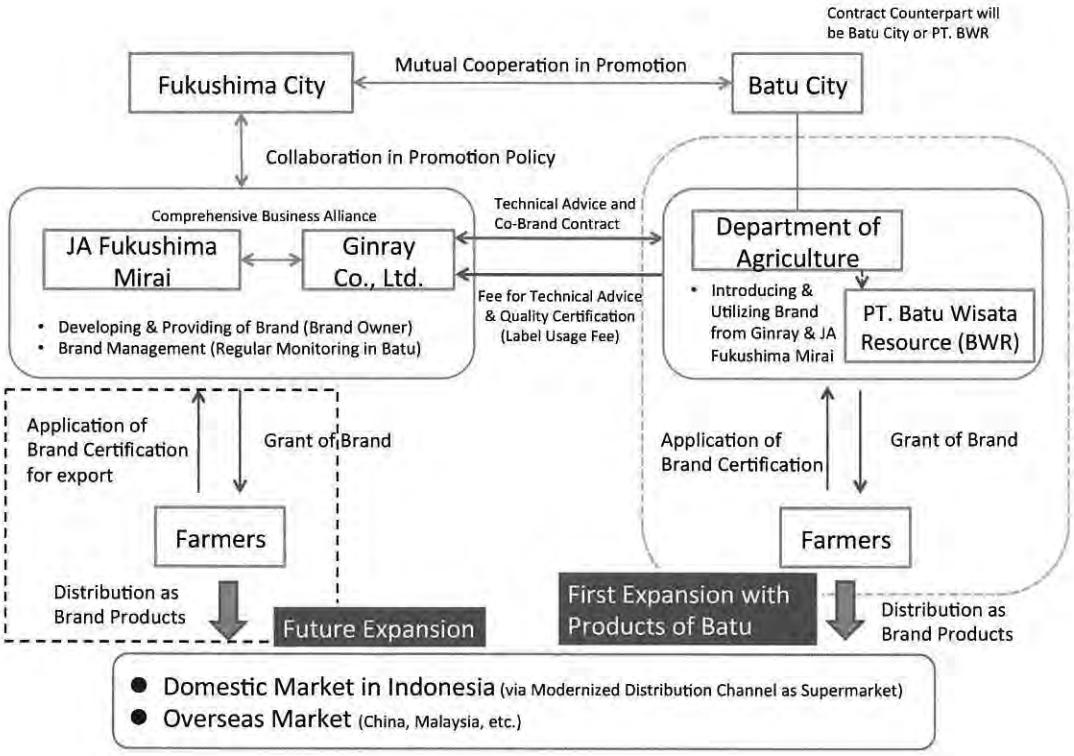


Figure 6.2 Image of Implementation Structure of the Feasibility Study

Source: Ginray Co., Ltd.

3) Draft Contents of the Feasibility Study

Tentative contents of the feasibility study are supposed as follows.

Table 6.8 Tentative Contents of Feasibility Study

<table>
<tr><td colspan="2">1. Analysis of Quality and Characteristics of Apples in Batu City
・ Understanding of Characteristics and Potentials based on Data
・ Examining of Positioning based on Taste of Indonesian
・ Examining of Branding Direction</td></tr>
<tr><td>Quality Improvement of Production Area</td><td>Introduction of Quality Standard in Production Area</td></tr>
<tr><td>2. Analysis of Cultivation Methods and Setting the Standard
・ Examining the Standard of Cultivation Methods and Technical Guideline → Standardized Apple Production</td><td rowspan="2">4. Examining and Setting Brand (Certificate) Scheme
・ Naming and Logo
・ Standard of Brand Certificate, Operation Methods and System → Reference to Supermarket etc.
・ Examining of Technical Advice & Co-Branding Contract and Fee Structure
・ Trial with Office of Agriculture and Leader Farmers
・ Trial of Utilization of Sorting Machine from Japan</td></tr>
<tr><td>3. Human Resource Development (HRD) for Branding
・ HRD of Leading Farmers
・ HRD of Farm Coach (Trial of Technical Guideline)
・ Examining of Fukushima-Batu Branding Team</td></tr>
<tr><td colspan="2">5. Examining of Sales Channel (Study on Sales Channel Development)
・ Study on the Sales Possibility at Modernized Distribution Channel in Jabodetabek (supermarket etc.)
・ Study on the Sales Possibility at International Tourist Area in Bali (hotels & restaurants)</td></tr>
<tr><td colspan="2">6. Test Sales and Exhibition in Indonesia
・ Test sales and Exhibition with using sales channels in 5 above by team in 3 above → Brand Extension and Verification of Brand Effect</td></tr>
</table>

Source: Ginray Co., Ltd.

4) Tentative Schedule of the Feasibility Study

In this collaboration, the term of the feasibility study supposes less than two years in 2017-2019. Tentative schedule is follows.

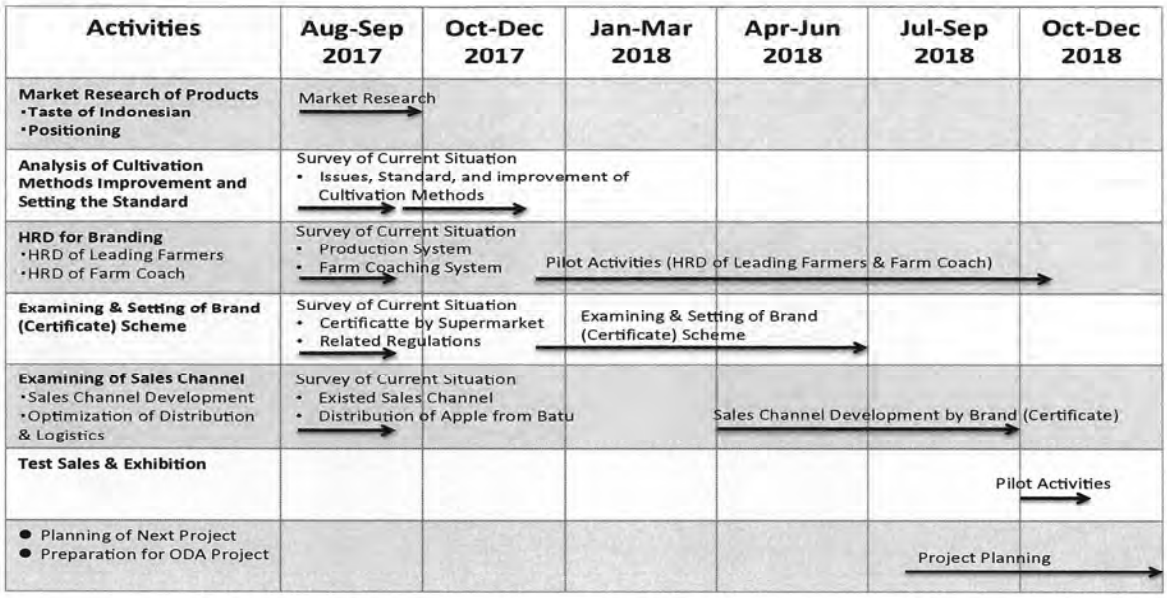


Figure 6.3 Tentative Schedule of the Feasibility Study

Source: Ginray Co., Ltd.

(4) Future Direction

As mentioned before, Fukushima side will propose "Supply Chain Reconstruction of Horticulture Products in Batu City and the Co-Branding with Fukushima" as the Feasibility Survey for the Private Sector for Utilizing Japanese Technologies in ODA Project. At this moment, it is still a concept before proposing.

However, Batu City side has already appreciated the plan as saying "This proposal includes all of what Batu City needs now in agricultural development" (by agricultural policy advisor of Batu City), and "We want to start this plan immediately" (by mayor of Batu City)[249].

After returning to Japan, Ginray Co., Ltd. also met the mayor of Fukushima City to explain this proposal and the mayor agreed with it. Ginray Co., Ltd. did a press conference and the contents became the top article in the local newspaper of Fukushima[250].

Ginray Co., Ltd. will proceed with preparation of this feasibility study proposal, and submit it to JICA

[249] There are several articles about visit of Fukushima team in Batu City in local newspapers, as follows.
1) *Surya Malang*, October 31, 2016. "Datang ke Kota Batu, Pejabat Jepang: Apel Batu Belum Seperti Apel Fukushima (Visit Batu City, Japanese Officials: Apple of Batu not yet like Apple of Fukushima)" <http://suryamalang.tribunnews.com/2016/10/31/datang-ke-kota-batu-pejabat-jepang-apel-batu-belum-seperti-apel-fukushima>
2) *Malang Post*, October 31, 2016. "Fukushima Kembangkan Apel Batu (Fukushima Develops Apples of Batu)" <http://www.malang-post.com/news/kota-batu/fukushima-kembangkan-apel-batu>,
3) *Malang Voice*, October 31, 2016. "Kota Fukushima-Kota Batu Jajagi Kerjasama Peningkatan Branding Buah Apel (Fukushima City – Batu City promote cooperation to raise branding of apples)" <http://malangvoice.com/kota-fukushima-jajaki-kerja-kota-batu-jajagi-kerjasama-peningkatan-branding-buah-apel/>

[250] *Fukushima Mimpo*, November 8, 2016. "The sixth Industrialization Fukushima Model to Overseas. Agricultural Support to Indonesia by Ginray Co., Ltd." <http://www.minpo.jp/news/detail/2016110836255>

in March 2017. If this proposal is selected, this feasibility study will start in about August 2017. Ginray Co., Ltd. has already planed the implementation team including JA Fukushima Mirai, apple farmers, outer specialists, and consultants.

This feasibility study will examine the brand (certificate) scheme, cultivation method and the standard, improvement of farm coach guidance, HRD of leader farmers, sales channel development, and optimization of distribution and logistics. Based on this feasibility study, if possible, Fukushima side plans another ODA projects such as JPP that starts in 2019.

Batu City has already submitted the support letter on November 10, 2016 on this feasibility study to Ginray Co., Ltd. Batu City feels the term of the study a little long and wants to shorten the term to one year to get the result as soon as possible.

In the ODA project after this feasibility study, there will be five objectives as follows. (1) Establishment of system to introduce and operate brand (certificate) scheme, (2) HRD of farmers by utilizing leader farmers, (3) Improvement of technique and system of farm coaching, (4) Improvement of quality control of agricultural products (production–collection/delivery–distribution. Standard application. Introduction and utilization of sorting machine), and (5) Optimization of production to distribution with utilization of brand (certificate) scheme.

In this collaboration between Fukushima City and Batu City, “Fukushima Model” will be exported. It will be applied in Batu City that is relatively developed area of horticultural products in Indonesia. A model to raise the added value of agriculture in Indonesia will be established in Batu City. The model will be extended to other areas in Indonesia. Batu City will be able to differentiate the products as Batu brand of high quality that will overcome imported products and export to overseas.

On the other hand, Fukushima side will also get large benefit from export of “Fukushima Model”. It means that the model is recognized as an effective model of the sixth industrialization in the world. At the same time, international recognition of safety management system and know-how of Fukushima will highly contribute to dispel the rumor of agricultural products of Fukushima.

This collaboration is relatively low cost in a sense of the export of know-how. However, it takes long time for HRD, system construction, and strengthening an organization. In this sense, Fukushima City and Batu City want to collaborate in the long run as 10- 20 years, extending the collaboration target from agriculture to other sectors through human and cultural exchange, to steadily deepen the mutual relationship.

6.2.2 Partnership 2: Minamiboso City and Tomohon City

(1) Present Conditions and Collaboration Needs

1) Minamiboso City

The population structure of Minamiboso City has an inverted pyramid shape, as it has experienced outflow of young generation. It also has experienced a marked decrease in population due to natural

decrease. In agriculture sector, with more and more farmers retiring, and less engaging in farming, the City is in the critical situation that knowhow of agricultural management and skills would not be passed to the next generation. Under such circumstances, Minamiboso City has been utilizing roadside stations as one of its tools for regional development, and has achieved satisfactory results in attracting tourists throughout the year, branding the regional special products, and income generation through direct selling of agricultural and marine products. Especially, the roadside station "Tomiuwa Biwa Kurabu," operated by Chibaminamiboso Inc., a quasi-public company, was awarded the first prize in "National Roadside Station Grand Prix 2000", and was acknowledged as the "National Model Roadside Station" in 2015. In summary, the city is an expert of regional development through roadside station.

By disseminating the knowhow of roadside stations to overseas, the City intends to globalize and develop the capacity of government officials in a short term. In longer term, the City expects that such officials with global perspective would be able to handle such challenges as adopting to Trans-Pacific Partnership (TPP) and globalization of City's industrial structure well by grasping the current states of South-East Asia and collaborating with those countries. In the long run, it expects to increase inbound tourists from Indonesia to Minamiboso City and its roadside stations, through cooperation among roadside stations in both countries. Based on the above thinking, the City has cooperated with Vietnam on regional development through roadside stations through JPP. With the present study, the City now intends to expand its approach to Indonesia.

2) Tomohon City

Tomohon City, known as a "City of Flower," is a major producer of cut flower and pork meat. It also produces highland vegetables. The traditional market "Pasar Tomohon" is one of the largest markets in the Province, serving as the trading hub of agriculture and livestock products within the province as well as to the Eastern Indonesia. On the other hand, processing, packaging and cold chain are still under development, and there is no particular processed product. Although only a few farmers practice organic farming, it has not spread widely because there are few marketing outlets. The consumer's awareness toward food safety is not as high as Java, so the price difference between organic and non-organic products remains small.

The city organizes the international flower festival every year. With beautiful natural scenery and cool weather represented in its catchword "seven mountains, seven lakes and seven waterfalls," it is also a major tourism town. The tourist attractions in and around Tomohon City includes trekking and white water rafting, numerous hot springs, agro-tourism in Rurukan village with breathtaking terraced fields, traditional Minahasa-style buildings, Pasar Tomohon (the traditional local market)'s extreme market where dog, snake and bat meats are sold, and ancient tombstones called "Waruga." There is also a potential for eco-tourism or industrial tourism, as there is a sugar palm processing factory utilizing waste steam from the geothermal power plant.

