THE STUDY
ON
ESTABLISHING A SYSTEM
FOR
ENFORCING INDUSTRIAL CLUSTER LINKAGE BETWEEN THAILAND AND JAPAN (OTAGAI PROJECT)

FINAL REPORT

March, 2014

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

Nikkei Business Publications, Inc.

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Contents

Chapter 1: Overview of the Study

1.1 Background

The great flood attacked Thailand in late 2011 caused severe damages on the economies of Thailand, Japan and throughout the world, such as fragmenting the supply chains and suspending factory operations in some industries. The tragedy led to deeper mutual understanding on the importance of strengthening the supply chains and promoting industrial cluster partnerships beyond borders. For Thailand which has enforced its industrial competitiveness through Japanese and other foreign companies' manufacturing activities, taking a measure to maintain its attractiveness as production hub and strengthening the supply chains are urgent issues to be solved. Moreover, achieving the advancement of domestic industries through partnerships with cutting-edge businesses led by Japanese companies in the wake of the great flood is a pressing challenge for Thailand that is facing the "middle income trap".

To address such situations, Otagai project was launched in 2011 with the aim of promoting collective and strategic Japanese direct investment in Thailand through industrial cluster partnerships between the two countries. The Project was reported officially to the cabinet of Thai government, and in March 2012, the head of Department of Industrial Promotion under the Ministry of Industry of the Kingdom of Thailand announced that the Ministry was assigned as the execution body of the Project and would work in cooperation with National Economic and Social Development Board of Thailand (NESDB), which were agreed among Thai government officials.

Meanwhile, the momentum of industrial cluster partnerships is increasing between Japanese and Thai businesses that have strong ties through the supply chains. Small and medium-sized enterprises (SMEs), that used to have difficulties in pursuing a business expansion plan by just one company from the perspective of economic efficiency, are now setting sights on promoting international cooperation at industrial cluster-level. This is also a movement toward the establishment of industrial policy platform for enforcing the supply chains beyond borders, aiming at safeguarding the existing supply chains across Thailand and Japan against disasters, and contributing to further developments of the both countries in the future.

The Ministry of Industry of Thailand is also planning to develop the Otagai Project being not just a safeguarding network against disasters and the events of force majeure, but also a platform for creating a new Thai brand through 1) promotion of foreign direct investment (FDI) including expansion of Japanese SME manufacturers into Thailand, 2) introduction of technologies and know-how held by Japanese infrastructure companies to Thailand, and 3) strategic investment and expansion by Japanese manufacturers and infrastructure businesses.

According to the above background, Nikkei BP has been assigned to conduct a "Study on Establishing a System for Enforcing Industrial Cluster Linkage between Thailand and Japan (Otagai Project), while also incorporating the outcomes of "Study on the Sustainability Criteria for Mekong Industrial Parks in Thailand" (hereinafter, THAICOBAN study) which has started in prior to our study.

1.2 Purpose

The purpose of the study is to support information-gathering, basic policy plans and action plans to promote strengthening Japan-Thailand industrial cluster links (Otagai Project) through encouraging overseas expansion by Japanese companies, and to contribute to business development and expansion by Japanese manufacturers and infrastructure-related businesses in Thailand and the Mekong region for creating industrial links of mutual benefits for the both countries.

1.3 Basic Approach

Otagai Project is one of the measures to further increase the attractiveness of Thailand, an important

production hub for Japanese businesses. For the aim of the project, it is essential to have Japanese infrastructure companies invest and expand in Thailand, in addition to the advancement of Thai industries through cluster-level partnerships among cutting-edge companies led by Japanese manufacturers, specifically promising SMEs. While at the same time, built on Thailand's position as a leader of ASEAN Economic Community (AEC) scheduled to be in effect from 2015, Otagai Project will play an important role connecting directly to Thai government's strategy to "reposition industries across the Mekong region" for the country facing the problem of labor shortage.
Based on the above, the basic approach of the study emphasizes on the following three points which will be taken into account throughout the process of the study.

Suggest strategic plans to actually "stimulate" the Project to move dynamically both in Japan and Thailand

Suggest strategic plans to maintain the effects of Otagai Project sustainably in Japan and Thailand after the completion of the study

Draw up strategic plans to incorporate the outcomes of THAICOBAN study effectively into collective expansion by Japanese SMEs and expansion by Japanese infrastructure businesses into Thailand and the Mekong area

1.4 Policy of the Study (First Year)

First, the bases of Otagai Project and the concepts incorporated into the approaches are shown (**Figure 1-1**). Otagai Project aims to draw up strategies for 1) supporting collective expansion by mainly Japanese SMEs in Thailand and the Mekong region (hereinafter, "collective FDI"), 2) promoting and supporting strategic expansion by Japanese infrastructure companies in the said area, and 3) measures by the governments of both countries to assist such expansion. The THAICOBAN study, which started ahead of Otagai Project, sets the criteria serving also as the indices for business expansion in terms of collective FDI, and as a tool for Japanese infrastructure companies getting easier access to the Thai market. Therefore, Otagai Project should be considered to include the results from the THAICOBAN study as well.

Our basic policy for Otagai Project can be broken down into following practical approaches. As a system to stimulate the promotion of (1) collective FDI, we have three approaches; human resource development (coordinators for Japan; coordinators and high-skilled people for Thailand), networking of local governments' key people (hereinafter, "samurai") who support FDI by SMEs, and thorough research and database on "local" Thai companies.

As a system to stimulate (2) expansion by Japanese infrastructure companies, we propose two approaches; packaging infrastructure products according to the THAICOBAN criteria and establishment of an accreditation organization for such infrastructure product packages, and realization of "infrastructure management services" by Japanese companies and integration of the services with the above packages.

The backgrounds for the approaches are described in the following paragraphs. The actions after the launch of this study should be taken under the same awareness among the stakeholders involved in the Project, following the purpose of verifying the feasibility and effects from the above five approaches.

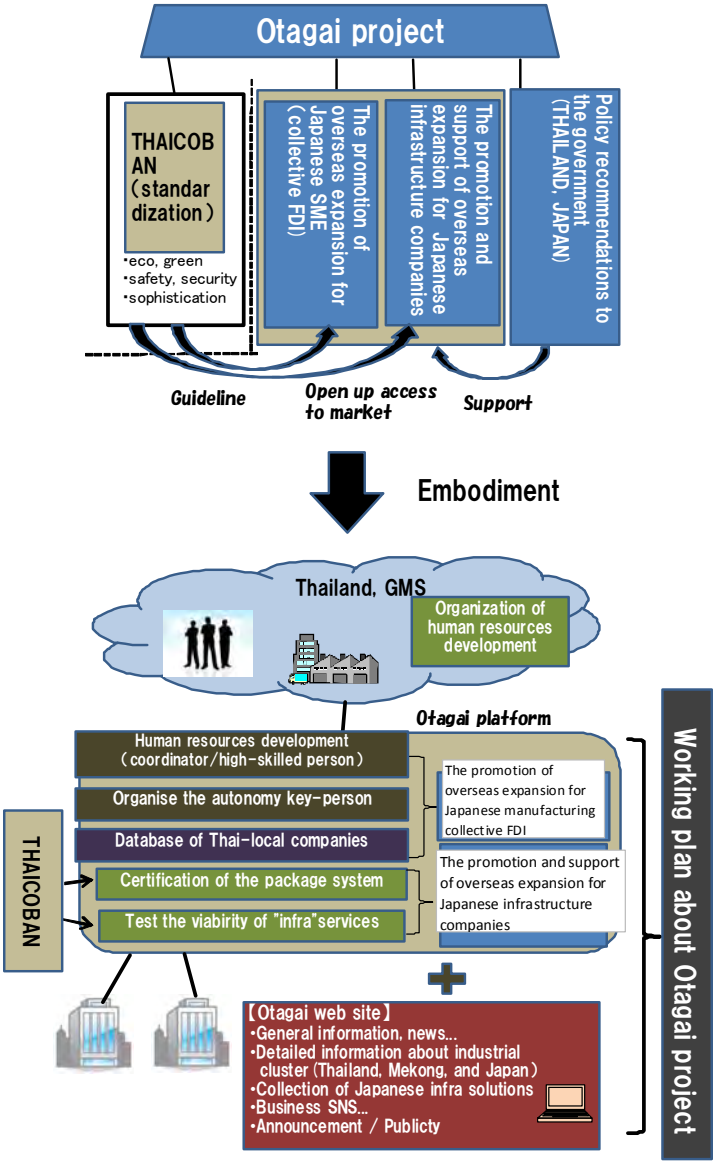


Figure 1-1: Outline of Otagai Project and Action Plan
(Prepared by Nikkei BP)

1.4.1 Promoting Collective FDI

To incorporate assistance measures for collective FDI by SMEs (the so-called industrial cluster) into practical approaches, we conducted a preliminary research targeting Japanese local governments that

have already been promoting business expansion into Thailand and the Mekong region.

The aforementioned three approaches; “human resource development (coordinators for Japan; coordinators and high-skilled people for Thailand” and “networking of local governments’ samurais” and “thorough research and database on local Thai companies” are the issues that have emerged as necessary from our research results (**Figure 1-2**).

According to the results of interviews with the Tokyo’s Ota-ward government, which has been promoting business expansion through leasing factories in Thailand since 2006, and the local governments of Yamanashi, Saitama and Osaka Prefectures that have very strong ambition and key people for business expansion, great gaps exist in assistance measures and policies even among these leading local governments. For instance, the Osaka Prefecture replied that they “recommend a company to build a factory in Thailand first, even at a stage when they cannot find a customer. If the company has a factory, business inquiries will come automatically”.

On the other hand, all interviewees pointed out some common factors, such as “lack of Japanese/Thai staff who provide direct support (descriptively called “coordinators”) for business expansion”, “no common data shared among Japanese local governments to support overseas expansion and no platform to discuss the issue” and “doing business with local Thai companies is essential for expanding the business of Japanese companies in Thailand, but precise and detailed data for starting such business are scarce”.

To accelerate collective FDI, the best approach is to solve these common problems. Regarding these situations, however, information and knowledge are shared only through personal networks among some key people of the Osaka and Yamanashi prefectural governments (local governments’ samurais).

Therefore, the first step is to discover those samurais potentially existing and scattering across Japan and to organize them in one network. The next step is to foster coordinators to support business between Japanese companies and Japanese-affiliated companies in Thailand as well as Japanese companies and local Thai companies, while samurais assisting them as advisors.

Regarding human resource development in Thailand, development of high-skilled people who can operate and maintain factory utility facilities for instance, is also essential in addition to fostering the

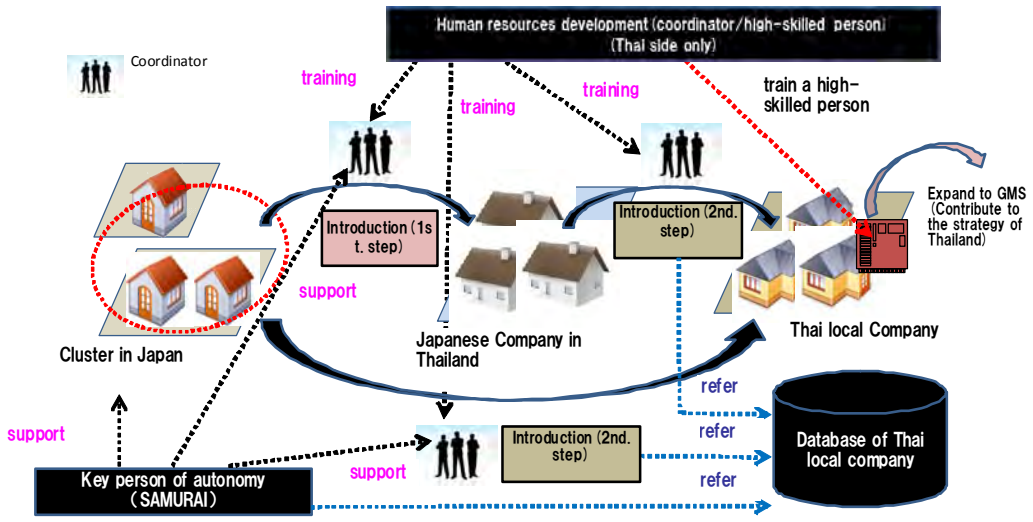


Figure 1-2: Key to "Cluster-linkage" is human resources development and database of Thai local companies (Prepared by Nikkei BP)

coordinators. To achieve one of the goals of the incentive measure by BOI (The Board of Investment of Thailand), which is to "increase influence and competitiveness of local Thai companies by investing in other countries", another path of human resource development is necessary in addition to fostering the coordinators.

The third step necessary for promoting collective FDI is a research on local Thai companies. When Japanese companies are starting and expanding business in Thailand in a horizontal industrial cluster, the growth of business cannot be expected without increasing business with local Thai companies. Moreover, the advancement of local Thai industries is one of the most important goals aimed by the Thai government. To achieve this, educating human resources as mentioned is not enough. It has to come with the "experience" of "brushing up technologies through actually doing business with Japanese companies". Collecting information on local Thai companies is therefore highly needed by both Japanese and Thai companies.

As such, the challenges are clear for (1) promoting collective FDI. Therefore, the aforementioned approaches will "stimulate" the Project for sure when they are implemented.

1.4.2 Promotion and Support for Strategic Expansion by Japanese Infrastructure Companies in Thailand and the Mekong Area

For the second pillar of Otagai Project, promoting expansion by Japanese infrastructure companies, we take the aforementioned two approaches as a base; "packaging infrastructure products according to the THAICOBAN criteria and establishing an accreditation organization for such infrastructure product packages", and "realization of infrastructure management services by Japanese companies and integration of the services with the above packages".

Based on the results of the THAICOBAN study which started ahead of the Project, we first collect information of Japanese infrastructure products and technologies that comply with the THAICOBAN criteria from across Japan, and divide them into packages according to the criteria(or the guideline). Among these packages, the ones accredited by the review committee, an accreditation organization authorized by the Thai government, will be proposed to the Thai side. This is the basic flow (**Figure 1-3**) and the first step in the approach.

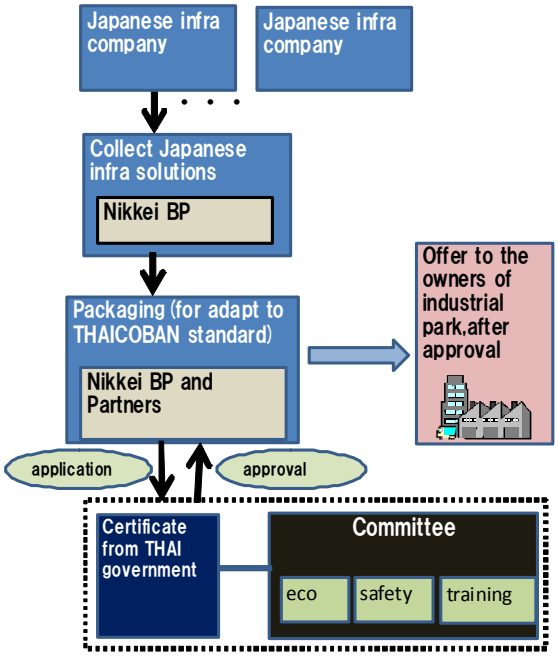


Figure 1-3: Packaging that meet the standard and approval (Prepared by Nikkei BP)

This approach, however, will be in vain if the leasing costs for a factory and electricity costs in an industrial park have risen for Japanese companies due to introducing such criteria. It is also necessary to pay attention to the characteristics of Japanese infrastructure products that have good quality but are rather costly compared to the products from China and Korea.

First of all, we believe that the aforementioned "products/technologies packaged according to the criteria and accredited by an organization authorized by the Thai government" is "necessary as a prerequisite". For Japanese companies, it provides an advantage of "increasing sales opportunities by

packaging a product that is difficult to sell by just one company", and the "official accreditation" is a necessary process for companies in Thailand and the Mekong region where authoritarian powers are emphasized. One of the real challenges, however, is clearly in the mechanism of economy to promote introduction of infrastructures, too. Therefore, as a second approach, we propose "realization of infrastructure management services by Japanese companies and integration of the services with the above packages".

Infrastructure management services (hereinafter, IMS) are the services that can cut down operation costs of facilities such as factories and industrial parks through optimizing the operation of electricity,

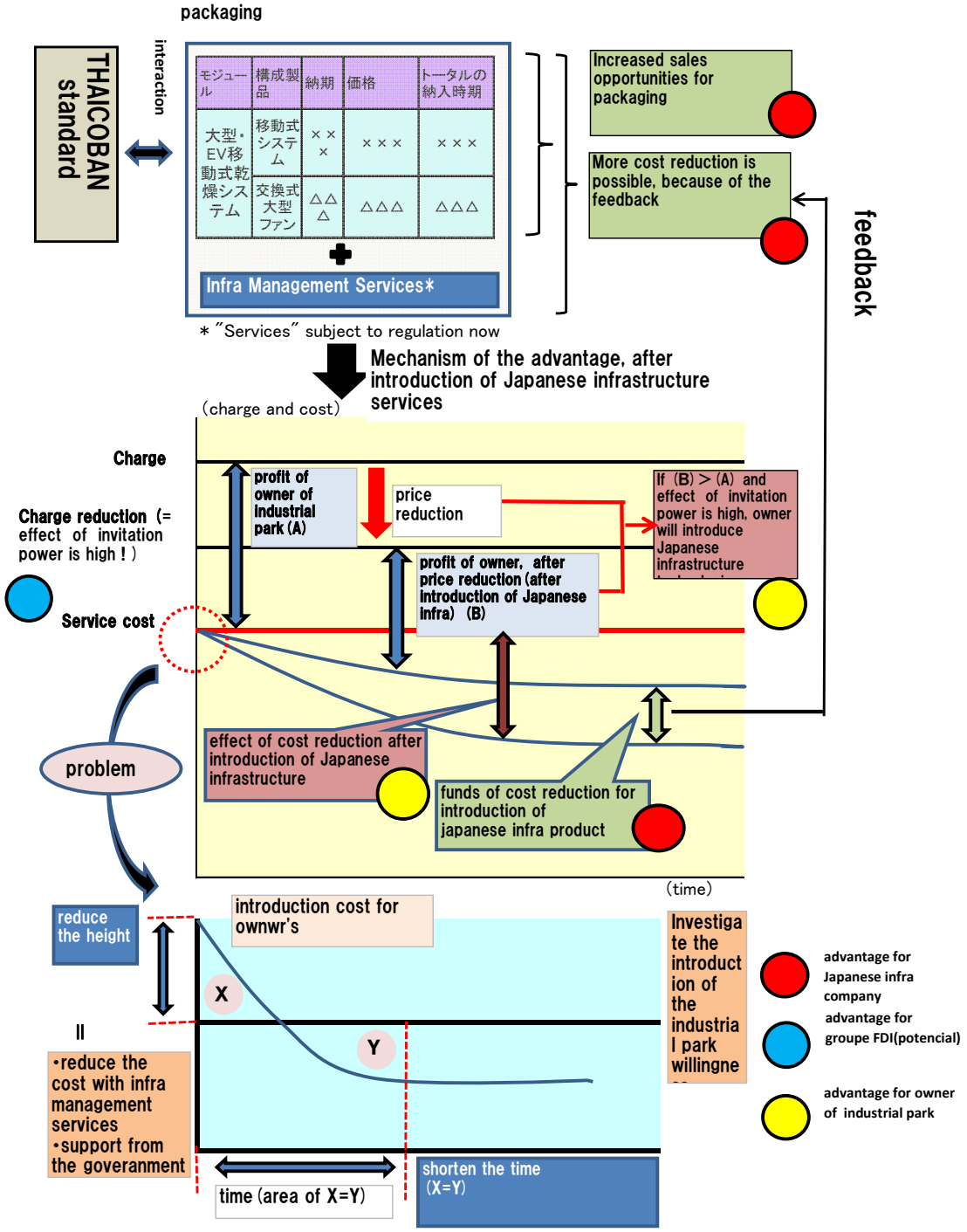


Figure 1-4: Mechanism of the advantage to introduce the Japanese services
(Prepared by Nikkei BP)

gas and other supplied energies and water resources. This is the field where Japanese companies have their forte. The point is in combining these services with the aforementioned Japanese infrastructure product packages to “reimburse” part of the operation cost-cut gains, which in turn, will allow to reduce the overall costs of Japanese infrastructure products (=initial introduction cost reduction) that are said to be rather expensive compared to the products from China and Korea (**Figure 1-4**).