On the other hand, the provincial capital Manado City is located nearby. Manado is the gate city for Bunaken Island, the world-famous diving spot. The ability of Tomohon City to pull in tourists is still

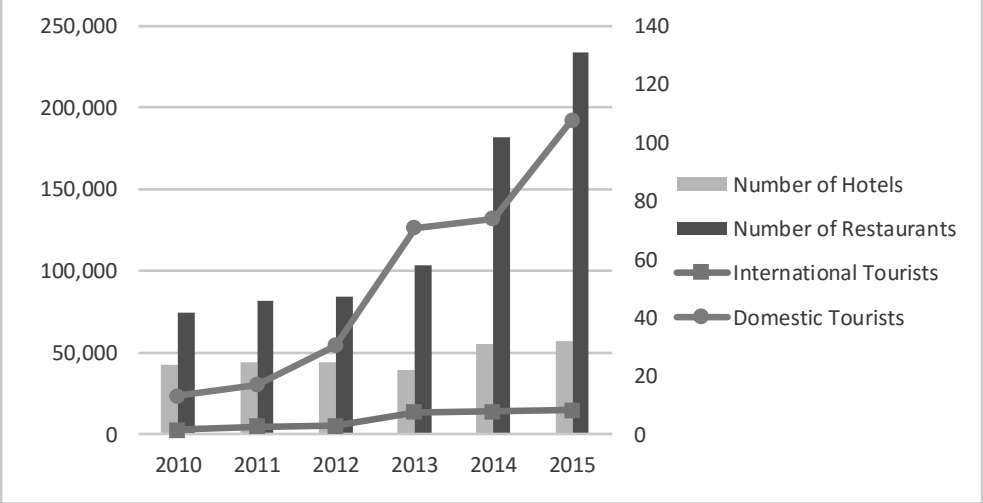
weak compared to Manado. Moreover, while the number of tourists is smaller than Tomohon, the nearby port and industrial town Bitung City also seems to have stronger appeal to international tourists, with Lembeh strait with unique marine creatures and Tangkoko Nature Reserve where one can see "tarsius" (one of the smallest known primates). In recent years, the number of tourists to the North Sulawesi Province is on the rise as show in Table 6.9, thanks to the international flights to Manado. Therefore, Tomohon City is willing to attract more tourists that usually visit only beach resorts to the highland tourism.

Although there has been a good progress in tourism development in Tomohon in the past ten years, the number of available hotels and tourism infrastructure such as access road to tourist attractions are still underdeveloped. Therefore, while some European tourists stay long because they have long holidays, in general many visitors come to Tomohon just for a day trip. Information dissemination is also not sufficient, as the English information on tourism in and around Tomohon is limited on the internet. The team confirmed that not only in Tomohon but even in Manado, the only tourist information actually functioning can be found in the airport. Therefore, resort hotels and a few tour operators handle the tourists.

Under such circumstances, the City Office of Agriculture, Livestock and Fishery is promoting agro-tourism that can connect agriculture and tourism. For example, in 2015 it constructed a facility called "Show Window" which serves as a model farm, seedling production, and tourist farm.

Table 6.9 Trends of Tourism Data of Tomohon City

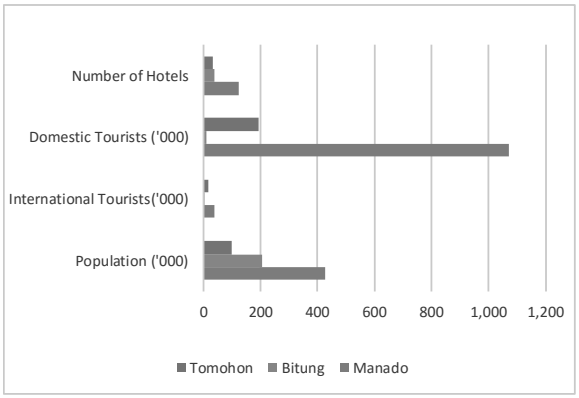
	2010	2011	2012	2013	2014	2015
International Tourists	2,954	4,872	5,484	13,534	14,023	14,734
Domestic Tourists	23,832	30,576	54,311	126,597	132,102	192,322
Total Number of Tourists	26,786	35,448	59,795	140,131	146,125	207,056
Number of Hotels	24	25	25	22	31	32
Number of Restaurants	42	46	47	58	102	131



Source: Kota Tomohon Dalam Angka 2015, 2016.

Table 6.10 Comparison of Tourism Data among Tomohon and Two Neighboring Cities (2015)

	Tomohon	Manado	Bitung
Population	100,373	425,634	205,675
International Tourists	14,734	38,400	1,427
Domestic Tourists	192,322	1,070,681	8,753
Total Number of Tourists	207,056	1,109,081	10,180
Number of Hotels	32	125	40
Number of Restaurants	131	354	



Note: The number of tourists for Bitung is as of 2014.
Source: Kota Tomohon Dalam Angka 2016, Kota Manado Dalam Angka 2016, Kota Bitung Dalam Angka 2016.

(2) Result of the Matchmaking and Future Direction

As a result of mutual visits facilitated by the present study, Minamiboso City and Tomohon City agreed in principle to cooperate in a roadside station project utilizing the JICA's JPP scheme starting from the next year.

1) Objectives of the Partnership Project

The objective of the partnership project is "to contribute to agriculture and tourism promotion in Tomohon City by establishing a roadside station with four functions, namely flower market, organic vegetable farmers market, tourist information center, and evacuation shelter." The tourist information center would include a resting area and a small store that sells souvenirs and drinks. The information provided would include not only on Tomohon City but also on the entire Minahasa region including Tondano, etc. and a wider area including Manado and Bitung. Because of the eruption-prone Mount Lokon, the roadside station would have the function as an evacuation shelter.

Furthermore, although it is not included in the present plan, Tomohon City intends to add the following functions to the roadside station in the future; municipality branch office function, agricultural processing, café, restaurant, and hotel.

Tomohon City aspires to develop a roadside station with such a wide-ranging function because it reflects their findings in the Japan Visit Program where they observed various roadside stations. Especially, the Indonesian participants showed strong interests in farmer's income generation through farmers' market located in roadside stations. In Tomohon, products are sold through wholesalers. In order to avoid conflict of interests, the Tomohon side proposed organic vegetable farmers' market targeting hotels and restaurants for foreigners and middle to high income population. Also, flower, which is also a tourist attraction, is not widely sold in Pasar Tomohon.

Flower and organic vegetable farmers in Tomohon have few experience in direct sales to consumers. It is expected that development of farmers' market would lead to not only income generation but also formation of new farmers' marketing groups. By obtaining consumers feedback directly, it is expected

that these farmers can produce products that are tailored to the needs of the market. It should also be noted that there has been no example of combination of roadside station and market in Japan or South East Asian countries that already have roadside stations. Therefore, if the roadside station in Tomohon becomes successful, it would provide a new model of roadside station.

2) Location

The roadside station will utilize the preexisting "flower market" or "Pasar Bunga (in Indonesian language)" facility. "Pasar Bunga" is located about 500 meters north of the city bus terminal and the traditional market "Pasar Tomohon." It is on the ring road that serves as a detour route of the city's main street. This is a strategic road connecting Manado, Tondano and Rurukan, the agro-tourism village, and a road expansion plan is underway. Moreover, the highway to connect Manado and Tomohon currently under construction will run very close to the site, too.

The land area of "Pasar Bunga" is city's property and in total 2ha. The construction to develop a flower market started in 2008 with support from the central government, but it was stopped and there remained three sections of unfinished structure. In the beginning, Minamiboso City recommended to start with other locations. However, with a strong request from Tomohon City, it was decided to utilize the preexisting Pasar Bunga as the roadside station site.

Location of "Pasar Bunga"

"Pasar Bunga"

3) Implementing Actors

<Japanese Side>

Minamiboso City and Chiba Minamiboso Inc. will apply for the JPP and if accepted, provide technical assistance within the scope of JPP.

<Indonesian Side>

The following project team will be set up under the Mayor.

Project Team	Office in Charge of Each Task
Leader: Head, BAPPEDA Deputy leader: Head, Office of Agriculture, Livestock & Fishery Related offices: Office of Public Works, Office of Culture and Tourism, Market Public Corporation (PDP)	● Overall Planning: Infrastructure Division, BAPPEDA ● Facility Construction: Office of Public Works ● Operation and Management of Flower Market and Organic Farmers Market: PDP ● Operation and Management of Tourist Information Center: Office of Culture and Tourism (to collaborate with Indonesia Hotel Restaurant Association (PHRI)) ● Technical assistance to flower and organic vegetable farmers: Office of Agriculture, Livestock & Fishery

4) Source of Funding

The project will utilize JPP (local government type) and the budget of Tomohon City.

5) Schedule

Although the schedule depends on the selection situation of JPP, the two sides will prepare for the project to be adopted by JICA as early as April 2017. The duration of the JPP project is three years from the signing of MOU between the two cities.

6) Division of Roles

The division of roles of two cities is as follows. Since the scale of JPP is relatively small and it only lasts for three years, it would be impossible to expect all the project component to be covered solely by JPP. Therefore, Tomohon City will take charge of flower market and organic vegetable farmers market, including completing facilities and setting up management/operation structure. Minamiboso City will provide technical assistance in developing the overall concept of the facility and setting up management/ operation structures. Minamiboso City will also be responsible for completing the building for tourist information center and providing necessary equipment.

It should be noted that while the term “organic” is used here, considering the current situation of organic farming in Tomohon, it would be more realistic to start with “vegetables with less chemical pesticides and fertilizers” rather than non-chemical, organic vegetables.

Minamiboso City (within JPP budget)	Tomohon City
● Provide advice on overall design and concept of roadside station ● Support setting up management / operation structures ● Support construction of the tourist information center / resting area facility (building 1) ● Provide equipment and know-how for tourism information system (digital map, server, etc.)	● Land, parking, tender, government procedures ● Provide, maintain and pay for utilities (electricity, water, optical fiber, etc.) ● Tentative design of roadside station ● Set up management / operation structure of Tourist Information Center/ resting area (Tourism Office + PHRI) ● Complete facilities for flower market and organic vegetable farmers market (building 2 and 3) (Office of Public works) ● Set up management / operation structure of flower market and organic vegetable farmers market (Agriculture Office + PDP) ● Support farmers on organic farming (Agriculture Office)

6.2.3 Partnership 3: Kobe City and Semarang City

(1) Present Conditions and Collaboration Needs

1) Kobe City

Kobe City is the city of business and services with 1.5 million of population and Kobe Port that is one of the largest international ports in Japan. GRDP consist of primary industry accounting for 0.1%, secondary (19%), and tertiary 80% (2013)[251]. The tertiary industry has a high proportion in the employment such as fashion and tourism industries. Kobe has developed utilizing Kobe Port as a gateway to the world. In the middle 1960s, Kobe started developing the artificial island utilizing the residual soil coming from leveling down of the mountain. In 1981, Kobe developed Port Island followed by Rokko Island. Kobe city has been known as a city of fashion. While Kobe damaged heavily by Kobe earthquake in 1995, The City has been strongly reconstructed.

Agriculture in Kobe accounts for only 0.1% of GRDP, 0.7% of the employment, while the areas for agriculture accounts for one-third of the city territory. 6,000 households mostly reside in North and West Wards in Kobe operate agriculture. Total agricultural output is 17 billion yen.

Utilizing the reputation of fashion city, Kobe has been promoting the "Gastropolis Kobe 2020" concept from 2015. In the promotion, Kobe City is challenging to overseas promotion of Kobe foods as "FIND KOBE" and to domestic promotion as "EAT LOCAL KOBE". Overseas promotion of Kobe food targets the highest quality market in respective country.

As a port city, Kobe has diversified culture influenced by Europe and Asian residents. The former residences of early foreign settlers and bund are conserved and utilized for tourism. China town has been also developed. Kobe has practiced spatial planning with exotic flavor. Kobe also has promoted international exchange with many countries. Kobe has established many sister city relations as

[251] Hyogo prefecture 2013

following.

- Sister city: Seattle City, Marseille, Rio de Janeiro, Tianjin (China), Riga (Latvia), Brisbane, Barcelona, Inchon (Korea);
- Friendship city: Philadelphia City, Daegu Metropolitan City; and
- Sister port: Seattle port, Rotterdam port, Tianjin port.

Kobe city has a concern of partnership with Indonesia in the fields of exchange and development of human resources towards the future business partnership. Kobe has concern of Asian countries with dynamic economic growth for future export and tourism markets.

2) Semarang City

Semarang City is also a port city with 1.5 million of population. The City is known for the city of foods. Semarang City has diversified culture of Chinese, Dutch and Muslim. Agriculture shares 1% in GRDP and 3.95% in the employment, however, the City has agricultural area in the south accounting for 24.3% of total land area[252].

For the relationship with Japan, Semarang City experienced 5 days war after the end of World War II. Until today, Semarang City holds a memorial event for the peace inviting the descendants of the former Japanese army.

Semarang City has established sister city relation with Brisbane (Australia) and Da-nang (Vietnam).

Kobe city and Semarang city has similarities such as port city, city of foods and cultural diversity. Agriculture's share in Semarang is not large, however, Semarang is trying to develop suburban agriculture, agro-tourism, and farmers' market in the rural area. Semarang City has a challenges such as marketing and PPP.

Kota Lama Area, the historical area of former Dutch area, is remained untouched as a whole town. Most of the historical buildings are not utilized and abandoned except a few. There is a private group that is willing to conserve and refined townscape to be utilized for touristic destination with support of Kobe's experiences.

(2) Result of the Matchmaking and Future Direction

1) Challenges for Partnership

Both cities have many similarities. After the first contact in October 2016 in Semarang, both sides identify similarities and differences in the recognition based on the historical background.

- Recognition of Gastopolis: Both cities are cities of foods. Kobe City tries to penetrate to export targeting the high-end market not available in Semarang. Semarang City is a town of food as local

[252] Semarang City in Figure 2015。

foods. Semarang City is willing to export their food to Japan. However, the level of processing does not meets the Japanese market standard.

- Supporting farmers: Kobe City supports farmers by subsidies, facility, and marketing. Technical support to farmers is duty of prefectural government. On the other hand, Semarang City government provides technical services to farmers.
- Farmers: Farmers in Kobe City is not poor. On the other hand, famers in Semarang City fall into relatively the poor. The need for Semarang government to support farmers is in raising income.
- Agriculture and tourism: Kobe City practices farmers' market in the town. Semarang City tries to invite urban people to rural areas.
- Historical spatial planning: A private group is trying to conserve and refine Kota Lama as historical tourism destination area. Kobe City has an experience of spatial planning in the historical area.
- Awareness of administration and people: Semarang City administration has top-down leadership in the city governance. The enforcement of the rule and regulation for the people is not easy.

The objective of the matchmaking is to develop partnership that benefits both parties as Win-Win relationship. The following challenges are identified.

- The benefit for Kobe is assumed that awareness of Kobe foods in Semarang will expand. However, Kobe foods target the highest market not available in Semarang.
- The benefit that Semarang expected is to export Semarang foods to Kobe, while the quality of foods does not meet the Japanese market standard.

2) Direction for Partnership

Regardless of the differences and challenges above, there are many similarities. Some of the challenges faced by Semarang are those faced by Kobe in the past. The followings are ideas for partnership.

- Trial of collaborative marketing of Semarang products to urban consumers, branding, and marketing in the Jakarta. Through the activities, Kobe can promote Kobe foods in the Jakarta market. In the future, business partnership can be developed to import their foods mutually.
- Utilizing the experience of spatial planning in Kobe, trial of spatial planning of Kota Lama can be made for its conservation and utilization as a tourism destination. In the future, the tourists of both cities can visit both cities. Through this partnership, business partnership could be developed.