The overview of the mechanism is described as follows.

（1） Thai industrial parks (industrial clusters) can cut down operation costs by introducing Japanese IMS.

（2） Japanese company(s) can receive part of the cost-cut gains as the reward for the results, which will be a capital to reduce initial investment costs including their packaged products (product price reduction) for Thai industrial parks.

（3） After the payment for Japanese products, Thai industrial parks can use part of the cost-cut gains as a capital to reduce leasing costs (can be energy costs and the like) for Japanese companies in the industrial park. We also request the Thai side to use this benefit as an attraction to invite Japanese companies in industrial parks (As a prerequisite, the profits for industrial parks after introducing Japanese IMS must increase before the introduction).

（4） For the above benefits, Japanese companies can have easier access to enter Thai industrial parks (Win); Thai industrial parks can have easier access to lure Japanese companies without any change (or rather with an increase) in profits (Win); and Japanese infrastructure companies can increase their competitiveness by allocating part of cost-cut gains to reduce the prices of their products and technologies (Win).

This approach has a possibility to achieve such triple-win relationship, specifically characterized by including an advantage scenario for Japanese companies.

1.4.3 Otagai Platform

The approaches to the aforementioned two pillars, (1) supporting collective FDI and (2) promoting and supporting expansion by Japanese infrastructure companies, as well as the proposals by the Japanese and Thai governments for assisting the system are summarized in one “platform”, as seen in **Figure 1-5**. As shown in the figure, the elements of IT serve only as a method or just a part of the platform, and the core is in the “system” or the “framework” centering on human networks. In addition to the five approaches to the two pillars mentioned in the foregoing paragraphs, the website for Otagai Project will be launched.

How to collaborate it with the THAICOBAN study will be discussed in the joint committee to be established in the process.

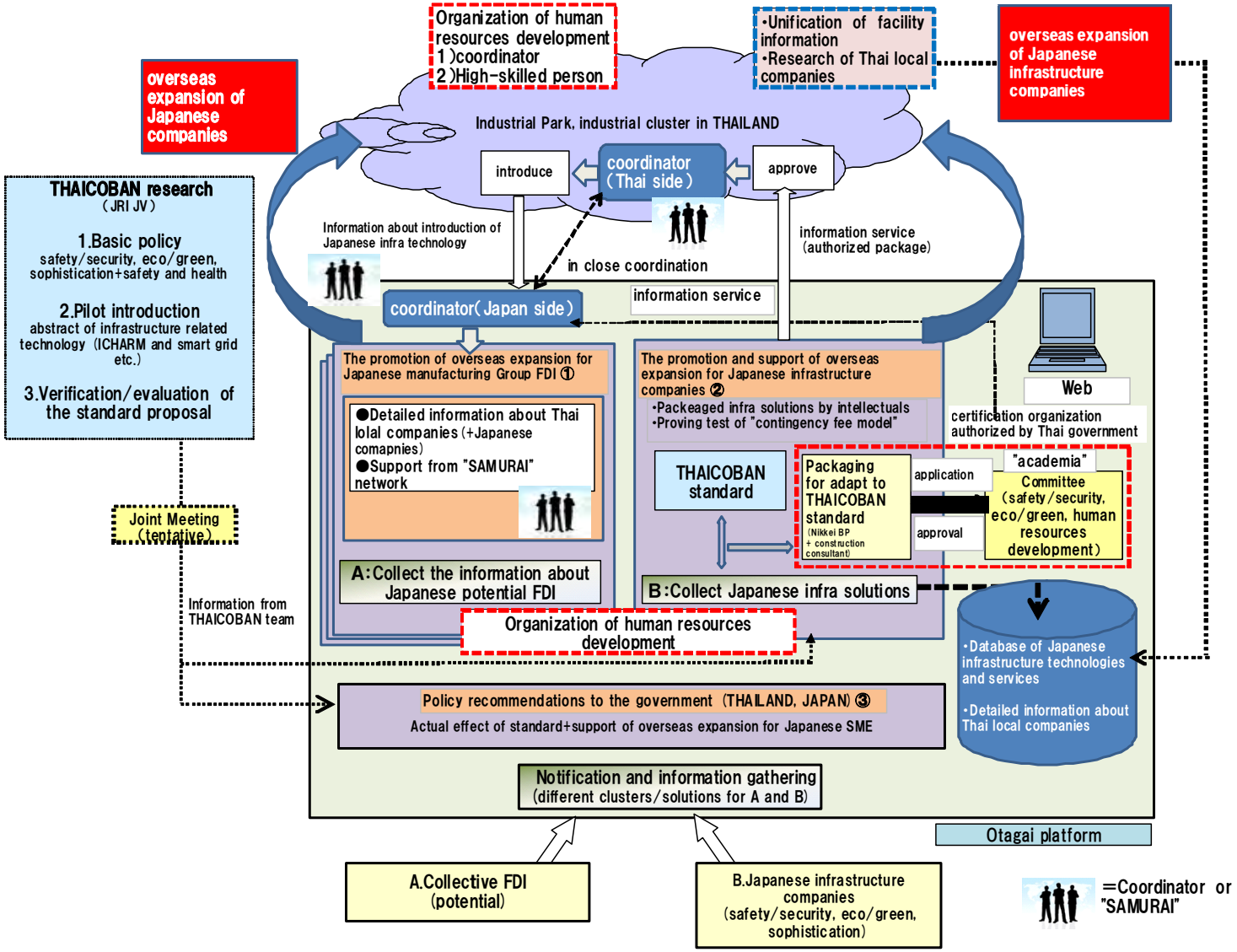


Figure 1-5: Framework for the platform of Otagai project (Prepared by Nikkei BP)

1.4.4 Implementing the Project in Mekong States

We also propose a plan with in mind the implementation of Otagai Project for a wider region including neighboring Mekong states such as Vietnam, Cambodia, Laos and Myanmar. Our proposal is to examine the feasibility of a "platform company (or a public corporation)" incorporating the result-reward model mentioned in the preceding section for "promoting and supporting expansion by Japanese infrastructure companies". In particular, we suggest to establish a corporation jointly invested by Japanese and Thai private companies to specialize in infrastructure management services (IMS), and combine all functions of an industrial park on top of the corporation to create a new regional industrial cluster under the "Thai brand". The corporation is then adjusted to the environment and law system of each Mekong state, and expanded in the region horizontally. The joint company (or the joint public corporation invested by the both countries) will not be just one industrial park, but it aims to expand into Mekong states in the future and will control the optimization of energies and related information in all states solely from Bangkok (**Figure 1-6**).

The idea may seem too wild. When we proposed this plan to hear the opinion of one Japanese executive of a major infrastructure company, however, he immediately replied by saying "we definitely would like to consider investing in such corporation if it is to be established." Moreover, the employees working for such corporation are surely "high-skilled people in Thailand", who will be the targets of human resource development in the country. This idea will encourage outbound investments of Thai companies and also match perfectly with the intention of the Thai government eyeing to repositioning the industries in the Mekong region.

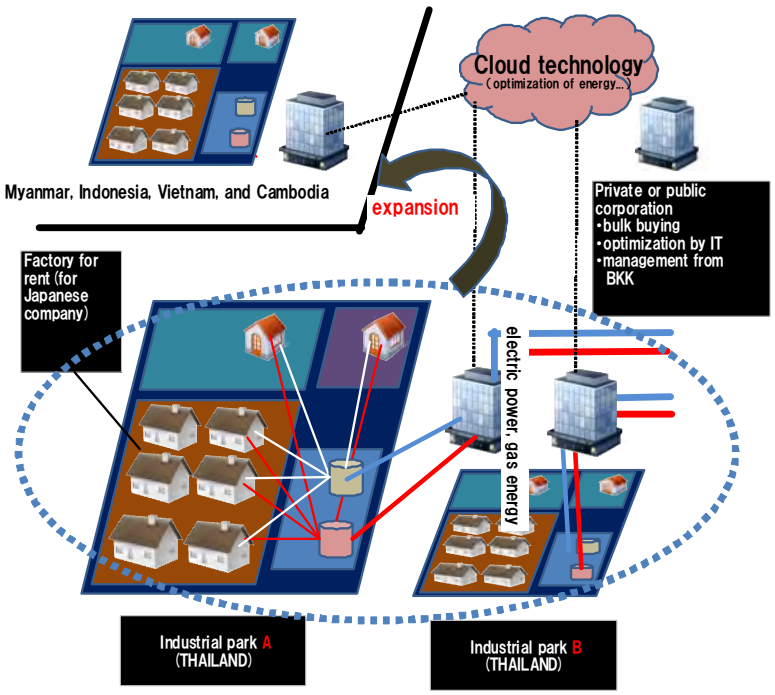


Figure 1-6: Expansion plan to GMS (figure unfolding)
(Prepared by Nikkei BP)

1.4.5 Announcement, Public Relations and Information Gathering

Lastly, we suggest a system for announcement, public relations and information gathering for Otagai Project.

Nikkei BP will set up a website dedicated for Otagai Project by this June. This website will serve as the general external contact for the Project (**Figure 1-7**). The website is equipped with various functions, mainly divided into such basic capabilities as (1) news and events, (2) details (database) of individual companies in Thai industrial parks (industrial clusters) (3) reports from Sasin Japan Center of Chulalongkorn University and Mekong Institute, (4) communication to inquiries and information requests from Japanese companies planning to expand into Thailand, (5) communication to inquiries and information requests from Japanese companies eager to sell their infrastructure products in Thailand and the Mekong region, (6) format download for registering infrastructure products/services of Japanese companies and (7) business SNS for sharing questions and answers in threads. The information from the aforementioned "samurai" network and other government

institutions will add up to these functions in one website.

The functions of (2), (4) and (7) will specifically serve as the general contact for prospective companies to be involved in collective FDI, while the functions (2), (5), (6) and (7) will work as the general contact for Japanese companies eager to sell their infrastructure products/services in Thailand. The website will be available in Japanese at the launch, but of course, we will set up an English version of the website as well. This one interface will cover everything from announcement, public relations, information gathering, inquiries and requests to reports for the Project.

The news and events section will summarize Nikkei BP's daily news coverage relating to Thailand and the Mekong area (continually updated), while also providing a variety of exclusive information from the progress of Otagai Project as much as possible.

Needless to say, just setting up a website is not enough for sufficient announcement and public relations. Nikkei BP's core competence, mass media, will serve here as a strong "connection" to lure prospective companies to the website.

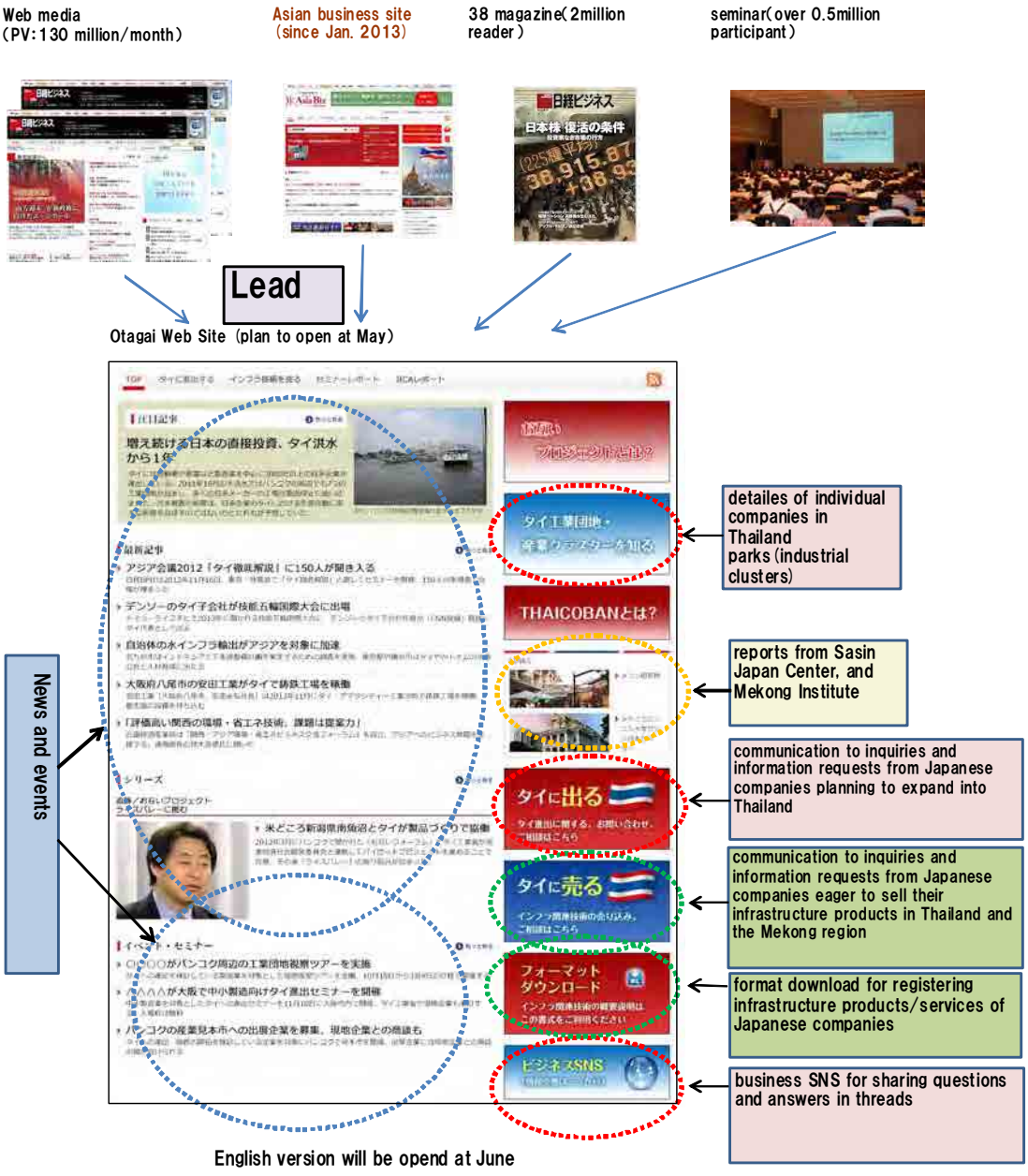


Figure 1-7: Notification and Information Gathering (Prepared by Nikkei BP)

Chapter 2: Basic Operational Policy

2.1 Basic Operational Policy

One of the characteristics of the structure for this study is the designation of the Sasin Japan Center (SJC) of Business Administration of Chulalongkorn University as a Thailand-based reinforcement to the team. SJC has a strong Japanese staff force, and provides assistance to Japanese companies in their foray into Thailand. SJC has also signed a Memorandum of Understanding (MOU) with Nikkei BP to be the partner in Thailand. Two major construction consultancies as well as the Overseas Human Resources and Industry Development Association (HIDA), with a wealth of experience in human resource development in developing countries including Thailand, have been added to the team. With these additions, the operational structure will satisfy both the criteria of "problem-solving" and "community-based" through the efforts of top consultants. Nikkei BP has also concluded an MOU with Mekong Institute in Khon Kaen, Thailand, to establish a structure in view of the Mekong region which is a promising field.

As the parent organization of the team, Nikkei BP has established a hierarchical line that comprises the Construction Group and the Asia Business Development Office in addition to the professional staff from the Nikkei BP Institute of Infrastructure (a think tank engaged in infrastructural research) who will play central roles. Apart from this, a network of key practitioners from local governments, "samurai" network, will serve as a support organization for the study. This is one of the core of the nationwide platform for the Otagai Project. A website will also be set up as the interface for this platform.

2.2 Points to the Operational Structure

2.2.1 Main Operational Body of a Mixed Team with Members from Japan and Thailand

An all-Japanese consultant team that consists of the human resource development institution in developing countries and two major construction consultancies makes a suitable entity for taking up a JICA international project. Study operations will be carried out both locally and in Japan. CTI Engineering Co., Ltd. is an expert in flood control in Thailand, with the involvement of its affiliated company CTI Engineering International Co., Ltd. in a study on flood control measures for the Chao Praya River basin region. This Japanese team complements the local Thai SJC staff team. The Operations Management Group serves as the commanding headquarters and lays out the overall direction for the implementation of the study. The Coordinator is served by the head of the construction division and the Institute of Infrastructure of Nikkei BP. Nikkei Business Publication Asia Ltd coordinates businesses in the Asia region and is well-connected to the Board of Investment of Thailand (BOI) and other organizations, thus the sales manager of the Company will therefore provide support as the Deputy Team Leader.

In addition, publicity plays a key role in this study. To that end, a publicity team (including a chief editor) has been formed with members with a great deal of experience in writing and editing for magazines and websites. This operational structure, because of this multitude of members, must communicate not only on the schedule but also on the overall direction of the study. In view of that, staff that is familiar with architectural or civil engineering infrastructure have been designated as overall coordinators.

2.2.2 Utilization of the "Samurai" Network

We propose the establishment of a study and review structure using the "samurai" network for the implementation of reviews on networking and establishment of platforms for the Otagai Project. If we were to look briefly at the local governments around the country that are leading efforts to support mostly SMEs that wish to expand their businesses overseas, we will definitely find a key person in each of these local institutions. These key persons are engaged in the development of human networks within and outside the local governments, and working toward the realization of their ideas with a unique philosophy and an inherent ability to take action. Although we could consider the establishment of a

committee made up of members from the academia, such a committee is likely to delay decision-making and consensus processes with the tendency of committee members to bring forth their theories and ideas. The establishment of such a committee would also drown out the voices that come directly from the on-site staff. On the other hand, the key persons of local governments, who are practitioners, know the real situation thoroughly, and are actually engaged in the work of providing support for overseas expansion from the perspective of small and medium-sized enterprises. By connecting such key persons, it would be possible to share useful information among local governments nationwide, and to create clusters that go beyond the framework and boundaries of a local government. The objective of this study is to establish a sustainable system for collective FDI. If the "samurai" network were to be expanded, it would be possible to repair the system even if some of the key persons are changed. We can also then expect fair opinions that come from a standpoint that is neutral to individual interests. At the same time, these key persons will provide support for fostering coordinators, as proposed in 1.4.1.

The "Samurai Conference" will be used as a venue for the kickoff of the "samurai" network. During the Conference, the key persons will exchange opinions not only on successful case studies, but also on examples of failed cases. Proposed candidates for the inaugural members of the "samurai" network are listed on page 13.

2.2.3 Review Committee and Professional Advisors

We propose using the THAICOBAN review committee as a forum for conducting reviews related to this study. This will be an "accreditation organization" that helps to connect this project with the THAICOBAN study, which is already under way, and which reflects the results of the THAICOBAN project in the Otagai Project. First, the study team, which is the operational department, collects information related to infrastructural products and technologies in the Otagai Project, and applies these to criteria and standards drawn up based on the THAICOBAND study. It then considers particular benefits and the possibility of packaging these as a series of services, and the Committee then deliberates and accredits the results.