Following exchange activities can be the starting point.

- Officials, farmer groups and farm businesses visit Kobe City to observe the branding and marketing activities and exchange views with farmers and JA in Kobe. JA and farmers can visit Semarang City to observe their challenges and to understand the potentials of Indonesian markets.

- Officials and groups engaged in spatial planning visit Kobe City to learn the history and Kobe's efforts, to exchange views with people involved and to raise their awareness. Groups, businesses and officials of Kobe visit Semarang City to observe the current situation, to discuss the future plan and to understand their potentials.
- Through mutual exchange, both parties raise their awareness, identify the seeds of business partnership, exchange ideas for future partnership, and prepare and share the plan for the roadmap for future partnership.

3) Ideas for Partnership in the Future

Through the exchange, both parties can understand their recognition and business chances, raise awareness mutually, and prepare and share roadmap for the future.

The following Table shows the ideas of roadmap for the future partnership.

Table 6.11 Ideas for Roadmap toward Future Partnership

	Activity	Target	2017	2018	2019	2020	2021
1	Exchange of human resources	Administrator, private					
	Agriculture		■ ■	■			
	Spatial planning		■ ■	■			
	Others		■	■			
2	Preparing Action Plan	Administrator, private	■				
3	Partnership for spatial planning	Administrator, private		■■	■■	■■	
4	Partnership for Marketing towards Gastropolis	Administrator, private			■	■	■
5	Supporting Business Partnership	Administrator, private			■	■	■
6	Business Partnership	Private					■

Source: JICA Study Team

The outline of the respective program idea is shown in the Table below.

Table 6.12 Outline of Program Idea

	Program	Contents	Place	Time & Duration	Source
1	Exchange of human resources	Officials, farmer groups, private sector, and civil groups visit mutually to understand the challenges, differences opportunities, and business chances.	Semarang/ Kobe	2 weeks x 3 persons x 2 ways x sector	JICA training
2	Agriculture	Through exchange, fostering ideas for mutual benefit and preparing action plan.	Semarang/ Kobe	2 weeks x 3 persons	JICA training
3	Townscape planning	Trial to conserve and refine Kota Lama for tourism, utilizing Kobe's experience. Through the trial, identifying chances for business partnership.	Semarang	As necessary base	JICA Partnership Program (JPP)
4	Others	Towards the future Gastropolis, collaborative branding and marketing activities are tried. Through the activities the Kobe foods can be known in Indonesia.	Semarang	As necessary base	JICA Partnership Program (JPP)
5	Preparing Action Plan	Through activities above, supporting business partnership.	Semarang/ Kobe	As necessary base	JICA PPP program
6	Partnership for spatial planning	Business partnership	Semarang/ Kobe	As necessary base	Private resources

Source: JICA Study Team

6.2.4 Partnership 4: Kochi Prefecture/Ochi Town and Aceh Province/Central Aceh District

(1) Present Conditions and Collaboration Needs

1) Kochi Prefecture/Ochi Town

Population of Kochi Prefecture began decreasing 15 years ahead of national population decrease. Economy of the prefecture shrunk and it made young people to relocate themselves to urban areas. Relocation happened especially in intermediate and mountainous areas. Decrease in population and shrinkage of prefectural economy induced further decline of economy. Recent history of Kochi economy can be said as "negative spiral caused by population decrease"[253]. Private actors in Kochi forced to extend their business to outside as the prefectural economy became smaller. Kochi is promoting a unique policy that is "local production for trading" but not "local production for local consumption".

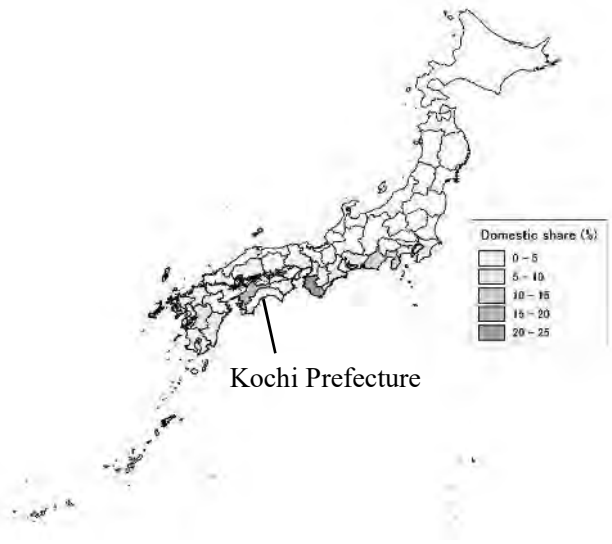


Figure 6.4 Share of Orange Production by Prefecture (2015)

Source: JICA Study Team based on the MAFF website

Kochi has also a unique characteristic in terms of orange production. Nationwide production of ordinary types of oranges in 2015 was 777,800 ton in Japan. Kochi produced only 6,850 ton and its domestic share was 0.9% [254] (see Figure 6.4). In contrast, Kochi is well known as the biggest producer of Yuzu (a type of acidic orange) in Japan. Nationwide production of Yuzu is small in amount (22,934 ton in 2013) but contribution of Kochi was higher. Kochi produced 10,859 ton and it is corresponding to 47.3% of national production [255] (see Figure 6.5). For Buntan Orange (a type of

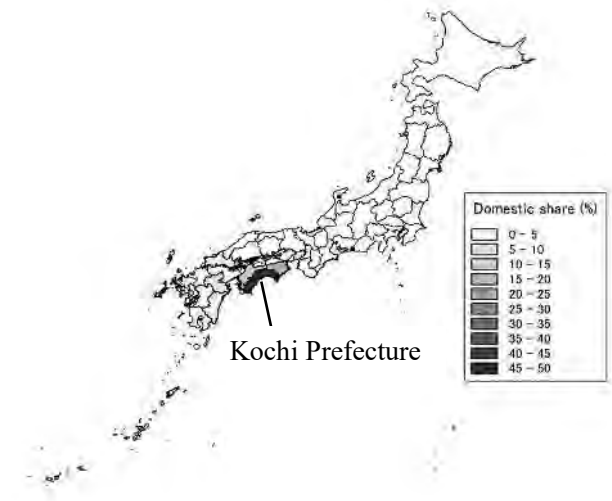


Figure 6.5 Share of Yuzu Production by Prefecture (2013)

Source: JICA Study Team based on the e-stat website

[253] Brochure of the Third Industrial Development Plan of Kochi Prefecture (2016) Trade Promotion Division, Kochi Prefectural Government

[254] MAFF website "Survey on crop production (fruits) < http://www.maff.go.jp/j/tokei/kouhyou/sakumotu/sakkyou_kazyu/> accessed September 07, 2016

[255] e-Stat website, Survey on minor fruits production (2016) < http://www.e-stat.go.jp/SG1/estat/List.do?lid=000001143671> accessed September 07, 2016

large-sized orange), national production was smaller than Yuzu (10,880 ton in 2013) but domestic share of Kochi was huge (93.0%)[256]. Kochi is not a big producer of ordinary types of oranges but it is famous for production of minor types of oranges.

Kochi is promoting a policy "local production for trading". It means that Kochi is interested in exporting its agricultural/livestock products and processed products. The policy could be applied for exporting technologies and/or know-hows developed in Kochi. However, Kochi is not motivated in exporting cultivation technologies of certain types of oranges such as Yuzu since it may affects farmers in Kochi negatively.

2) Aceh Province/Central Aceh District

Takengon is located at a remote area. It takes 9-10 hours by land to access the provincial capital, Banda Aceh. It is also far away from Medan, the capital of North Sumatra Province. Interaction between other areas seems to be weak. Not many external investments have been made and it made traditional culture and sense of value conserved. There are several sightseeing places such as rivers flowing to Lake Laut Tawar but they were not well developed. The district is a production area of Aceh Gayo Coffee, which is famous across the world. There are other local resources such as oranges, traditional rice cultivars, and aquaculture in Lake Laut Tawar. Commercial agriculture, such as coffee and orange cultivation, is commonly practiced. Farmers are selling their products to customers in other areas to obtain cash income.

Eighty (80) % of farmers has been cultivating coffee since the time of Dutch colonial period. In the past, farmers simply sold coffee beans as raw materials. Currently, people are roasting beans and serve coffee in sophisticated coffee shops. Farmers have already gained successful experience and know-how of sixth industrialization as far as coffee concerned.

Most of villages in the district formed farmers groups called Kelompok Tani. As far as coffee concerned, a cooperative named Baitul Qiradh Baburrayyan Cooperative was established in 1995. It has been registered in the Government from 2002 and exported coffee to the US, etc. There is another farmers' group for orange producers. It is named as Orange Producers' Forum (official name is "Masyarakat Perlindungan Indikasi Geografis Jeruk Keprok Gayo Aceh). The Forum was recently formed to register Keprok Gayo Aceh Orange as Geographic Indication Products. The Forum has not been registered in the Government.

Keprok Gayo Aceh Orange (citrus reticulata/nobilis sp) was introduced by Holland in 1924 at Berkendal village and Redines village. In 2006, it was specified by the Ministry of Agriculture as a recommended fruit crop. It can be cultivated altitude more than 1,000m in Central Aceh and Bener Meriah Districts. Best cultivation sites are concentrated in altitude around 1,200m. Characteristics of Keprok Gayo Aceh Orange is thick skins, strong sweetness and acidity. The taste is different from Keprok Oranges harvested in other areas. Keprok Gayo Aceh Orange is famous for its high quality. It was gold titled at

[256] e-Stat website, Survey on minor fruits production (2016) < http://www.e-stat.go.jp/SG1/estat/List.do?lid=000001143671> accessed September 07, 2016

orange contest in Jakarta (1993) and Bogor (1997). Farmers had enjoyed high price of Keprok Gayo Aceh Orange. However, production of Keprok Gayo Aceh Orange decreased after 1980-2000 due to disease and insect damage, such as Diplodia and fruit fly. Currently, production of oranges (Jeruk Siam and Keprok) in Aceh Province is only 0.3% of national production (see Figure 6.6). To combat the problems, the District Office of Agriculture and Food Crops (DOA) of Central Aceh[257] asked ICSFRI at East Java to purify seedlings. The purified seedlings have been produced by three appointed farmers groups (BBU Pepalang, Penangkar Jeruk Akbar Tani, and Penangkar Jeruk Riza Horti) and have been distributed to farmers by the DOA. Some farmers are producing seedlings by themselves. The DOA established a seedlings center to support farmers. It seemed that natural cultivation technique is commonly applied for orange production in the district. Cultivation technology is high in general. Nutrient deficiency, which is commonly observed in Japan, was not found in Central Aceh since grafted and purified seedlings were introduced. However, some trees are affected by leaf blight. Slopes facing south is suitable for cultivation of Keprok Gayo Aceh Orange since it requires sufficient sunshine (more than eight hours per day). Fog prone area should be avoided from cultivation since it could increase risk of disease. The DOA estimated potential cultivation area of Keprok Gayo Aceh Orange in the district as presented in Table 6.13. Location of sub-districts in Central Aceh District is also shown in Figure 6.7. Keprok Gayo Aceh Orange is registered as Geographical Indication Products by the Government of Indonesia on 22 March 2016.

It is said that there are about 30 types of oranges in Central Aceh District but processing of orange products are not active. Some types of oranges are not fully utilized. In October 2016, six types of orange products were sold at Takengon Market (see Figure 6.8). According to traders in the market, more types of oranges are available in high season. One of them is called JC (Japanese Citrus). JC was introduced to the province in 1930s (colonial period). Taste of JC is not sweet but acid. It is called as vegetable-like orange (Jeruk Sayur) by local people. It is sometimes used as a flavoring material for cooking but major use is rootstock of grafted seedling of Keprok Gayo Aceh Orange. JC looks like Yuzu in Japan but aroma is weaker and similar with mandarin orange. Peel of JC is also thinner than Yuzu. According to the DOA of Central Aceh, characteristics of JC are as follows.

BOX: Characteristics of JC

- JC has strong stem and can grows up to 4-6m.
- JC has many numbers of branches with burs.
- Color of fresh stems are purple but it changes to dark green as it grows.
- Flowers are small and color of pistils and flower petals are dark purple.
- Color of matured fruit peel are yellow or orange.
- One JC fruit contains 8-10 seeds. It means that 100kg of JC fruit contains 8,000-10,000 seeds. Germination rate is 40-60%.
- Head of branches have more numbers of fruits and fruits contain more amount of water.
- Vulnerable to Citrus exocortis viroid etc. Stem and root could be easily damaged by phytophthora.

[257] Dinas Pertanian Tanaman Pangan Kabupaten Aceh Tengah

Figure 6.6 Share of Jeruk Siam and Keprok Production by Province (2014)

Source: JICA Study Team based on BPS - Statistics Indonesia website < http://www.bps.go.id/index.php> accessed September 07, 2016

Table 6.13 Potential Cultivation Area of Keprok Gayo Orange in Central Aceh District

No.	Sub-district	Potential Cultivation Area (ha)
1	Atu Lintang	9,086
2	Pegasing	4,267
3	Silih Nara	3,775
4	Kebayakan	2,642
5	Bintang	2,467
6	Bebesen	2,195
7	Lut Tawar	1,960
8	Kute Panang	1,815
9	Bies	985
10	Ketol	0
11	Celala	0
12	Rusip Antara	0
13	Jagong Jeget	0
14	Linge	0
	Total	29,192

Source: DOA of Cetnral Aceh

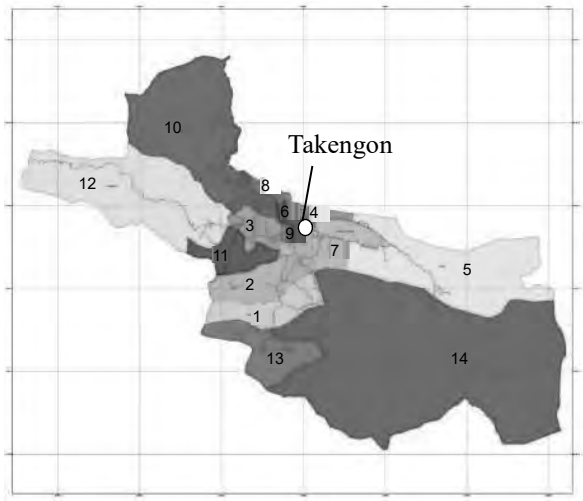


Figure 6.7 Sub-districts of Central Aceh District

(Numbers are corresponding to No. in Table 6.13)

Source: JICA Study Team based on the map provided by DOA of Central Aceh

Keprok Gayo Aceh Orange
(for raw diet; Rp. 15,000/kg)

Siam Orange (for raw diet; Rp. 8,000/kg)

Madu Orange (for raw diet; Rp. 15,000/kg)

JC (for flavoring; Rp. 20,000/kg, seeds can be used as medicinal purposes)

Nipis Orange (for flavoring; Rp. 10,000/kg)

Purut Orange
(for flavoring; Rp. 6,000/peace, fruits can be used for medicinal purposes and shampoo)

Figure 6.8 Types of Orange Fruits Available at Takengon Market (as of October 2016)
Source: JICA Study Team

Orange trees are planted together with coffee trees. It is called "Tempang Sari" cultivation. Orange trees are functioning as shade trees in Tempang Sari cultivation. Several types of trees are commonly used as shade trees but the DOA started to promote coffee/orange Tempang Sari cultivation three years ago. Area of coffee/orange Tempang Sari cultivation increased to 150ha within three years. Few farmers around mountaintops exclusively plant orange trees since a few years ago, but they have not yet harvested oranges. Farmers apply Tempang Sari in slope land. Most of Tempang Sari farmers cultivate only tree crops and do not cultivate rice. Tempang Sari farmers could plant vegetables with tree crops

until the trees are grown up. According to information provided by the DOA of Central Aceh, profitability of coffee/orange Tempang Sari cultivation was estimated as Table 6.14. The DOA suggests that production cost is higher in orange cultivation rather than coffee. It should also be noted that stability of profit is higher for coffee rather than orange. Another advantage of coffee would be easy preservation. At present, coffee is more important for farmers than oranges. However, increasing profit of coffee cultivation seemed difficult since processing and distribution has been greatly improved already. Expectation for oranges must be increased in the future.

Table 6.14 Preliminary Estimation of Profitability of Coffee/Orange Tempang Sari Farming

Crop	No. of tree per ha	Annual yield	Farm gate unit price	Sales
Coffee	1,350	0.75 t/ha	Rp. 60,000/kg	Rp. 45 million
Orange	20	1.30 t/ha	Rp. 11,000/kg	Rp. 14 million
Total	1,370	2.05 t/ha	-	Rp. 59 million

Source: JICA Study Team based on the information provided by DOA of Central Aceh

Under above explained circumstances, Central Aceh District and Aceh Province are interested in learning technologies from Japanese local governments and private companies especially for orange processing and promotion for local economic development. They also want to increase export of Gayo Coffee to Japan.

(2) Result of the Matchmaking

1) Collaboration Process and Progress

Figure 6.9 presents process of Aceh-Kochi /Ochi collaboration. Step 1 is a discussion on what beneficiaries want to do. Result of the discussion will be summarized in the form of the Long-term Roadmap by Aceh and Kochi/Ochi. Step 2 is preparatory works of activities listed on the Long-term Roadmap. It is necessary to prepare budget, human resources, and equipment before starting the activities. Step 3 is implementation of the activities with monitoring.

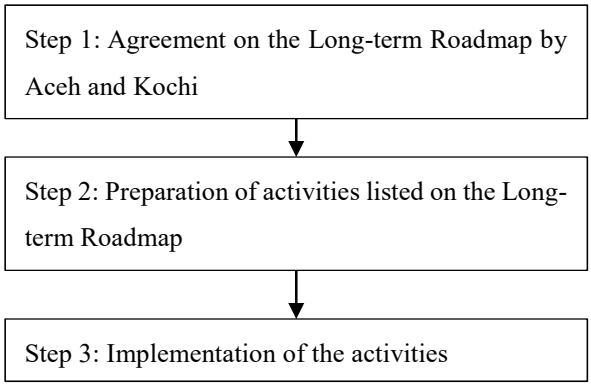


Figure 6.9 Process of Aceh-Kochi/Ochi Collaboration

2) Progress of Step 1 (Agreement on the Long-term Roadmap by Aceh and Kochi/Ochi)

During the 3rd Survey in Indonesia, participants (Orange Producers' Forum, DOA of Central Aceh District, Provincial Agricultural Office of Aceh Province[258], Ochi Town, and Okabayashi Farm) discussed the Step 1 process of collaboration (basic idea). They basically agreed on the followings.

[258] Dinas Pertanian Tanaman Pangan Provinsi Aceh

Basic Concept

It seemed that natural cultivation technique is commonly applied for orange production in the district and farmers are managing orange trees appropriately. Introduction of chemical based cultivation technologies would affect negatively in this case. It should also be noted that Japanese local governments are not interested in transferring cultivation technologies. It does not bring any benefit to Japanese side. Considering the situation, it was basically agreed that well-managed natural orange cultivation in Central Aceh needs to be maintained[259]. On the other hand, processing and distribution of orange and orange products leave plenty of room for improvement. It is important to identify useful and unused local resources such as oranges and strengthen processing and distribution technologies. It is also important to develop local economy placing great value on local culture and perspectives.

Considering present situation of Central Aceh District, it is difficult to start business trading or joint business immediately between Indonesia and Japan. It is necessary to develop reliable business partners in Central Aceh first and then start joint business. Therefore core of the collaboration plan is capacity development of orange producers in Central Aceh.

Title

Cooperation Program between Kochi and Aceh focusing on Identification and Utilization of Unused Local Oranges and Local Perspectives

Objective

Objective of collaboration is to create sustainable Win-Win situation between Kochi (Ochi Town and Kochi Prefecture) and Aceh (Central Aceh District and Aceh Province) and share benefit with both sides.

Stakeholders and Their Benefits of Participation

Table 6.15 presents stakeholders of collaboration and their benefits of participation.

[259] At the time of 1st Survey in Indonesia (May 2016), it was conceived that main topics of collaboration would be Yuzu cultivation in Indonesia and dispatching Technical Interns from Indonesia to Japan. Concept of the collaboration was reexamined during the 2nd Survey in Indonesia.

Table 6.15 Stakeholders and Benefits of Participation

	Indonesia	Japan
Private Sector	Orange Producers' Forum Main implementer of Indonesian side. The forum has not been officially registered. It needs to be converted to a registered body in the future as it is a requirement for a Japanese private stakeholder to commence joint business. Benefit is to expand its business with receiving technical supports from Japanese partners.	Okabayashi Farm Co.,Ltd. Main implementer of Japanese side. Benefit is to ensure linkage with reliable business partners in Central Aceh District. Also to receive appropriate amount of royalty when joint business under guidance of Okabayashi Farm becomes successful.
Local Government	DOA of Central Aceh Responsible for technical supports on orange cultivation, processing and distribution as well as capacity development of Orange Producers' Forum. Provincial Agricultural Office of Aceh Province Take charge of monitoring activities as well as diffusion of successful development model to other areas. Benefit of Indonesian local governments is to learn a regional economic development process applied in Ochi Town and Kochi Prefecture such as regional action plans and "local production for trading" concept.	Ochi Town and Kochi Prefecture Responsible for local industry development and supporting overseas development of local businesses such as Okabayashi Farm. Benefit of these local governments are to promote their regional development concept that is "local production for trading".

Source: JICA Study Team

Long-term Roadmap

Whole picture of the collaboration was summarized as the Long-term Roadmap as presented in Figure 6.10. Period of the Roadmap is five years. It can be extended, if result of the collaboration will be recognized as effective at the last year of the Roadmap. Although there is no clear division, the first three years could be recognized as Capacity Development Period and the last two years could be said as Business Verification Period. The Capacity Development Period has strong characteristic of international cooperation, whereas the Business Verification Period is more for business development.

As it is shown in Figure 6.10, the Long-term Roadmap consists of 10 activities. Three of them are activities for civil officers and seven are for private stakeholders. Among them, "Business Partners Development (Training for Orange Producers in Central Aceh; Group 1 and 2)" are the most important and indispensable. "Dispatch of Short-term Japanese Experts" is the second most important project.

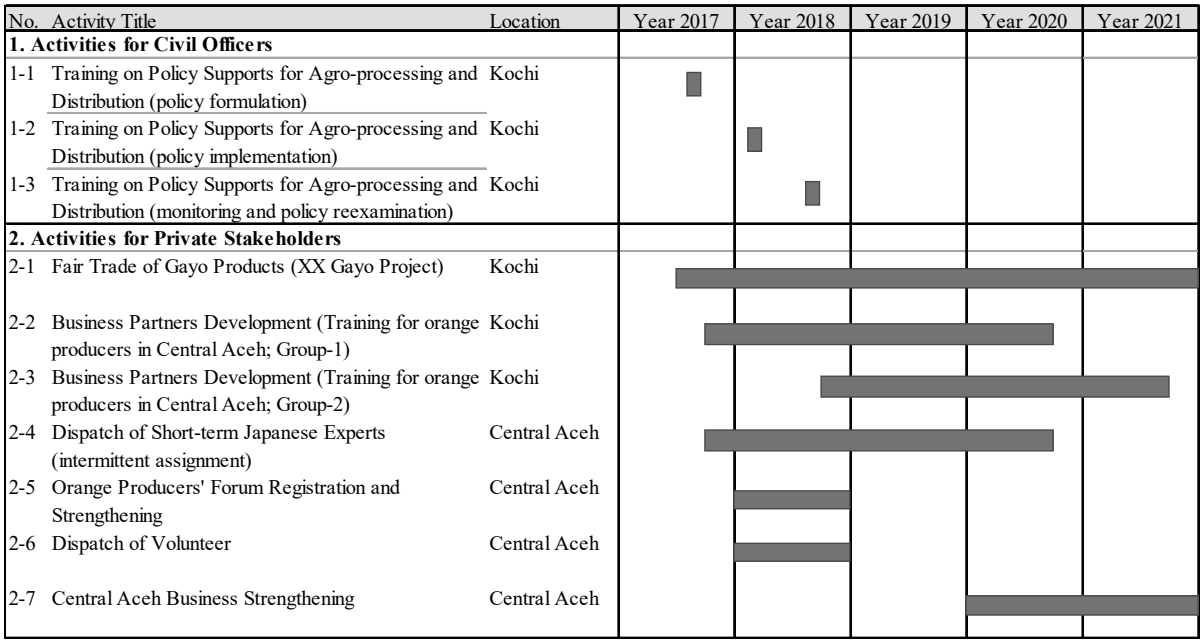


Figure 6.10 Long-term Roadmap

Source: JICA Study Team

3) Progress of Step 2 (Preparation of activities listed on the Long-term Roadmap)

During the 3rd Survey in Indonesia, participants partly discussed the issues related to Step 2 (analyzed operability of activities listed on the Long-term Roadmap), especially for "Business Partners Development (Training for orange producers in Central Aceh)". It was identified that there were a lot of challenges to implement the activity such as mechanism and funding sources of business partners development in Japan. Participants agreed to continue efforts to find solutions. The followings are detail of activities listed on the Long-term Roadmap including challenges for implementation.

Projects and envisaged challenges

Table 6.16 presents outlines of activities proposed in the Long-term Roadmap and their challenges.

Table 6.16 Activities Proposed in the Long-term Roadmap and their Challenges

No.	Activity Title	Summary	Location/Implementer/ Beneficiary	Fund Source/ Period	Challenge
1-1	Training on Policy Supports for Agro-processing and Distribution (policy formulation)	Civil officers of Central Aceh District and Aceh Province will learn the way of regional action plan formulation and role of local governments from Kochi Prefectural Government.	Location: Kochi Prefecture Implementer: Kochi Prefectural Government Beneficiary: DOA of Central Aceh and Provincial Agricultural Office of Aceh	Fund: JICA etc. Period: About 15 days	Approval from Kochi Prefectural Government is required.
1-2	Training on Policy Supports for Agro-processing and	Civil officers of Central Aceh District and Aceh Province will learn the way of regional action	ditto	ditto	ditto

No.	Activity Title	Summary	Location/Implementer/ Beneficiary	Fund Source/ Period	Challenge
	Distribution (policy implementation)	plan implementation and how to remove bottlenecks of implementation from Kochi Prefectural Government.			
1-3	Training on Policy Supports for Agro-processing and Distribution (monitoring and policy reexamination)	Civil officers of Central Aceh District and Aceh Province will learn the way of regional action plan monitoring and how to review the regional action plan from Kochi Prefectural Government.	ditto	ditto	ditto
2-1	Fair Trade of Gayo Products (XX Gayo Project)	"Gayo" is a typical name of ethnic group in Central Aceh District and used as a name of the area. The word "Gayo" is also commonly used as a part of local language of Kochi. Central Aceh and Kochi can be linked by the word "Gayo". To strengthen the linkage, fair trade activity using the promotion word "XX Gayo" will be taken place (XX will replaced by an appropriate word afterword). The activity can be started from trade of Gayo Coffee which is already known as a product of export quality. A part of profit can be used as fund for other activities for oranges.	Location: Kochi Implementer: Private stakeholders in Kochi Beneficiary: Coffee Cooperative and coffee farmers in Central Aceh	Fund: Japanese private stakeholder Period: Not specified	Not identified
2-2	Business Partners Development (Training for Orange Producers in Central Aceh; Group-1)	Dispatch young talented orange farmers to Okabayashi Farm to learn cultivation, processing, promotion and management skills of orange related businesses. The technology transfer will be made mainly by On-the-Job Training. Trainees need to be candidates of future leaders of Orange Producers' Forum in Central Aceh District. The Forum and DOA of Central Aceh will responsible to select appropriate candidates. The trainees are expected to be future business partner of	Location: Kochi Implementer: Okabayashi Farm Beneficiary: Orange Producers' Forum in Central Aceh	Fund: Not identified (preferably Central Aceh District and/or Aceh Province. Application to other schemes needs to be considered.) Period: 2-3 years	No appropriate JICA scheme for implementation. Acquisition of fund and absence of acceptance mechanism in Japan (visa process, insurance and living

No.	Activity Title	Summary	Location/Implementer/ Beneficiary	Fund Source/ Period	Challenge
		Okabayashi Farm. The activity is the most important one among the activities listed in the Roadmap.			environment) must be challenges. Supports from experienced organization s such as JICA is required. Creation of a network with Indonesian students learning in Kochi would be effective.
2-3	Business Partners Development (Training for Orange Producers in Central Aceh; Group-2)	ditto	ditto	ditto	ditto
2-4	Dispatch of Short-term Japanese Experts (intermittent assignment)	Dispatch Japanese experts from Kochi to Central Aceh (short-term intermittent assignments) to survey the situation. The activities include production and promotion of sample orange products with simple equipment. If high demand of such products are confirmed, upgrading of equipment would be discussed among stakeholders.	Location: Central Aceh Implementer: Okabayashi Farm Beneficiary: Orange Producers' Forum in Central Aceh and DOA of Central Aceh	Fund: JICA etc. Period: 3 years	Possible JICA schemes would be "JPP" and "JICA Program with Japanese SME". The most appropriate scheme for the activity needs to be selected.
2-5	Orange Producers' Forum Registration and Strengthening	Register Orange Producers' Form in Central Aceh District as a formal organization and strengthen its functionality. It is essential for Japanese partners to start business with the Forum. The coffee producers' cooperatives which is already	Location: Central Aceh Implementer: DOA of Central Aceh Beneficiary: Orange Producers' Forum in Central Aceh	Fund: DOA of Central Aceh or Provincial Agricultural Office of Aceh Period: 1 year	Not identified

No.	Activity Title	Summary	Location/Implementer/ Beneficiary	Fund Source/ Period	Challenge
		well established could be a good example.			
2-6	Dispatch of Volunteer	Japanese side will dispatch volunteer to Central Aceh District. The volunteer will work together with young local farmers and understand perception of local people, traditional culture, etc. Such experience can be used for formulating development plan focusing on local perspectives.	Location: Central Aceh Implementer: Not identified Beneficiary: Orange Producers' Forum in Central Aceh	Fund: Not identified Period: 1 year	Currently, dispatch of Japan Overseas Cooperation Volunteers by JICA to Aceh is not possible. Possibility of dispatching other types of volunteers needs to be examined. Availability of applicant also needs to be confirmed.
2-7	Central Aceh Business Strengthening	Private stakeholders in Central Aceh (Orange Producers' Forum) will develop new products and conduct marketing and promotion activities by using identified unused local resources. Private stakeholders in Kochi (Okabayashi Farm) will provide technical assistance and receive appropriate amount of royalty based on amount of sales. In other case, private stakeholders in Central Aceh and Kochi will start joint business.	Location: Central Aceh and possible target markets such as Banda Aceh, Medan and Jakarta Implementer: Orange Producers' Forum in Central Aceh, Okabayashi Farm Beneficiary: All	Fund: Private funds (subsidy from Central Aceh District and/or Aceh Province is expected) Period: Tentatively 2 years (could be extended)	Need to identify unused useful local resources.
Note: Activity numbers are corresponding to the Long-term Roadmap.					