Hideo Nakamura, President of Tokyo City University and Professor Emeritus of the University of Tokyo, will serve as the Chairperson of the review committee, which is made up of experienced academia personnel. The involvement of Hideo Nakamura, who is the highest authority in the field of land planning, and who has made significant contribution in deliberative councils under the Japanese government, not only enhances the authority of the Committee, but also helps to secure trust in Thailand. In addition, Professor Toshiya Aramaki from Toyo University, Professor Tadashi Yamada from Chuo University, and Professor Eiji Arai from Osaka University (Graduate School) have all consented to participate in the project, and they will take charge of eco-friendly and green activities, safety and security, and industrial advancement, respectively. All of these researchers are leaders in their respective fields, and possess a wealth of knowledge as well as a track record of research achievements.

In addition to this review committee, advisors that are experts in their respective fields, and who are familiar with the local situation in Thailand, have also been included in the team. Shinji Hosotsubo has worked as an advisor to Thailand's Ministry of Industry since May 2012, and is responsible for promoting the Business Continuity Project (Mutual Cooperation Project). Kotaro Amanuma is involved in the dissemination and development of machinery safety in Asia, and has proposed the establishment of a machinery safety engineering center in Thailand. The brief profiles of Hosotsubo and Amanuma are included after the profiles of the THAICOBAND review committee members.

2.2.4 Dedicated Website

The implementation of this study calls for the widespread dissemination of the study results to Japanese corporations and the Thai-Mekong region. To that end, a dedicated website for the Otagai Project will be set up by the middle of June 2013. An outline of the website is as described on page 10. This website will have a relation with the Asia Business ONLINE website that Nikkei BP opened at the end of January this year, with the objective of providing in-depth information to a wide range of business people with an interest in Asia. The website will also incorporate "CONNECT," a business social networking system (SNS) that is exclusive to Nikkei BP. This system facilitates the exchange of information among users. Through this system, users that register on the website will be able to share information with other users. The information gathered here will be incorporated into this study on a continual basis.

2.3 Members for the "Samurai" Network and others

2.3.1 Members for the Inaugural "Samurai" Network

（1）From Thailand

Takamasa Fujioka (Executive Director – Head of MBA Program, Sasin Graduate Institute of Business Administration of Chulalongkorn University, and Director of Sasin Japan Center)

Fujioka has previously been a Research Fellow of Osaka City University, Visiting Scholar and Lecturer at SIIT Thammasat University, and Academic Visitor at Kellogg School of Management of Northwestern University. He is currently an International Academic Visitor of the Faculty of Economics of Hannan University and Visiting Professor of the Nagoya University of Commerce & Business Graduate School. Since 2009, he has served as an advisor for Thailand at the World Economic Forum. Fujioka has a wealth of consulting experience, and interacts with numerous related organizations including the Osaka Doyu kai, Osaka Office of BOI, and Ministry of Industry of Thailand. He also serves concurrently as an advisor to major Japanese corporations.

（2）From Japan

Makoto Ryoke (Councilor, Monozukuri Support Section and Economic Exchange Promotion Section, Commerce and Industry Promotion Division, Osaka Prefectural Government (Department of Commerce, Industry, and Labor))

Works at the Osaka Prefectural Government Office. Ryoke is also responsible for providing support for monozukuri at MOBIO (a monozukuri support base for small and medium-sized enterprises, operated by the Osaka Prefecture and related organizations), based in Higashiosaka City. Since April 2011, he has been a member of the Kansai Network System, where his management activities focus on the existence of networks that are not affected by the human resource cycle at government offices. He is also a chief investigator of the research group for the industrial cluster.

Toshikazu Matsuoka (Chief Executive of Environmental Future City, Environmental Bureau, City of Kitakyushu)

Began working for the City of Kitakyushu in 1981. Matsuoka has been engaged in the promotion of activities aimed at the creation of Smart Cities in City of Kitakyusyu and has made it one of the leading region in Japan. These Smart Cities aim to realize consumption that has a low environmental burden, and is energy-efficient. The City of Kitakyushu has concluded a Memorandum of Mutual Cooperation with the Department of Industrial Works of Thailand's Ministry of Industry, and provides support for the development of eco-towns in Thailand. In 2012, he was awarded the Excellence Award at the Japan Innovators Award organized by Nikkei BP.

Shin Tezuka (Executive Director of the Yamanashi Industry Support Organization)
Tezuka joined the Yamanashi Prefectural Government Office in 1982. After gaining practical experience in various fields including agricultural policy, welfare, and education, he was transferred to the Regional Planning Department in 1990. He also worked in the planning division in the Prefecture's Industry and Labor Department, as well as policy planning in the Governor's Policy Planning Bureau, before taking on his current post. Through the new development of regional industries, Tezuka explores the ideal state of socioeconomics for the region. In his roles as the Permanent Secretary of the People's Forest Congress, Secretary of the Tamagawagenryu Research Center, Visiting Researcher of the Local Governance Research Center at Yamanashi Gakuin University, and Director of the Japan Cross-Industry Cooperation Association, Tezuka conducts research studies and offers recommendations on problems and solutions for regional communities, revitalization of small and medium-sized enterprises in the region, and the creation of new businesses.

Makiko Uchida (Overseas Business, Trade Promotion Group, Ota City Industrial Promotion Organization)
Uchida provides support to small and medium-sized companies in Ota-ward for their overseas business expansion, particularly to Thailand. The Ota City Industrial Promotion Organization established the OTA TECHNO PARK (OTP) in Amata Nakorn Industrial Estate for lease to small and medium-sized enterprises. In this effort, Ota City is a pioneer among local governments. She visits the local site once a month to follow up with companies that have brought their businesses overseas.

Junko Ijima (Main Director attached to the Executive Director of Public Communications, Saitama Prefectural Government)
Ijima is in charge of formulating policies relating to the overseas business expansion of small and medium-sized enterprises in Saitama Prefecture. She follows up with the head of International Economics in the Business Establishment Division of the Department of Industry and Labor, as well as with the Overseas Support Group of the Saitama Industrial Development Corporation, which is responsible for practical operations.

2.3.2 Members of the THAICOBAN Review Committee

（1）Chairperson

Hideo Nakamura (President of Tokyo City University)
Doctor of Engineering, specializing in land planning

After graduating from the School of Engineering of the University of Tokyo in 1958, Nakamura joined the Teito Rapid Transit Authority (now Tokyo Metro). In 1962, he served as an assistant at the Institute of Industrial Science, the University of Tokyo, and became a Professor at the Department of Civil Engineering of the School of Engineering at the same university in 1977,. In 1992, he became Professor Emeritus of Lumiere University (France), and then became Professor Emeritus of the University of Tokyo and Director of the Institute for Transport Policy Studies in 1996. In 1997, Nakamura became Professor at the Faculty of Environmental and Information Studies of Tokyo City University (then Musashi Institute of Technology). In the same year, he was conferred an honorary doctorate from the University of Stuttgart (Germany). In 2002, he became Dean of the Graduate School of Environmental and Information Studies at Tokyo City University (then Musashi Institute of Technology), and in 2004, became President of the same university.

（2）Committee Member for Eco Green

Toshiya Aramaki (Professor, Department of Regional Development Studies, Faculty of Regional Development Studies, Toyo University)
Doctor of Engineering, specialized in urban environment and environmental systems
Deputy Secretary-General of the Committee on Environmental Systems of the Japan Society of Civil Engineers

Graduated from the Department of Urban Engineering, School of Engineering, the University of Tokyo in 1991, and completed the Master's course at the Department of Urban Engineering, Graduate School of Engineering, University of Tokyo in 1993. In 1996, he completed the Doctoral course in the same department at the University of Tokyo. He became an assistant at the Department of Urban Engineering, Graduate School of Engineering of the same university in 1996, and went on to become a lecturer at the Research Center for Advanced Science and Technology, University of Tokyo in 1999. In 2004, he became an Assistant Professor (and Associate Professor in 2007) of the same department and graduate school that he had studied at, and in 2008, took up his current position at Toyo University. For two years and one month since 2004, he was sent by JICA on a long-term dispatch as a specialist to the School of Environment, Resources and Development of the Asian Institute of Technology in Thailand, where he served as Visiting Associate Professor.

（3）Committee Member for Safety and Security

Tadashi Yamada (Professor, Department of Civil Engineering, Faculty of Science and Engineering, Chuo University)
Doctor of Engineering, specialized in hydraulics and hydrology, as well as urban water cycles
Member of the Future Flood Management Advisory Board, Ministry of Land, Infrastructure, Transport and Tourism (since November 2009), Chairperson of the Review Committee for Emergency Response Measures for Embankment Collapse, Japan Institute of Construction Engineering (October 2006 to March 2007)

After completing the Master's course in civil engineering in the Graduate School of Science and Engineering, Chuo University, he became an assistant at the Department of civil Engineering, Tokyo Institute of Technology in 1977. He then went on to become Assistant Professor of a civil engineering class at the National Defense Academy of Japan in 1985, Assistant Professor of the Department of Civil Engineering, School of Engineering, Hokkaido University in 1986, Assistant Professor at the Department of Civil Engineering, Faculty of Science and Engineering, Chuo University in 1991, and Professor of the same department and faculty of Chuo University in 1992.

（4）Committee Member for Industrial Improvement

Eiji Arai (Professor, Division of Materials and Manufacturing Science, Graduate School of Engineering, Osaka University)
Doctor of Engineering, specializing in production systems and machinery design
Chairman of the Executive Committee for the 2006 International Symposium on Flexible Automation, etc.