Source: JICA Study Team

(3) Way Forward

It is necessary to continue discussion about Step 2 and complete preparatory works for implementation. It is preferable if several activities could be budgeted in one item (or one project).

There are two major challenges (or constraints) to complete Step 2 and proceed to Step 3 (implementation). The first constraint is absence of appropriate JICA scheme for "Business Partners

Development (Training for Orange Producers in Central Aceh)" which is the most important activity. To combat the constraint, stakeholders of Aceh and Kochi agreed to share the cost and make efforts to find budget, although it is not easy. Budget is not only the problem. It is difficult for stakeholders to find out appropriate way of visa procedure and insurance protection for trainees. It is important to continue discussion on the cost sharing but finding an appropriate scheme from other organization, such as MAFF, must also be critically important. The second constraint is absence of a facilitator after this study. Until now, consultant team of this study has played a role of a facilitator. According to stakeholders of both Aceh and Kochi, it has accelerated collaboration process greatly. However, after the study, Aceh and Kochi will need to communicate directly without a facilitator. Stakeholders said it was difficult to do it immediately.

Stakeholders of both countries are very motivated and working hard to make the collaboration into reality. Aceh stakeholders are already started budget preparation process, especially for "Business Partners Development (Training for Orange Producers in Central Aceh)". Kochi stakeholders are analyzing possibility of applying JICA and/or MAFF projects. It is expected that stakeholders will find solutions of above-mentioned constraints and start actual collaboration activities soon.

6.2.5 Results of Interaction: Hyogo Prefecture and East Lombok District

(1) Proses of Interaction

As mentioned in Chapter 4, Hyogo Prefecture and East Lombok District were not candidate partners at first, and they continued participating in the study to accumulate agricultural knowledge. East Lombok District, as mentioned in Chapter 4, was a potential candidate of Japanese local government's partner, but because its supposed candidate partner in Japan decided not to continue joining the study, East Lombok District had not found its partner. Even though, East Lombok District, located in East Indonesia that is prioritized in regional development policy in Indonesia, was recommended to participate in Japan Visit Program. On the other hand, Hyogo Prefecture decided to participate in the 2nd Field Visit in Indonesia for staff training to visit Semarang City together with Kobe City, as it did not have candidate partner.

However, when East Lombok District that was the only Indonesian local government without prospective partner, visited Hyogo in Japan Visit Program eagerly requested Hyogo Prefecture to visit the district, Hyogo agreed with the idea. Thus, the destination of Hyogo Prefecture in the 2nd Field Visit in Indonesia changed from Semarang City to East Lombok District. Eagerness of East Lombok District encouraged Hyogo to visit there.

(2) Proposal from East Lombok District

In accepting Hyogo delegation in the 2nd Field Visit in Indonesia, East Lombok District proposed the concept of simple roadside station for regional development which connects agriculture and tourism in Sembalun sub-district at the east of Mt. Rinjani.

Before, East Lombok District had planned to increase quantity and quality of potato and garlic

production in Sembalun sub-district and hoped to get support from Japan. After observation and lecture in Minamiboso City, Kobe City and Hyogo Prefecture in Japan Visit Program, the target was changed to the collaboration of agriculture and tourism utilizing roadside station. The concept of roadside station of East Lombok District is as follows.

- Set up a road station with station function in Sembalun sub-district to connect various local resources of agriculture and tourism.
- The roadside station has six functions including farmers' market to sell local specific and organic agricultural products, parking area, rest space and restaurant, toilet, information center, and local traditional market. These six functions will be developed step by step connecting each other.
- The candidate location of the roadside station is in the center of Sembalun sub-district where Sunday market is held and there was bus terminal, and near tourist information office.
- The Sub Terminal of Agribusiness (STA) in the capital city, Selong, will be functioned as collecting and wholesale small market of vegetables sent from Sembalun sub-district and be connected with the roadside station. STA locates along the main road that connects Mataram, the largest city in the Lombok Island, and the ferry port to the Sumbawa Island. The location has also been known as the pineapple selling stand. So, STA area will be expected to attract many visitors.

It is important that the roadside station must not damage but coexist with current local economic activities. This point was often discussed by East Lombok District with Tomohon City at Minamiboso City during the Japan Visit Program.

(3) Proposal from Hyogo Prefecture

At first, Hyogo Prefecture did not have clear plan for collaboration with Indonesian local government. Based on the proposal of roadside station from East Lombok District and discussion in the 2nd Field Visit in Indonesia, Hyogo came up with two collaboration ideas as follows.

1） Exchange of farmers between Hyogo Prefecture and East Lombok District

Two officials from Hyogo Prefecture proposed to invite farmers from East Lombok District. They met chili farmer who could answer the good point of his agriproduct and its reason, coffee farmers who discussed together after question from Hyogo officials, garlic farmers who could explain the nutritive contents of garlic scientifically, and a potato farmer who led 300 farmers. They proposed to learn from these farmers of East Lombok as "teachers", not as trainees, for young farmers in Hyogo Prefecture. They also saw young farmers with their excellent management sense and the sprout of sixth industrialization in Sembalun. Their thought is to start from small exchange of farmers and develop it to private business partnership and investment step by step.

2） Collaboration on roadside station

In Japan, city government, not prefectural government, is usually in charge of roadside station. So, it is

difficult for East Lombok district to cooperate with Hyogo Prefecture on roadside station. However, Hyogo Prefecture will try to share the ideas of roadside station of East Lombok to 3-4 cities in the prefecture to attract their interests. Hyogo Prefecture thinks that Japanese roadside stations overemphasize the hardware, and wants to suggest city governments to learn the concept of East Lombok District that starts from small scale and develop it step by step, connecting six functions. Hyogo side hopes that East Lombok side can learn from the failure cases and contract management know-how by private sector in Hyogo.

(4) Future Direction

Though both Hyogo Prefecture and East Lombok District had not planned to collaborate at first, through mutual visit and interaction of their eagerness and sincerity, at last, they agreed to consider the continuing exchange each other. They will start from small exchange and develop their relation gradually. However, it is still in the initial stage and there is no concrete activities and ideas.

In the exchange of farmers, Hyogo Prefecture and East Lombok District should prepare the budget. Also, what is import is to continue such relationship in long term. So, certain scheme should be created. On the other hand, for the collaboration on roadside station, Hyogo Prefecture will provide the information about East Lombok to 3-4 cities to think of their possibilities to collaborate with East Lombok side. Because both ideas are long-term plans, Hyogo Prefecture will make internal discussion first and expects to consult with JICA Kansai.

If possible, Hyogo Prefecture hopes to send staff to East Lombok District during this FY 2016 to prepare the exchange of farmers. East Lombok District will consider the budget allocation in FY 2017 for this collaboration and keep contacts with Hyogo Prefecture.

(5) Some Lessons Learned

This interaction results happened by chance much due to personal factors such as eagerness of East Lombok side and sincere attitude of Hyogo side to see what is good in East Lombok. Lessons learned from this case are as following.

First, there should be the positive eagerness and vision for one's region and agriculture. This eagerness and embodiment of what one wants to do raised the study effect. In this case, East Lombok wanted to utilize this opportunity and tried to upgrade their ideas on what to do for their region and agriculture based on the new experience and discussions. This attitude of East Lombok was understood well by the Hyogo side. Even though there was no clear intention to collaborate in one side at first, if there is positive local government leader with strong eagerness, both sides might find the possibility to collaborate.

Second, based on this eagerness, the field would give some strong implication. The concept of roadside station in East Lombok was created after the Japan Visit Program, visiting actual sites of several roadside stations and farmers' markets in Minamiboso City, Kobe City and Hyogo Prefecture. Two officials from Hyogo Prefecture felt the enthusiasm of East Lombok as they actually joined the field

visit in East Lombok that was thoroughly prepared by officials in East Lombok, and actually met and discussed with farmers in the field of Sembalun. They confirmed that the enthusiasm of the officials is based on the reality of the farmers in the field.

Third, the combination of Prefecture in Japan and District in Indonesia, the different administration level, may create the possibility of unimagined collaboration. Hyogo Prefecture knows the current agricultural condition at city level in Hyogo well, and concerns the importance to develop management sense of local farmers. The merit of Hyogo Prefecture is to make those local farmers and city governments learn through exchange with overseas. In this matter, even if the relation is not between prefecture of Japan and province of Indonesia or between city of Japan and district/city of Indonesia, there is a possible case to create new collaboration that prefecture of Japan would select optimal cities in it to collaborate with district/city of Indonesia.

It should be noted that the case of Hyogo Prefecture and East Lombok District is the case that intention of local governments in both side coincide each other, but that does not mean mutual visit itself creates partnership. This case is the result of mutual endeavor by Hyogo and East Lombok under circumstances that all other local governments were in the matching process for concrete partnerships.

Chapter 7 Discussion and Recommendation for Possible JICA Cooperation Projects

This chapter discusses the possible JICA cooperation projects in the agriculture and livestock sector through partnership between local governments.

7.1 Discussion and Analysis

The results of matchmaking (and exchange) of five cases are summarized in the table below.

Table 7.1 Summary of Results of Matchmaking and Exchange

	Local Government Theme for partnership	Contents	Future prospect
1	Fukushima City-Malang City and Batu City Theme: Agriculture-commerce-industry collaboration for fruit products	• Introducing "Fukushima Model" for stable provision of high quality raw materials, and developing Fukushima-Batu brand targeting domestic and international markets, which streamlines value chain and shares higher values among stakeholders. HRD for business partner in the course of the programs. • Batu/Malang: Contributing to increasing and stabilize farmers' income and regional economic promotion. Can be a model of collaboration in Indonesia. • Benefiting Fukushima with brand label usage fee and import of raw materials: can be a model of JA to export know-how.	• JICA's Proposal Based PPP Program (2017-18)
2	Minamiboso City - Tomohon City Theme: Roadside station for agriculture and tourism development	• Developing a roadside station with 4 functions: flower market, organic vegetable farmers market, tourist information center, and evacuation shelter. • Contributing to increasing and stabilizing in farmers' income; and agriculture and tourism promotion • Can be a model combined roadside station and traditional markets.	• JICA Partnership Program (JPP) (2017-19)
3	Ochi town, Kochi Pref. -Central Aceh District, Aceh Prov. Theme: Sixth industrialization utilizing local citrus resources	• Aiming at future business partnership utilizing unused local resources, paying attention to the local value. • Components: 1) HRD for administrators for regional planning; 2) Fair Trade; 3) HRD for future business partner; 4) Institution building of farmers' groups; 5) Partnership planning by volunteers; and 6) Business development. • C.Aceh: Business development by introducing technologies and know-how; increasing and stabilizing farmers' income; and HRD of administrators for regional development. • Ochi: Future business development by HRD of business partners; and promoting "local production for trading" policy.	• Several programs including JICA Partnership Program (JPP) (2018-20)
4	Kobe City- Semarang City Theme: Suburban agriculture promotion through "Gastropolis" concept	• Starting from exchange of human resources; considering partnership for the future utilizing the similarity of both cities. • 1) Marketing and branding Semarang products to urban consumers in Jakarta; 2) conserving and refining Kota Lama area for tourism destination utilizing experience of Kobe; and 3) Identifying the potential of business partnership in the future. • Semarang benefits from introducing know-how and experience of Kobe for regional development. Kobe benefits from contributing to public relations, increasing tourists, and marketing of Kobe foods.	• Under consideration: possibility of JICA program
(5)	Hyogo Prefecture - East Lombok District Theme: Knowledge and experience sharing for linking agriculture to tourism markets	• Ideas for partnership: 1) farmer exchange program, and 2) roadside station. • East Lombok benefits from introducing technologies and know-how for regional development. Hyogo benefits from raising awareness of farmers and HRD of local governments and roadside stations.	• Under consideration: possibility of JICA program

Source: JICA Study Team

7.1.1 Analysis based on Results and Process

Following analysis is made based on the results and process of matching.

(1) Type of Partnership by Participants

Initially private partnership under the partnership between both local governments is assumed. Three types of partnership are identified through the study: 1) local government led, 2) private sector led, and 3) third sector led, based on who actually participated in the mutual visits and discussion for partnerships.

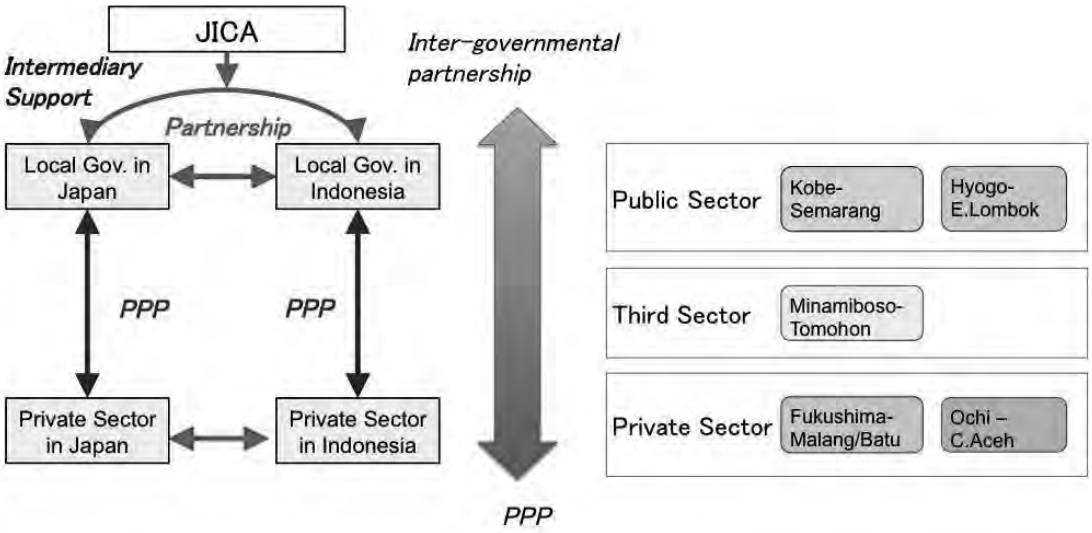


Figure 7.1 Type of Partnership: Assumed and Revealed

Source: JICA Study Team

The cases of Kochi/Ochi and Fukushima are the assumed type of partnership where private partnership supported by local government partnership. The cases of Kobe and Hyogo involve only public sector at the time of mutual visit; thus, can be called as local government led. In the case of Minamiboso involves private sector that is public owned company, i.e., the third sector.

Three cases involving private sector reached to the detail discussion for partnership, as they have more incentives for partnerships. The most possible partnership is the case of Minamiboso with the third sector whose president is the mayor himself, and thus, coordination between local government and private sector is well managed.

(2) Analysis on Assumed Types of Merits for Both Sides

Types of Merits for Both Sides

It is imperative to develop partnership between Indonesian and Japanese local governments in a way that becomes a win-win solution for both sides. These models of types of merits is assumed and served as the basis of the study. These are: A) Export to Indonesia, B) Import from Indonesia, C) Business Expansion, and D) Knowledge & Experience Sharing. Based on the types of merits, 5 cases are

classified in these types as shown in the figure below.

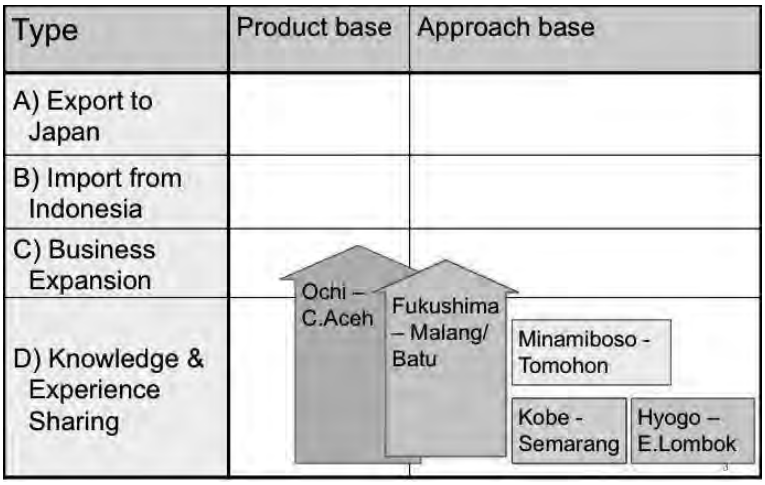


Figure 7.2 Types of Merits and Five Cases

Source: JICA Study Team

All cases fall into the type D) Knowledge & Experience Sharing to be expected to C) Business Expansion and so on. It shows that all cases start from D) Knowledge & Experience Sharing and are gradually expanded to other stages.

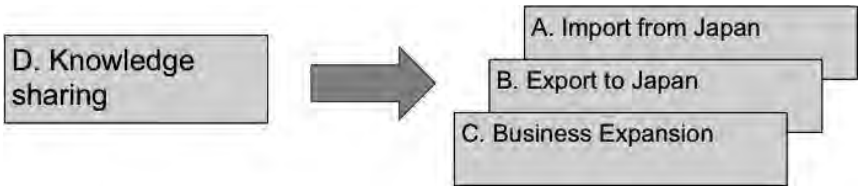


Figure 7.3 Expansion from Knowledge Sharing

Source: JICA Study Team

Product-Base and Approach-Base

Initially, the case of business partnership based on products is assumed. For example, Japanese companies import raw materials from Indonesia for processing foods processed and sold in Japan. None of them are in this case.

The level of processing in target area, except Gayo coffee in Central Aceh District, is turned out to be equivalent to cottage industry, which does not attract Japanese processing companies. In this regards, regional promotion approach such as sixth industrialization, roadside station, and so on is effective since these approach entails developing the business base such as human resource development.

(3) Surrounding Condition and Necessary Approach

According to the conditions where target city is located, the necessary approach differs. The figure below shows the result of analysis according to the surrounding conditions of target cities.

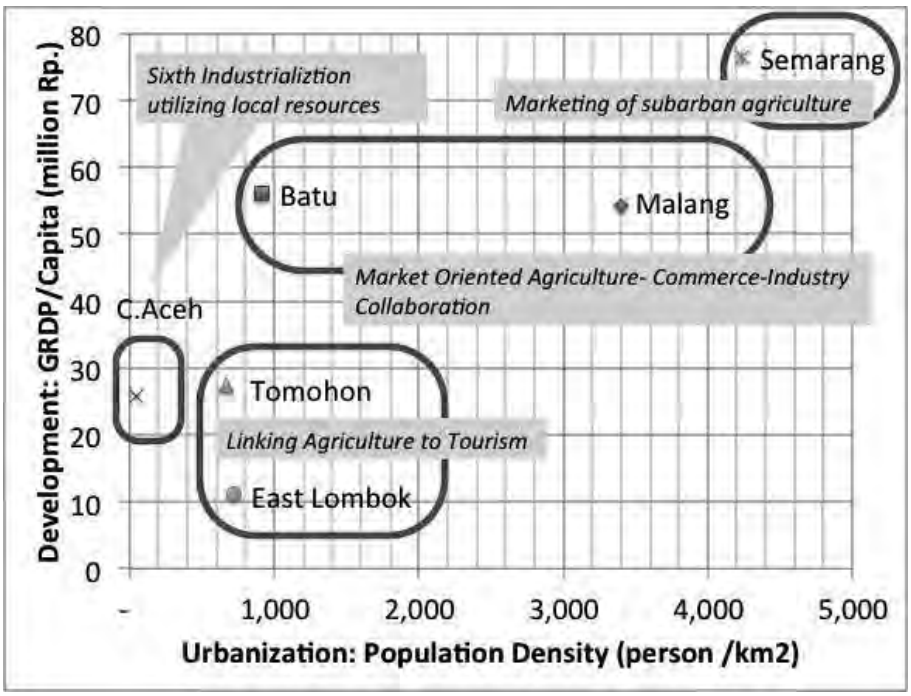


Figure 7.4 Positioning and Needs of Target City/District

Note: This chart is based on the result of the study.
Source: JICA Study Team

Market-Oriented Agriculture-Commerce-Industry Collaboration: Batu and Malang cities are relatively developed areas with better access to the market. The approach for market-oriented Agriculture-Commerce-Industry Collaboration with maximizing value of local resources such as apple can be introduced. It can be a model to strengthen competitiveness of agricultural products in these cities targeting Indonesian and overseas markets.

Sixth Industrialization Utilizing Local Resources: Central Aceh district is relatively less developed area with limited access to the market. The approach for sixth industrialization can be introduced with utilizing local resources such as oranges within their capacities. It aims at maintaining well-managed natural orange cultivation in Central Aceh, and at improving processing and marketing those products, and developing local economy with placing great value on maintaining local culture and values. Through these activities, it aims at developing human resources as a business partner for the future partnership.

Liking Agriculture to Tourism: Tomohon city and East Lombok district have good access to tourism market. It aims at increasing farmers' income and regional economic promotion by capturing the tourism opportunities through strengthening information dissemination to tourists and integrating roadside station and local markets.

Marketing Suburban Agriculture: Semarang city is located urban areas. The concept of "Gastropolis" can be introduced for marketing suburban agriculture promotion.

(4) Potential Benefits for Respective Actors Participated

Benefits for Actors

Potential benefits for respective actors participated in 5 cases are shown in the table below. The cases involving private sector are straightforward about future benefits. However, the benefits in the cases involving only public sector or third sector are more indirect such as knowledge sharing with more international cooperation aspects.

Table 7.2 Potential Benefits for Respective Actors in 5 Cases

	Japanese Side		Indonesian Side	
	Private	**Public**	**Private**	**Public**
Fukushima - Malang/Batu	- Benefit sharing by the future business	- Fukushima model sweeping away rumor by earthquake	- Penetrating Indonesian and overseas fruit market - Increasing farmers' income	- Improving quality of products, strengthening competitiveness, obtaining processing technologies, introducing marketing know-how - Regional economic promotion
Minamiboso - Tomohon	- Public relation - Increasing number of tourists	- HRD of city government - Strengthening capacities to address challenges under globalization	- Increasing farmers' income by selling in farmers' markets - Increasing number of tourists and their spending	- Introducing know-how of roadside station for regional economic promotion
Kochi/Ochi – Aceh Prov./C. Aceh	- Benefit sharing by the future business	- Promoting local production for trading policy - Strengthening communities to cope with globalization	- Business development introducing technologies and know-how	- Regional development by introducing regional promotion method such as local product for local consumption. - Strengthening communities to cope with globalization
Kobe - Semarang	- Future partnership such as farmers exchange	- Public relation, Increasing tourists, Overseas trade	- Increasing farmers' income	- Regional economic promotion by introducing know-how linking agriculture to urban and tourism markets
Hyogo - E.Lombok	- Exchange knowledge and experience toward market-oriented agriculture	- HRD of local government, HRD to address challenges under globalization	- Increasing farmers' income	- Regional economic promotion by introducing technologies and know-how

Source: JICA Study Team

Those benefits for each actor are summarized as follows.

Expanding business for private sector: Private sectors who have direct benefit promotes partnership supported by public sectors in the cases of Fukushima-Malang/Batu, Kochi/Ochi-Aceh Prov./C.Aceh

Addressing the challenges faced by local governments: The local government such as Fukushima, Ochi, and Minamiboso have future threats such as shrinking agriculture market due to aging and population decrease, marginalization due to population decrease, and losing competitiveness due to harmful rumor on the nuclear accident caused by the Great East Japan Earthquake. Benefits for those local governments are HRD and capacity development to address these challenges.

Overseas marketing by local government: Kobe has a mind to expanding their activities into the world. As part of overseas marketing, Kobe promotes "Gastropolis". In this regards, Kobe has concern of growing Asian markets.

Revealed benefit: Hyogo prefecture participated in the field study in Indonesia. They come to have the ideas that the partnership provides them chances to raise awareness of threats by globalization and strengthen human resource and their readiness to address future challenges caused by globalization and shrinking food markets.

Needs by Indonesian side and Japanese side

Benefits for participants discussed above can be the needs of each actor. The needs of those actors are shown in the table below.

Table 7.3 Needs of Actors

	Needs	Contents
Japan	Government	Supporting priority area such as Aceh
	Local Government	Promoting regional vitalization by supporting private sector's investment Address the marginalization by aging and population decrease Regional economic vitalization by international cooperation activities HRD for globalization
	Private Sector	Business chance (identify business partner, securing material for processed foods), Reducing risk to overseas investment
Indonesia	Government	Securing food security Increasing and stabilizing farmers' income Remote area development such as eastern Indonesia
	Local Government	Regional economic promotion by introducing technologies and investment
	Private Sector	Technologies and investment

Source: JICA Study Team

Policy Needs and Business Needs: One of the priority policies of Indonesian government is narrowing regional gap. The Indonesian government prioritized remote area such as eastern Indonesia and Sumatra. In contrast, private sectors have priority on the easiness of business. They prefer to areas that have better business environment and market access.

Needs of Indonesia and Japan: Most of Indonesian local government understand the necessity for win-win partnership, however, they expected cooperation project. It needs to continuous effort to introduce this program.

(5) Relationship with Bottleneck in Investment Environment and JICA's Proposal Based Programs

Review on the bottleneck in investment environment and JICA's Proposal Based Programs is summarized as follows.

Investment Environment of Indonesian Agriculture and Livestock sector

Most Japanese companies invest in Indonesia are manufacturers, however, in recent years Japanese agricultural implements/food processing companies that see the advantages of huge Indonesian market have made inroads. The bottlenecks in investment in the agriculture and livestock sector are: 1) complicated procedure, and 2) difficulties caused by located in rural area such as difficulties to obtain information and partners. These are bottleneck for small and medium scale firms.

Bottleneck in JICA's Proposal Based Programs

JICA's proposal based program can reduce risk for small and medium scale firms to invest. Many projects cannot be commercialized in the agriculture and livestock sector due to the risk factors. Common risk factor throughout the projects are 1) limited infrastructure and market due to location in rural area, 2) regulation such as price control, 3) mismatched technologies, and 4) difficulties of preliminary study.

These factors were also identified in this study. Investment in the agriculture and livestock sector in rural areas, especially finding reliable local business partner is difficult for small and medium scale firms.

(6) Methodologies for Matching and Study

The following issues and challenges are identified.

1) Targeted Program and Follow-Up

- Setting target: clarifying the targeted project/program to be identified.
- Needs for following up of the study.
- Preparation of scheme for the output of the study such as 1) long-term training for business partner development and 2) package projects including various components.

2) Matching method and detail study

- Streamlining and coordination of policy priority before the study.
- Intensive study of Indonesian needs as well as Japanese needs and resources.
- Matching by identifying both needs.

3) Efficient Operation

- Efficient study by targeting participation of stakeholders for reducing coordination cost.
- Practical study involving local governments and private sectors.

- Paying attention to differences of behavior of local governments: Top-down in Indonesia and bottom-up in Japan.

7.1.2 Potential Partnership

(1) Rationale for Local Government Partnership

In line with the following objectives of the study, the rationale for the local government partnership is discussed below.

1) To collect information on the latest Indonesian government's policies on agriculture and food security and priority issues in this sector
2) To examine the Indonesian needs for cooperation in promotion of local agriculture and livestock industry, value addition, agricultural promotion through agricultural-commercial-industrial integration, etc. of which Japanese local governments and private actors have experience.
3) To analyze the issues that would emerge when the Japanese stakeholders above collaborate with or enter Indonesia.
4) To analyze the potential of agricultural products and processed goods of Indonesia, and possibilities to utilize Japanese knowledge and technology in this area.
5) To consider possible JICA cooperation projects in the agriculture and livestock sector through partnership between local governments based on the findings from the steps described above.

Indonesian policy and priority issues and needs

The table below summarize 1) Indonesian priority issues and policies in the agriculture and food security as discussed in Chapter 2, 2) issues faced by target cities/ district, and 3) their needs.