In 1975, he graduated from the Department of Precision Engineering, School of Engineering, the University of Tokyo, and completed the Master's course in Precision Engineering at the same university in 1977. In 1980, he completed the Doctoral course in the same graduate school of the University of Tokyo. He then went on to be an assistant at Kobe University in 1980, Assistant Professor at Shizuoka University in 1984, Assistant Professor at Tokyo Metropolitan University in 1992, and Professor at Osaka University in 1995.

2.3.3 Advisors

（1）Advisor for Small and Medium-Sized Manufacturers/Business Continuity Planning (BCP)

Shinji Hosotsubo (Director, Secretary-General of the Crisis Management and Preparedness Organization)

Member of the Review Committee for Measures to Promote Business Continuity Planning, Cabinet Office, member of the working group for business continuity planning, Ministry of Economy, Trade and Industry, etc.

Began to study the U.S. style of crisis and disaster management after the Great Hanshin Earthquake of 1995, and in 1997, became the chief editor of DRJ Japan, a specialized journal on disaster response in the United States. Thereafter, he served as a member of several committees for crisis management and business continuity (BCM/BCP) in the Cabinet Office, as well as in other ministries and local governments. He is engaged in activities to promote disaster response and crisis management to national and local governments, corporations, individuals, and volunteer organizations.

In 1999, he took up post as the Director/Secretary-General of the Crisis Management and Preparedness Organization, and in 2010, was appointed Director of the Crisis Management Education and Exercise Center. He is responsible for promoting the Otagai Business Continuity Project between Japan and Thailand, and has been serving as advisor to Thailand's Ministry of Industry since May 2012.

（2）Advisor for Industrial Improvement (Safety and Hygiene)

Kotaro Amanuma (Technology Development Leader, Safety Audit Division, Azbil Corporation)

Safety Sub-Assessor (Certification Number: S2011-11-02911)

He joined Yamatake Honeywell (now Azbil Corporation) in 1974. He was in charge of the development of mechanical pressure sensors and CAD/CAM systems for injection molds, new business planning, and the development of video networks for industrial use. He currently teaches the development of products with safe design in the Safety Audit Division, and is involved in the development of the Educational Program Board. He is also engaged in the development of international specifications for global information system platforms for industrial use.

He is also a member of the Safety Controls Committee of the Nippon Electric Control Equipment Industries Association, and a project leader for the development of international standards for a standards and certification project supported by the Ministry of Economy, Trade and Industry.

Amanuma is a member of the Japan Society for Precision Engineering. He has also previously served on committees for planning and newsletter editing, board of trustees, and Secretary-General of the expert committee for integrated production systems in the same Society. He is also a member of the operations committee for the Business Model Association.

Chapter 3: Priority Study Items

As described in 1.1. Overview, the Otagai Project focuses on the drawing up of strategies for: (1) supporting collective expansion by mainly Japanese SMEs in Thailand and the Mekong region (hereafter called “collective FDI”), (2) promoting and supporting strategic expansion by Japanese infrastructure companies in the said area, and (3) measures by the governments of both countries to assist such expansion. In other words, the project aims to establish a system in order to bring the two main themes of the project to fruition.

Based on the description in the scope of work in Article 7 of Appendix II: Special Specifications of the project agreement, the priority study items have been extracted and summarized in the following table.

3.1 Promotion and Support for Collective Expansion by Small and Medium-Sized Manufacturers (Collective FDI)

Promoting and supporting collective expansion by small and medium-sized manufacturers has been identified as the most important part of this study. The priority study items can be broadly classified into two categories. These are: (1) Needs and seeds (technical solutions) of collective FDI for Japanese small and medium-sized manufacturers in Thailand and the Mekong region, and, (2) Actual situation of private-sector companies in Thailand (Japanese and local) and the state of cluster formation.

Amongst Japanese small and medium-sized manufacturers, there are many companies that are considering expansion into Thailand and the Mekong region while receiving support from their local governments. Several local governments provide support mainly for small and medium-sized manufacturers with 10 to 99 employees. The study will target this central group of companies, and investigate the type of needs they require in order to expand their businesses overseas. At the same time, we consider conducting interviews on the local governments that provide support, and using the results of hearings as a shortcut to grasp the trend of small and medium-sized manufacturing industry. In doing so, it is important to determine clear prerequisites for each region, such as the industrial structure and other criteria. Furthermore, it is also vital to conduct interviews with companies that have already succeeded in entering the said country. This would help us understand the barriers in entering the country, and provide seeds for the future that take into account the current situation. Direct contact will also be made with the corporations.

With regard to the latter, local Thai companies in particular, while it is most difficult to obtain information domestically, have been positioned as the most important survey item toward the development of cluster cooperation in the future. To that end, we have plans to establish a study structure that has close ties and contact with the local community, which will be led mainly by SJC, Chulalongkorn University. In line with the basic ideas that we have laid out in 1.4, a database of local companies is necessary in order to develop a platform for the Otagai Project, and this study is a valuable opportunity for developing such database. In addition to Thailand’s National Economic and Social Development Board, Ministry of Industry, and the Industrial Estate Authority of Thailand (IEAT), hearing sessions will also be conducted for local companies that are based in local industrial estates. Interviews will begin based on a larger framework that includes the owners of industrial estates and mold cooperatives in Thailand, and then gradually narrow down to reach individual local companies. Through these interviews, we will obtain information such as how awareness of cluster cooperation has changed after they experienced the major flood in 2011.

Table 3-1: Central Themes and Priority Study Items for the Otagai Project (Prepared by Nikkei BP)

Central theme	Priority study item	Main subject of hearing sessions	
		Field study	Domestic study
1) Promotion and support of collective expansion by mainly Japanese Small and medium-sized manufacturers in Thailand and the Mekong region (collective FDI)	Needs and seeds of collective FDI for Japanese Small and medium-sized manufacturers in Thailand and the Mekong region	・Japanese companies (including factories on loan, etc.) that have expanded into Thailand collectively ・Local Japanese corporations that were victims of flood damage (mainly industrial estates)	・Overseas expansion support department of ministries and local governments ・Small and medium-sized manufacturers with the motivation to expand their businesses overseas ・Supporting organizations such as the Japan External Trade Organization (JETRO)
	Actual situation of private-sector companies in Thailand (Japanese and local), which are the trading partners in Thailand and the Mekong region, and the state of cluster formation.	・Office of the National Economic and Social Development Board (NESDB) ・Thailand's Ministry of Industry (MOI) and related organizations ・Owners of main industrial estates ・Companies based in industrial estates (selection without regard for sector such as automobiles, electronics, machinery, etc., but with a view to the future) ・Unions such as mold associations ・Thai Chamber of Commerce, industrial federations ・Universities, research institutes, etc.	
(2)Promotion and support of expansion by Japanese infrastructure companies in Thailand and the Mekong region	Needs and seeds for export/expansion of Japanese infrastructure companies into Thailand and the Mekong region	・Japanese model project supported by ministries and local governments ・Owners and operators of main industrial estates	・Relevant ministries and local governments providing support for expansion by infrastructure companies ・Companies and company groups aiming to export infrastructural technology packages ・Companies with the motivation to expand overseas/export infrastructural technologies and products
	Needs and seeds of Thai industrial estates, etc., which are the customers/recipients of products and technologies	・Thailand's MOI and related organizations ・Owners and operators of main industrial estates ・Japanese companies that have entered the country or region in question	
	Trends of regulations, such as for infrastructure management services	・The Board of Investment of Thailand (BOI) ・Thailand's MOI, etc.	
(3)Measures by the governments of both countries to assist the abovementioned expansion	Support measures for the current situation by both governments and issues	・Office of the National Economic and Social Development Board (NESDB) ・Thailand's MOI ・Thai Industrial Estate and Strategic Partners Association (TISA) ・Industrial Estate Authority of Thailand (IEAT)	・METI and related ministries ・Supporting organizations such as the Japan External Trade Organization (JETRO) ・Central Federation of Societies of Commerce and industry and Chambers of Commerce and Industry ・Local banks and credit unions ・Universities and research institutes
	Assessment and requests with regard to the support measures of both governments	・Owners and operators of main industrial estates in Thailand ・Japanese companies that have entered the main industrial estates	・Overseas expansion support department of ministries and local governments ・Expansion support consultants ・Private-sector companies for (1) and (2)

3.2 Promotion and Support for Expansion by Infrastructure-related Companies

A second pillar of the Otagai Project is the promotion and support for the strategic business expansion of Japanese infrastructure companies into Thailand and the Mekong region. For this theme, as for (1), two priority study items have been established. The promotion of the expansion through infrastructural technology into other countries is not entirely unrelated to (1). Local governments throughout Japan not only provide support for the overseas expansion of manufacturers, but also support the packaging of infrastructural technology owned by local companies and the sale of the technology in the form of such packages. If companies are successful in expanding sales routes through such means, some of these manufacturers may steer them toward local FDI. There is also to incorporate local manufacturing industries into a part of the packages. The study will also take such future developments into consideration.

In the first priority study item—Needs and seeds of Japanese infrastructure-related companies—, the point of entry lies in the domestic local governments and ministries that are involved in providing support. For instance, we will conduct a hearing survey on the Kansai-Asia Environmental and Energy-Saving Business Forum (Team E-Kansai), supported by the Kansai Bureau of Economy, Trade and Industry. Within Team E-Kansai, there is a group made up of four companies, which has already submitted a proposal to an overseas party for the provision of a total water environment solution. In addition, it has dispatched several member companies to the Amata Nakorn Industrial Estate in Thailand, with the aim of developing a model of an environmentally-friendly industrial estate. By tracing such local cases, we aim to conduct hearing surevys groups of companies and individual companies that aim to export their environmental and disaster-prevention technologies to overseas.

Interviews of representative industrial estates in Thailand will be the core of the study of local needs and seeds. This will require a forward-looking perspective as to whether environmentally friendly technology will be useful, or whether there is sufficient competitive ability when making a complete transition from labor-intensive processes to advanced processes, when briefing nearby residents on new industrial estate developments. It is also crucial to conduct the study from the perspectives of business owners, operators, and users by expanding the target of the study to include Japanese companies that will enter these industrial estates.