Table 7.4 Indonesian Priority Issues and Policy, Challenges and Needs of Local Government

Priority issues and policy	Target city/ district	Needs
1. Food security	N/A	N/A
2. Narrowing regional gap	E. Lombok, C.Aceh, Tomohon, West Pakpak, and Lima Puluh Kota	Linking agriculture to tourism, Roadside station, Sixth industrialization
3. Narrowing urban-rural gap	Semarang	Gastropolis
4. Value addition of agricultural products	Malang/ Batu	Market-oriented agriculture-commerce-industry collaboration, Branding

Source: JICA Study Team

Priority issues and policies related in target city/ districts are 1) narrowing regional gap, 2) narrowing urban-rural gap, and 4) value addition of agricultural products contributing to 1) and 2) above. To address these issues, Japanese technologies are assumed to contribute to value addition and processing. However, these technologies cannot be applied because of difficulties of level of technologies in rural areas and non-readiness for business. It is imperative to improve and develop the foundation for the business such as human resource for the partnership.

Potential of agricultural products in Indonesia

Initial assumption is that Japanese companies import processed raw materials from Indonesia for processed foods to sell in Japan. None of them are in this case. The level of processing of local industries in target area is turned out to be equivalent to cottage industry, which does not attract Japanese processing companies, except the case of Gayo coffee processing by farmers' group in Central Aceh (See pictures in page 203-205).

Major agro-processing products of local industries in target local government are summarized in the table below. The level of these processing are those of cottage industry targeting local markets except Gayo coffee processing. Variety of products are limited to fried chips, juice and sweats. None of the private sectors participated in the study is interested in immediate investment.

Table 7.5 Major Agro-Processing Products in Target Local Government

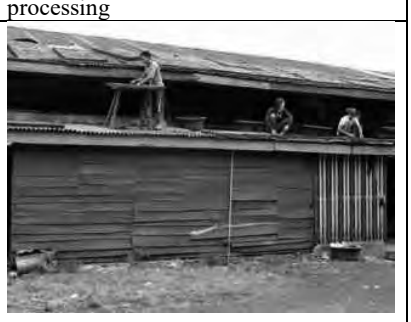
	Local Government	Major Products
1	Tomohon	Banana chip, sugar palm processing
2	East Lombok	Arabica coffee, vegetable snack, black onion.
3	Malang	Fruit chips and jelly made of apple, papaya, jack fruit, salak; freeze-drying red onion, tempeh, chocolate snacks.
4	Batu	Apple products (apple chip, juice, apple cider, apple vinegar (Tonik Apel）, apple tea), mushroom chips, taro-bread, aloe vera drink
5	Semarang	Various chips and sweets made of local materials, spring roll, health foods made of medicinal herbs.
6	Indramayu	Juice, syrup, jam, chips, and sweet stuff made of mango.
7	Sumedang	Sumedang bean curd (Tahu Sumedang)
8	Lampung	Durian processing, juice made of pineapple and mango, chips made of banana and cassava, tropical fruit processing, coffee, goat milk powder, etc.,
9	Lima Puluh Kota	Gambir processing/drying
10	West Pakpak	Gambir processing/drying, Gambir team
11	Central Aceh	Gayo coffee
12	Aceh Besar and Banda Aceh	Cassava chips, dendeng, bean curd, tempeh, taro juice.

Note: Only local industry level processing. Large-scale processing by foreign investment is excluded. There exist large-scale juice processing plants by foreign investment in Lampung province.
Source: JICA Study Team

Semarang : Cottage industry in rural area

Semarang： Cassava chips in rural area

Sweets made by women’s group in rural area

 Sweets in Semarang	 Aceh Besar : Chips processing on roadside	 Aceh Besar : Introducing slicer for chips processing
 Aceh Besar : Taro juice	 Aceh : Deng deng	 Aceh : Deng deng dried on the roof
 Aceh : Slicer for Deng deng	 Aceh : Freezer for Deng deng	 West Pakpak : Processing facility for Gambir
 West Pakpak : Sun-dried Gambir	 Malang : Chips factory said to be most advanced	 Malang : Souvenir shop inundated with various chips
 Batu : Apple juice processing	 Batu : Apple chips processing	 Batu : Apple chips processing with fryer

 Batu：Apple chips	 Batu：Chips selling	 Batu：Sweets
 Indramayu：Processing facility	 Indramayu：Processed food	 Lampung：Banana chips
 Lampung：Packing banana chips at shop	 Lampung：Goat milk powder	 Central Aceh：Coffee cooperative
 Central Aceh：Facility of coffee cooperative	 Central Aceh：Processing facility of coffee cooperativ	 Tomohon：Aren sugar pcocessing factory
 Tomohon：Inside the sugar pcocessing factory	 Tomohon：Peanuts processed food	 Kawangkoan near Tomohon：Peanut processing

However, Indonesian fresh and processed products have huge potentials to capture Indonesian market. Indonesian food market is growing with population and economic growth. In contrast, Japanese market is shrinking saturated with high quality products. Currently, in Indonesia most of food markets are traditional markets, however, modernized market will grow in number and size in the near future.

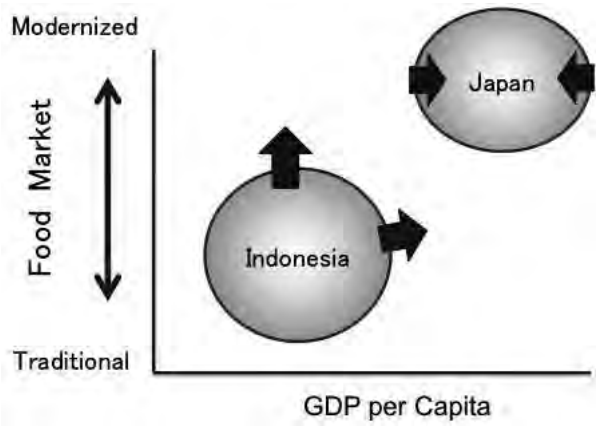


Figure 7.5 Potential of Food Markets

Source: JICA Study Team revised based on Yoshimura, Ishikawa, Developing Food Value Chain in the World Food market, Regional Trend, Vol.14, 2015.3.

Taking the fresh fruit market in supermarkets in Jakarta as an example, imported fruits from China, New Zealand and Australia occupy the markets. Apples of Batu city have potentials to penetrate into these markets. Currently, apples in Batu are not competitive in even local market. Value addition is limited to processing most of which is fried chips. There exist threats of deteriorating quality and decreasing volume of production due to insufficient maintenance of apple trees.

If these apples have competitiveness to the imported products, it can be sold in Jakarta and overseas markets. Producing good quality apples from the production stage through collaborative activities among production, processing, and marketing enable to control quality, which strengthen the competitiveness of the products. This contributes to increase of farmers' income, and promoting regional economy. Japanese experience can be applied into these activities.

Surrounding environment and challenges of Japanese local government

The table below summarizes surrounding environment of agriculture in Japan and challenges of local government of the case.

Table 7.6 Surrounding Environment of Agriculture in Japan and Challenges of Local Government

Issues and surrounding environment	Local Government	Action
1. Aging and decrease in population (Shrink and change of domestic food markets)	Minamiboso	Rural economic promotion by Roadside Station
	Ochi	Rural economic promotion by "Sixth Industrialization"
	Hyogo prefecture	Rural economic promotion by "Sixth Industrialization"
2. Change in global food balance and globalization	Kobe	Oversea sales by introducing "Gastropolis".
	Kochi prefecture（Ochi）	Oversea sales by "local production for trading ".
3. Change of social structure and diversification of consumer needs（ Women's participation in society, Single-person household and aged household increases）	Kobe	Supplying safe and quality foods by introducing "Gatropolis".
4. Structural change of agriculture and rural areas such as farmland consolidation (Farmland consolidation, aging work force）	Minamiboso	Rural economic promotion by Roadside Station
	Ochi	Rural economic promotion by "Sixth Industrialization"
5. Various potentials such as new domestic and international markets and robot technology （Overseas Japanese food market, Healthy food market, technologies）	Kobe	Oversea sales by "Gastropolis".
6. Recovery and reconstruction from the Great East Japan Earthquake （armful rumor on the nuclear accident）	Fukushima	Providing safe and quality food by "Fukushima Model"

Source: JICA Study Team

The main approaches addressing these challenges are summarized in the table below.

Table 7.7 Major Approaches to Address the Challenges

Purpose	Approach	Local government
1. Value Addition to Agricultural and Livestock Products by PPP	1.1 Agriculture-Commerce-Industry Collaboration	Fukushima
	1.2 Sixth Industrialization (Agriculture-Commerce-Industry Integration)	Ochi, Hyogo
	1.3 Brand Establishment for Agricultural and Livestock Products	Fukushima, Kobe
2. Rural and Regional Development by PPP	2.1 Local Production for Local Consumption and Direct Selling of Agricultural Products	Minamiboso
	2.2 Harmonious Coexistence and Communications between Urban and Rural Areas/Green Tourism	Minamiboso, Kobe, Ochi
	2.3 Roadside Station (Michi no Eki)	Minamiboso, Hyogo
	2.4 One Village One Product (OVOP) Movement	-
	2.5 Global Food Value Chain Strategy	Kobe

Source: JICA Study Team

Japanese local governments face the following challenges.

- Rural area has been marginalized by aging and population decrease: it is willing to vitalize economy utilizing the opportunities in foreign growing markets.
- Capitulating market opportunism in the growing market in foreign countries because of shrinking Japanese food markets.
- Providing safe and quality foods meeting the change of market needs.
- Providing safe and quality foods to eradicate harmful rumor caused by the great eastern Japan earthquake.

Local governments and private sector in Japan face the challenges above. Indonesia with growing markets could provide opportunities and chance to address these challenges to local government in Japan. In this regard, there exist needs of Japanese local government for partnership with local government in Indonesia. On the other hand, some of local governments showed little concern nor no idea bout Indonesia. It is necessary to explain the potential of Indonesia for their understanding.

JICA cooperation projects in the agriculture and livestock sector through partnership between local governments

Most of Indonesian policies addressing priority challenges are aiming at increasing production by product based. In addition, government and private sector recognize value addition as processing in many cases. They try to introduce investment and technologies as solutions.

As results of the study, none of the private sectors participated in the study is interested in immediate investment because of a lot of constraints around. They recognizes the necessity of level up of whole process of value chain by introducing rural economic promotion approaches practiced in Japanese local government to facilitate the investment. Approaches by Japanese local governments are turned out to be effective to address the Indonesian challenges. These are approaches for 1) value adding on agricultural and livestock products and 2) rural and regional development through PPP. These programs include sixth industrialization, agriculture-commerce-industry collaboration, roadside station, and so on.

These approaches try to add value throughout value chain from production to processing and marketing by public-private partnership regardless the products. Through these processes, capacities and abilities necessary for business are developed such as human resource, product development, quality control, and branding and marketing. In this regards, Japanese approaches meet the needs of Indonesian local government for agriculture and livestock development. Furthermore, introduction of these approaches can strengthen the capacities of private sector necessary for business partnership with Japanese companies. The needs for these approaches are recognized Indonesian participants visited and observe these activities in Japan.

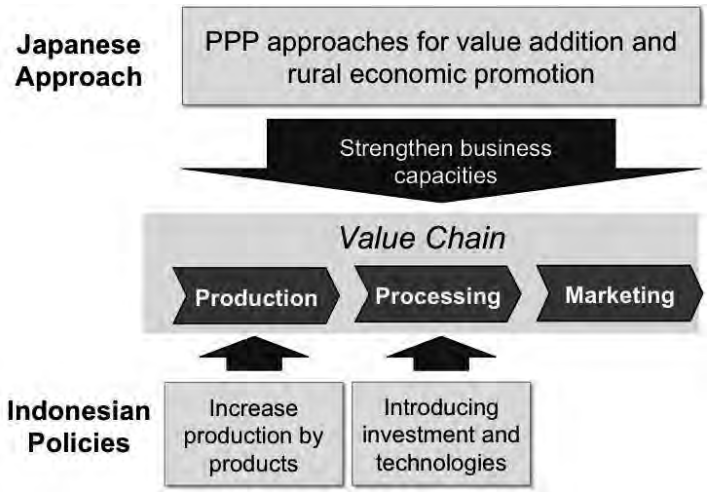


Figure 7.6 Indonesian Policies and Japanese Approaches

Source: JICA Study Team

In addition, products of Indonesia have potential to compete in the growing market in Indonesia; Japanese approaches can be utilized for it.

This study identifies the potential needs of both Indonesian and Japanese side. Under the JICA's Proposal Based PPP Program, these potential needs are not revealed. Japanese approaches can build capacities for business partnership, which makes it easier for Japanese private firms to invest in Indonesian regional area in the agriculture and livestock sector. Japanese local governments have the experience and know-how of these approaches. In this regards, the partnership between local governments is effective to solve Indonesian and Japanese challenges.

(2) Type of Partnership

Type of Partnership by Program Proposed

The three types of programs are proposed by pairs of local governments as results of this study. The difference depends on Japanese resources participated.

Table 7.8 Type of Partnership by Program Proposed

Type	Contents	Benefits	Approach	Case
Private-led Partnership	Private sector with willingness to invest supported by local government	Business partnership Local economy promotion	Combination of local economy promotion approaches and business partnership	Fukushima Ochi
International Cooperation	Local government interested in international cooperation	Local vitalization by international cooperation	Any approaches	Minamiboso
Local Government-led Partnership	Partnership between local governments for future benefits of both	Overseas marketing (Kobe) Potential needs (Hyogo) Readiness for globalization	Experience and knowledge sharing	Hyogo Kobe

Source: JICA Study Team

For the private-led partnership type such as Fukushima and Kochi/Ochi, private firms with willingness are supported by local government. This type is initially assumed. Local governments also have reasons to support, i.e., seeking solution to challenges faced.

For the international cooperation type such as Minamiboso**,** local governments utilize JICA program as a solution for local revitalization. Through the process, local governments strengthen capacities and human resources to address the challenges by globalization.

For the local government-led partnership type such as Kobe and Hyogo**,** local governments seek for the partnership and benefits in the future. The case of Hyogo Prefecture and East Lombok District revealed that even in cases where participating local government does not initially seek for future partnership, there is a possibility to identify a direction for partnership under certain circumstances.

Type of Partnership by Issues faced by Indonesian Local Governments

Issues and challenged faced by Indonesian local government differ among the environment surrounding each area. Types of partnership can be classified by the issues faced by each local government as shown in the table below.