As already mentioned in 1.4.2, there is also a need to study Thailand's laws pertaining to restrictions for foreign businesses. As of the current point in time, service and engineering are subject to restrictions. Further study is required for the entry of Japanese infrastructure companies into this region in the future.

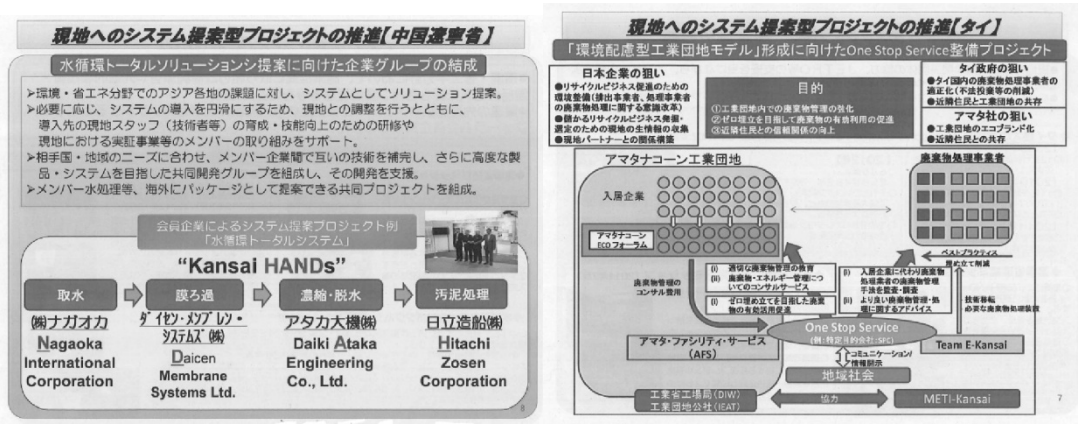


Figure 3-1: Examples of Overseas Expansion Support Provided by the Kansai Bureau of Economy, Trade and Industry (METI Kansai) (Prepared by METI Kansai)

3.3 Support Measures from the Governments of Japan and Thailand

The third priority study item relates to the establishment of an official scheme for supporting and promoting collective FDI and expansion by Japanese infrastructure companies. This is a process that aims to consider how to reflect the needs and seeds in the establishment of the overall structure, in order to ease regulations, increase funding, and grant incentives. Understanding the current situation is the first step to be taken in the study, and it is vital to grasp the needs of private-sector corporations. Hearing surveys will be conducted to define what kind of support measures are on the use, and those with high (or low) degree of usage. The results of the hearing surveys will then be reflected in the (proposed) support measures.

Based on the above, the list of the potential candidates for conducting hearing surveys has been prepared, as shown in the following page.

Table 3-2: Proposed Candidates for Hearing Surveys on the Otagai Project
(Prepared by Nikkei BP)

Location of study	Category	Potential interview subject
Local (Thailand)	Government, related organizations	・National Economic and Social Development Board (NESDB) ・Thailand's Ministry of Industry (MOI) ・The Board of Investment of Thailand (BOI) ・Thai Industrial Estate and Strategic Partners Association (TISA) ・Industrial Estate Authority of Thailand (IEAT) ・Federation of Thai Industries (FTI)
	Corporate unions, public corporations, etc.	・Unions such as mold associations ・Thai Chamber of Commerce
	Industrial estates	・Main industrial estates such as Amata Nakorn Industrial Estate ・Companies based in industrial estates (selection without regard for sector such as automobiles, electronics, machinery, etc., but with a view to the future)
	Local Thai corporations	Local public corporations/companies that have trade relations with Japanese corporations: Electricity Generating Authority of Thailand (power business), The Siam Cement Group (cement manufacturer), PI Industry (rubber products), etc. Companies based in industrial estates are also central targets.
	Local organizations, etc.	・Supporting organizations such as the Japan International Cooperation Agency (JICA), Japan External Trade Organization (JETRO), New Energy and Industrial Technology Development Organization (NEDO), etc. ・Bangkok Bank and Kasikorn Bank
	Japanese companies that have entered Thailand	・Ota Techno Park (factories for lease) ・Japanese companies that have entered Thailand, such as Nambu (Ota-ward, Tokyo), and Matsushita S.S. (Yamanashi Prefecture) ・In addition, non-affiliated Japanese corporations
Japan	Government (Central government)	・METI ・The Small and Medium Enterprise Agency ・Other ministries or agencies considered to be of relevance (MOFA, MIC, MLIT, etc.)
	Branch offices of ministries, local governments	・Branch offices of ministries and support departments for overseas expansion of local governments (METI Kansai, METI Chugoku, Osaka City/Prefecture, Ota-ward of Tokyo, Yokohama City, Yamanashi Prefecture, Saitama Prefecture, Hiroshima Prefecture, Okayama Prefecture, Kitakyushu City, etc.)
	Related organizations	・Japan Bank for International Cooperation(JBIC) ・Development Bank of Japan(DBJ) ・Organization for Small & Medium Enterprises and Regional Innovation, Japan(SMRJ) ・Japan External Trade Organization(JETRO)
	Support organizations and research institutes for SMEs (private-sector)	・Innovation Network Corporation of Japan ・Central Federation of Societies of Commerce and Industry (Chambers of Commerce) ・Local banks and credit unions ・Universities and research institutes
	Small and medium-sized manufacturers	・SMEs that are motivated to expand their businesses overseas (Picking up individual companies through interviews, and recommendations from supporting local governments)
	Infrastructure companies	・Participating companies in the pilot project/environmentally friendly model of the Amata Nakorn Industrial Estate, etc. ・Major companies aiming to export packages/Smart City-related technologies: Toshiba, Hitachi, etc. ・Groups of companies aiming to export packages/water treatment: Kansai HANDS (Hitachi-zosen, Daiki Ataka, Daicen membrane systems and Nagaoka), sewage: Japan Disaster Relief Team (general contractors such as Obayashi, Kajima, and Kubota) ・ Infrastructure companies in the waste/recycling sectors: JFE Engineering,Rematec, etc. ・Infrastructure companies in the water treatment sector: Toray, Kubota, Sekisui Chemical, etc. ・Infrastructure companies in the information sector: International Center for Water Hazard and Risk Management (ICHARM), etc.

Chapter4: Peripheral Research Items

4.1 Progress of and Support System for Otagai Project in Thailand

4.1.1 Background of the Birth of Otagai Project

As written in Chapter 1, Otagai Project commenced after the calamity of the Thai great floods of 2011. However, the concept model had existed in Japan. In the aftermath of the Great East Japan Earthquake on 11 March 2011, Niigata Prefecture aimed for speedy recovery of the affected companies, and created a temporary support system for producing goods, which had been produced in the disaster-stricken Iwate, Miyagi and Fukushima Prefectures, in the spirit of "Otagai-sama," helping each other in times of trouble (See 4.4.1 for details). The Thai government aspired to follow in their footsteps, and started analyzing the prospects for establishing a network that mutually ensure flood-damaged SMEs' business continuity by asking for JICA experts' advice. This clause explains the details of the background of the birth of Otagai Project, with a specific focus on the Thai's move.

The damage caused by the aforesaid flood went far beyond Thailand. It inflicted upon the global economy, let alone Japan, and resulted in further recognition for the significance of preparing counter-disaster plans for securing business continuity, reinforcing global supply chains and increasing collaboration between industrial clusters. Thailand has improved its industrial competitiveness by inviting foreign companies' production activity. In addition to two imminent challenges: recovery from the flood and supply chain reinforcement, the country needs to enhance its industrial functionality while entering the final stage of its population bonus, and handling the forthcoming creation the ASEAN Economic Community (AEC). Under the guidance of a JICA expert dispatched to the Thai National Economic and Social Development Board (NESDB), the Japanese government proposed 'Otagai Project' as a support measure in November 2011. The Thai cabinet received an official report of the project thereafter. The subsequent chronology shown below points out that the Thai Ministry of Industry (MOI) was officially entrusted for executing the project about three months after the proposal (on 1 March 2012).

Table 4-1: Chronology of the Birth of Otagai Project

Year	Day/Month	Events
2011	From October	Great floods in Thailand chopped up supply chains, causing serious damage to the global economy. Hoping to simulate the success of Niigata Prefecture's *Otagai-sama* B. C. liaison network effectively utilized after the Great East Japan Earthquake, the Thai government commenced a feasibility study for mutually supporting SMEs' business continuity through networking while being consulted by JICA experts.
	From 27 to 30 November	After the visits of Mr. Veeraphol, chairman of the Strategic Committee for Reconstruction and Future Development (SCRF) and Mr. Kittirat, Deputy Prime Minister, the Japanese government proposed Otagai Project, for the purpose of promoting collective and strategic FDI in Thailand through Japan-Thailand industrial cluster collaborations. The project was officially reported to the Thai cabinet.
	22 December	METI (Japan) and JICA took the initiative in organizing an SME-owner-oriented seminar on public support methods (for recovery from flood damage) in Bangkok. The Japanese government proposed a comprehensive policy package including Otagai Business Continuity (B. C.).
2012	From 11 to 12 January	At METI Minister's visit to Thailand, both governments approved of various measures for supply chain reinforcement including Otagai B. C.
	1 February	Mr. Arkhom, Secretary General of the NESDB, organized a liaison meeting across the Thai ministries/departments concerned.

Year	Day/Month	Events
	1 March	At Bangkok's Otagai Forum, with the support of parties concerned (*e.g.* industrial estates/parks), Director General of the Dept. of Industrial Promotion (DIP) of the Thai Ministry of Industry (MOI), officially declared that the ministry will carry out the project in liaison with the NESDB. Subsequently the relevant Thai governmental organizations agreed on the project with MOI.