Table 7.9 Types of Partnership by Issues faced by Indonesian Local Governments

Area	Issues	Theme	Needs	Local Government
Suburban Agricultural Area	Narrowing urban-rural gap	Marketing of suburban agriculture	Local Production for Local Consumption Farmers' market	Semarang
Developed Area with good market access	Value addition of agricultural products	Market-oriented agriculture-commerce-industry collaboration	Agriculture-commerce-industry collaboration Branding	Malang/ Batu
Area with good access to tourism market	Narrowing regional gap	Linking agriculture to tourism market	Linking agriculture to tourism market roadside station	Tomohon, E.Lombok, Lima Puluh Kota
Not good access to Markets		Sixth industrialization utilizing local resources	Sixth industrialization One village one product	C.Aceh, Pakpak Barat
Any areas	Respective issue	Knowledge and experience sharing	Any approaches	

Source: JICA Study Team

7.2 Recommendation for Possible JICA Cooperation Projects

The study identified the needs of Indonesian local governments for partnership with Japanese local governments. The study also showed the bottlenecks for Japanese firms to invest in the agriculture and livestock sector in Indonesian local areas. They cannot introduce technologies and know-how for business partnership immediately because of the bottlenecks. These bottlenecks are capacities necessary

for business partnership such as human resources and so on. These bottlenecks are the challenges faced by Indonesian local governments and firms; they need steady progress towards the challenges. In this regard, Japanese approaches for value addition and local economic promotion have great potentials to contribute to the solutions of the challenges. Ministry of Agriculture of Indonesia also has great concern of the effectiveness of these approaches since most of their policy measures for narrowing regional as well as urban-rural gap and value addition are stimulating production or introducing technologies and investments.

On the other hand, this study also identified the needs of Japanese local governments and firms for partnership with Indonesian local governments. Those are: needs for preliminary study for JICA's Proposal Based PPP Program and JPP; and potential needs for future partnership between local governments.

Therefore, this study identified the needs of both parties and possibilities of JICA cooperation project by facilitating partnership between local governments, which the study can contribute to promote these projects.

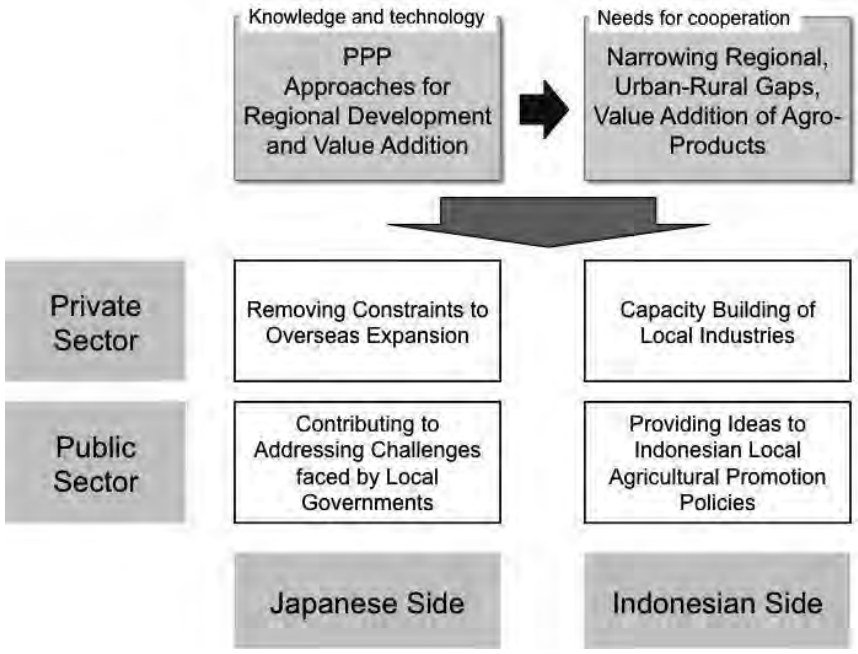


Figure 7.7 Needs for Local Government Partnership

Source: JICA Study Team

The study proposes the following actions tailored to the proposed programs for further steps.

(1) Needs identification and preparation tailored to the types of potential projects

This study identified potential partnership projects in three types: 1) private-led partnership project, 2) international cooperation project, and 3) local government-led partnership. The study also identified five types of partnership direction based on regional characteristics of the Indonesian local

governments: 1) Marketing of suburban agriculture, 2) Market-oriented agriculture-commerce-industry collaboration, 3) Linking agriculture to tourism market, 4) Sixth industrialization utilizing local resources, and 5) Knowledge and experience sharing. The table below summarizes the results.

Table 7.10 Types and Direction of Partnership Projects Proposed

		Partnership Direction based on Regional Characteristics of Indonesian Local Governments				
		Suburban agriculture marketing	Market-oriented agriculture-commerce-industry collaboration	Linking agriculture to tourism market	Sixth industrialization utilizing local resources	Knowledge and experience sharing
Type of Partner-ship	Private-led Partnership					
	International Cooperation					
	Local Government-led Partnership					

Source: JICA Study Team

When JICA plans a similar study like the present study, it would be preferable to design the study to respond to the differences of these partnership types. If possible, the study should target a limited scope of particular partnership direction. It differs among the partnership types which among the three types of needs of Japanese local governments/ firms are more applicable. These needs identification and preparation for respective project are summarized in the table below.

Table 7.11 Needs Identification and Preparation for Partnership Project

Project	Needs Identification and Preparation
Private-led Partnership	Needs identification and preparation as preliminary study to JICA private partnership projects
International Cooperation	Needs identification and preparation as preliminary study to JICA partnership programs (JPP) especially focusing on Japanese resources. Training for Japanese local governments who are interested in JPP.
Local Government-led Partnership	Raising awareness such as training and public relations for Japanese local governments.

Source: JICA Study Team

1) Private-led Partnership

Identifying Japanese private firms with willingness to begin business in Indonesia is the first step. This study identified the firms who have relationship and willingness to start business in Indonesia; local governments supported those initiatives. It is the first step to identify these firms as seeds searching from the inventory of firms proposed to JICA's Proposal Based PPP Program.

The study also identifies Indonesian local governments' needs depending on the environment surrounding the local governments. The needs identification and preparation focusing on the identified specific needs is an efficient way.

2) International Cooperation

Targets of this type are the Japanese local governments who have interests in JICA cooperation projects or international partnership. These local governments can be identified from inventories of local governments proposed to JPP and local governments involved in JICA cooperation projects/programs such as training in Japan. In addition, to increase the number of such local governments, training and/or seminars for local governments and firms is effective.

The needs identification and preparation focusing on the identified specific needs is an efficient way in case that the specific needs are identified in respective country.

3) Local Government-led Partnership

This study showed the positive results in the cases of Kobe-Semarang and Hyogo-East Lombok in which no private actor was included and therefore there was no concrete idea for partnership in advance. Even in these cases, under certain circumstances, a potential for partnership could be identifies, even with ideas beyond the initial assumption. These cases also have potentials to expand to types of partnership of private partnership and international cooperation. The trial of these cases in this study also identifies the needs of participated local governments for addressing various challenges such as capacity development towards globalization.

However, it is not efficient to utilize the limited resources like this study just to identify such needs considering that some other Japanese local governments decided not to continue joining the study. Rather, it is indispensable to raise awareness among Japanese local governments and firms before this kind of study. These activities are training for local governments and public relations. These steady activities can raise awareness and readiness among local governments in Japan.

(2) Following Up

Local governments participated in this study strongly requested JICA for the following up of the study. They strongly requested to assign consultants as facilitators for follow-up. Most of them were not aware of the available JICA schemes for cooperation projects/programs. Participants also requested JICA to hold training and seminar to introduce and study JICA programs and their procedures. The present study provided such an opportunity during the Japan Visit Program for Indonesian participants, but could not do the same for Japanese side due to time constraint. Therefore, in the future study, it is effective to explain available JICA schemes and necessary procedures at the beginning of the study.

(3) Increasing Flexibility of Schemes for the Proposed Projects

As discussed in 7.1, there were some gaps in the available JICA schemes and project/programs to implement some of the proposed projects for partnership. Local government participants requested

JICA to increase the flexibility of schemes for citizen participation, though cost-effectiveness needs to be taken into account. Some ideas for flexibility are; to ease the conditions so that smaller scale business can have opportunity to participate, to set an incubation period for business, to enable to provide OJT for business partners from target countries in Japan for a few years, and so on.

The outline of proposed program for JICA to support and promote local government partnership between Japan and developing countries is shown in the table below.

Table 7.12 Outline of Proposed Program to Support and Promote Local Government Partnership between Japan and Developing Countries

Programs	Outline
Needs Identification and Facilitation of Partnership	
Preliminary study	
Needs Identification and preparation	Matching and basic study for the preparation as needs identification and following preparation.
Specific needs identification and preparation	The needs identification and preparation focusing on the identified specific needs in case of the specific needs identified in respective country. Providing policy recommendations to the respective government after the study.
Training and PR	
Training for globalization in local governments	Training on JICA program, case study, issues faced by local governments, and discussion on the partnership.
Training for globalization in local governments (respective countries)	Training on JICA program, case study, issues faced by local governments, and discussion on the partnership in the fields.
Seminar on introducing JICA projects/programs	Training on JICA program, case studies, and procedures. Introducing consultants and registration.
Survey on local government globalization	Survey on the status of human resources development towards globalization including local governments participated in JICA training programs.
Follow-Up	
Facilitator for JICA Partnership Program (JPP)	Following up the needs identification and preparation, JICA provides consultancy services to local governments on advice in the process of preparing proposal, initial process of the project implementation, and in the case as needed.
Implementation	
Training for business partnership	Training of human resources for business partners in local governments and firms
Package project including various components	A comprehensive project that includes various activities proposed as a result of a similar study.

Source: JICA Study Team

APPENDIX: Main Newspaper Articles on this Study in Indonesia

Appendix 1 : Main Newspaper Articles on this Study in Indonesia

1. Koran Manado, July 28th, 2016

JFE Terima Delegasi Minami-Boso Jepang

Tomohon, KM- Iklim investasi di Kota Tomohon semakin bergairah. Buktinya, Rabu (27/07), Wali Kota Jimmy F Eman SE Ak menerima kunjungan delegasi dari Kota Minami-Boso Jepang di Show Window Kakaskasen Satu Tomohon Utara. Kedatangan delagasi dari Negeri Sakura tersebut dipimpin Fumio Kato selaku Wakil Direktur PT CIBA Minami-Boso, serta Katsuhito Shii didampingi Taketoshi Watanabe sebagai penanggung Jawab proyek JICA (Japan Internasional Coorporation Agency) dan Michiko selaku konsultan JICA.

DELEGASI Kota Minami-Boso Jepang Bertemu Wali Kota Tomohon Jimmy Eman.(foto ist)

Dalam kesempatan tersebut, Eman mengapresiasi kedatangan delegasi dari Minami-Boso Jepang yang difasilitasi JICA, sekaligus mempresentasikan tentang kondisi Kota Tomohon, termasuk tingkat IPM yang berada diatas rata-rata di Sulawesi Utara. "Pada

Baca JFE ... ke hal 15

prinsipnya Pemerintah Kota Tomohon sangat terbuka terhadap iklim investasi ataupun melalui program kerjasama," ujar Eman.

Selain itu juga, Eman mempresentaikan terkait program Tomohon Internasional Flowers Festival (TIFF) 2016. "Untuk itu, sangat dimungkinkan terjalin kerjasama dibidang periwisata, pendidikan, kebudayaan, serta pertanian maupun bidang lainnya seperti transportasi sebagai wujud pengembangan infrastruktur. Bantuan dari sisi pendanaan sangat penting dalam mengembangkan berbagai konsep pembangunan dan semoga JICA dapat berperan secara positif," kata Eman.

Berkaitan untuk memantapkan rencana kerjasama, maka Pemerintah Kota Tomohon mendapatkan undangan untuk mengunjungi Kota Minami-Boso Jepang pada September mendatang. Ikut hadir dalam pertemuan ini, diantaranya Kepala Bappeda Tomohon Ir Enos Pontororing MSi, Kepala Dinas Tanakan Ir Ervinz DH Liuw MSi, Kepala Dinas Pariwisata dan Kebudayaan Mariam Rau SH, Kepala Dinas Perindag Ruddie Lengkong SSTP dan Kepala Bagian Humas Protokol Fransiskus F Lantang SSTP. (Stevytampi)

2. Analisa Daily, October 19th, 2016

Analisa/julihan darussalam

SALAMI: *Bupati Aceh Tengah Nasaruddin menyalami Walikota Ochi Provinsi Kochi, Jepang, Yasuyuki Koda, Senin (17/10) malam.*

Walikota Ochi Jepang Kunjungi Aceh Tengah

Takengon, (Analisa)

Walikota Ochi Provinsi Kochi, Jepang, Yasuyuki Koda mengunjungi Kabupaten Aceh Tengah sebagai bentuk apresiasi atas dukungan daerah itu melalui program kajian data *collection survey on public-private-partnership for activating agricultural promotion in Indonesia* oleh *Japan International Coorperation Agency* (JICA).

Perwakilan kantor pusat JICA Taketoshi Watanabe menjelaskan, kunjungan Walikota Ochi ke Takengon, Aceh Tengah dilakukan selama 3 hari sejak 17-19 Oktober 2016. Walikota Ochi melakukan pertemuan dengan Bupati Aceh Tengah Ir. H. Nasaruddin, MM, Senin (17/10) malam.

Selain itu, kunjungan tersebut juga sebagai tindak lanjut dari kunjungan rombongan Pemerintah Provinsi Kochi ke Provinsi Aceh dan Kabupaten Aceh Tengah pada Juli 2016 lalu.

Kemudian, ditindaklanjuti juga dengan kunjungan dua pejabat dari Pemerintah Aceh dan Pemkab Aceh Tengah yang mengikuti program undangan JICA ke Jepang pada September 2016.

Diskusi lanjutan

"Kedatangan rombongan dari Pemerintah Kota Ochi kali ini untuk melakukan diskusi lanjutan tentang peluang kerja sama antara kedua daerah," ujar Taketoshi Watanabe.

Selain Walikota Ochi, tambahnya, rombongan pihak Jepang lainnya adalah President Okabayashi Farm Co. Ltd Fujio Okabayashi, Board Member and Factory Director, Okabayashi Farm Co. Ltd Takayuki Nakamura dan perwakilan Tim Studi JICA Jun Tsurui.

Pemerintah Kota Ochi telah memiliki teknologi pengolahan jeruk dengan berbagai varian kemasan, karenanya Bupati Nasaruddin menyambut positif kunjungan Walikota Ochi sebagai langkah untuk menjalin kerja sama terutama di bidang pengolahan jeruk keprok Gayo.

Selama di daerah dingin itu, rombongan Walikota Ochi dijadwalkan mengunjungi Pasar Terpadu Paya Ilang dan melihat prosesing kopi di Koperasi Baburrayan.

Dilanjutkan pertemuan dengan lembaga Masyarakat Perlindungan Indikasi Geografis-Jeruk Keprok Gayo Aceh (MPIG-JKGA dan melihat lokasi perkebunan jeruk masyarakat dan berwisata.**(jd)**