(Sources: JICA Particular Specifications, and The Crisis Management and Preparedness Organization)

4.1.2 Purposes of Otagai Project

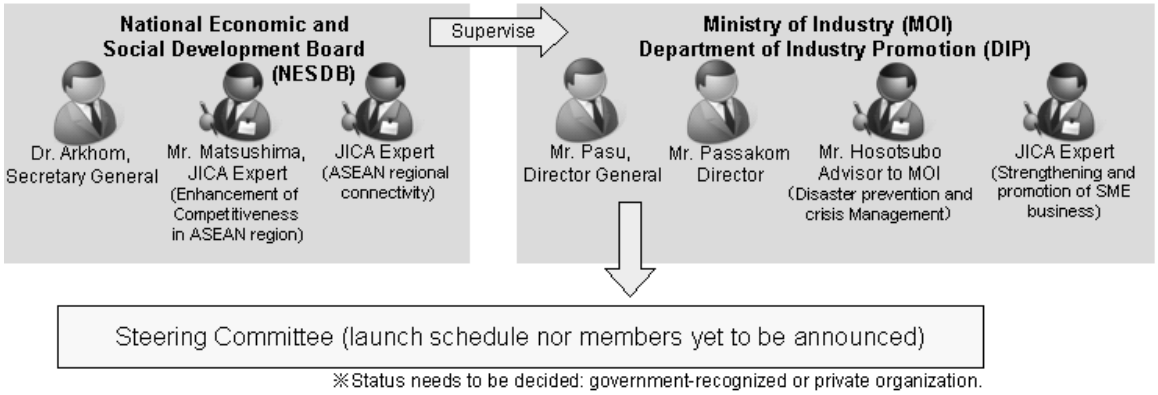
Otagai Project is aimed to strengthen supply chain resilience to unexpected situations including natural disasters. Thai and Japanese industries will be thereby able to provide back up services and mutual cooperation through cluster-level affiliate agreements, called 'sister cluster partnership'. As its name suggests, the project promotes further cluster-level cooperation in the sprit of helping each other in times of trouble. The scope of the project goes beyond its original meaning. It is designed to stimulate the two countries' economical development. The project aims to 1) promote Japanese SMEs' FDI in Thailand through their business expansion and other means, 2) transfer Japanese infrastructure companies' technical and knowhow into Thailand, and 3) facilitate Japanese manufacturing and infrastructure companies' strategic expansion and investment in Thailand, so as to fill the so-called missing links, which represent manufacturing processes that do not exist in the country, and make Thai industrial estates/parks more attractive. Through the aforesaid measures, the project is designed to develop a platform that combines human networking, information collection and dissemination, and foundation laying; and help to create a new Thai brand.

4.1.3 Progress of Otagai Project

Among the three pillars mentioned in the immediate above clause, Japanese SMEs' collective expansion in Thailand has made progress in multiple pilot projects, thanks to the initiatives by the Thai government and relevant organizations, and with the support of JICA experts (See 4.2 and 4.3 for details). This research is expected to address Japanese companies' business expansion in Thailand, create a system for establishing a platform that enables us to carry out Otagai Project continuously, and pilot implementation of the said system. The outcome of the already executed "THAICOBAN" study, which supports to set guidelines for ensuring sustainability of industrial estates/parks in the Mekong region, has to be considered, so as to incorporate the observance of the said criteria into the system.

4.1.4 Promotional Organization and Staff Members

In Thailand, the project has been chiefly promoted by MOI and the NESDB. Though it is still in the realm of ideas at this point of time, the Thai interested parties are considering the establishment of a steering committee for project promotions.



Note: Green: Thai interested parties, Blue: Japanese interested parties

Figure 4-1: Otagai Project Promotional Organizations
(Sources: JICA Particular Specifications, and Hearing from NESDB)

4.2 Leading Pilot Business under Otagai Project

Some projects have already started as a pilot business under Otagai Project as described above. The "Rice Valley" project is a leading one among them. The idea of this project is to make a scheme of mutual support between Japan and Thailand to stand up for their rice-producing region to maintain rice supply in case of unexpected disaster. Under the assistance of JICA, the project was formed around Mr. Shinji Hosotsubo, a Secretary-general of Crisis management & task organization (A specified Non-profit Corporation) as their leader. He is a founder of the "Otagai-sama B.C. liaison network" in Niigata prefecture. It started its pilot project on 15, May 2012 when he was welcomed as an adviser to the MOI in Thailand.

As a stakeholder of the project on the Japanese side, a collaborative organization named "Rice Valley" was established among "Industry" (Rice producers, Rice processors, Rice distributors), "Academy" (Researchers, Universities), "Government" (Administrative organizations), and "Non-profit organization" (Associations, Supporting organizations, bureau) in Niigata prefecture. They are now promoting networking to create a new business through "Rice".

The purpose of Rice Valley network is to position Niigata prefecture as a center of human resources, pioneering technology, know-how, information, and location concerning "Rice". As a result, it is expected to contribute to the development of food industry and culture not only in Niigata prefecture but also all over Japan. Rice Valley network is simultaneously facilitating the Japan-Thailand Otagai B. C. project.

One of the characteristics of the Japan-Thailand Otagai B. C. project is to form a scheme of collaboration amongst industry clusters in order to strengthen supply chains. This project also promotes standardization of industry clusters' sustainability and utilizes a chance of new business creation through the networking cooperation amongst sister clusters. To carry forward strengthening of supply chains, Rice Valley network principally supports SMEs by forming a transnational industrial policy platform.

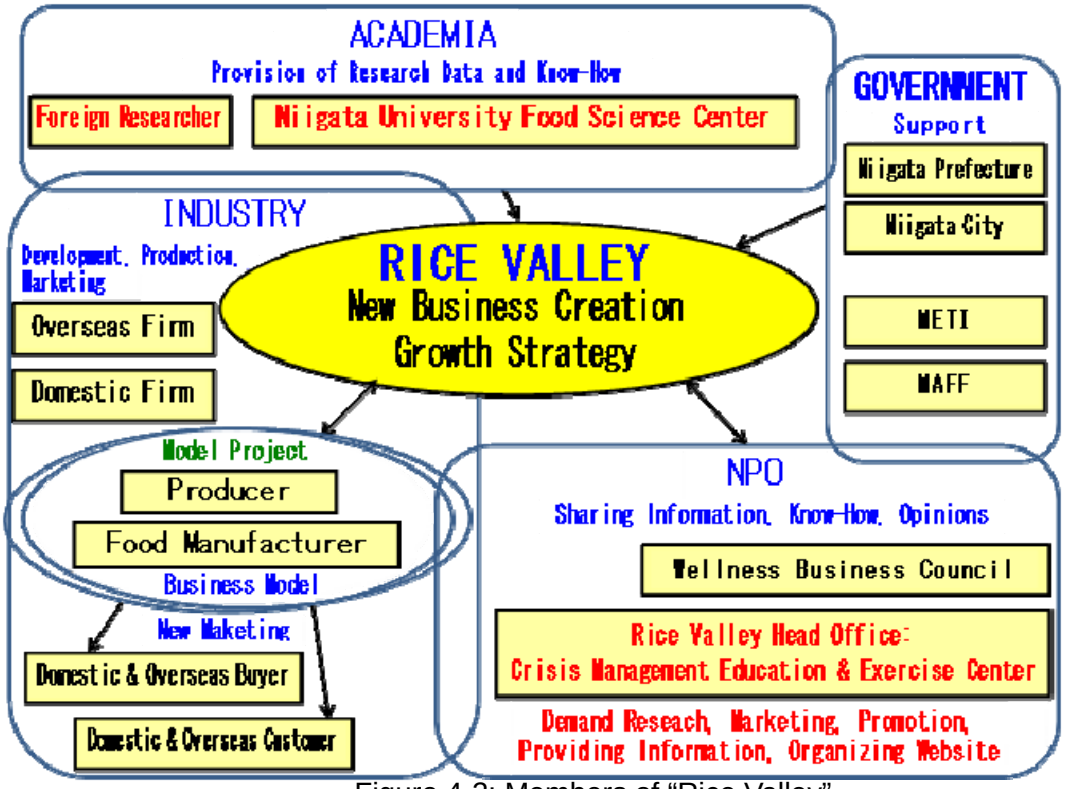


Figure 4-2: Members of "Rice Valley"
(Sources: The Crisis Management and Preparedness Organization)

The Thai counterparts are agricultural cooperatives and rice businesses in Nakhon Sawan Province (central Thailand). In August 2012, representatives from the Rice Valley network and MOI executives met at the ministry, and reached a basic agreement to work out a mutual assistance framework to secure emergency rice supply from rice producing areas in both countries.

In January 2013, the Japanese interested parties visited rice valleys in Bangkok and the Provinces of Yasothon, Nakhon Sawan, Ratchaburi, and Kanchanaburi, for the realization of the two countries' growth strategies. At the Rice Valley Forum jointly organized by JICA and Kasetsart University, both countries' interested parties exchanged opinions, and concluded an MOU between the Rice Valley network and Kasetsart University. Under the framework of the agreement, they seek not only to secure supplements in disasters, but also to promote joint researches and expand sales channels. For instance, healthy value-added Japonica rice varieties with superior characteristics (organic, gluten-fee, and rigorous QC) have been developed in Japan. Thai researchers are trying to apply a similar approach for Indica rice varieties including Jasmine rice. It is rather difficult to provide completely organic foods in Japan, but Thailand has a chance to produce such foods using rain water. On the other hand, Thai farmers can benefit from Japanese cultivation technology. It is a win-win proposition. Another objective of the project is the transfer of QC including traceability establishment to Thailand. Mr. Hosotsubo has high hopes that sample products will be exported to promote value-added Indica rice in the next financial year.

Aside from Nakhon Sawan Province and Kasetsat University, the list of the Thai counterparts now covers Chulalongkorn University and Thai Smart Life Co., Ltd. (THANLUX: a dealer of organic sprouted brown rice). In May 2013, Niigata University and Kasetsat University is going to conclude an MOU. In the same month, the third 'Daigaku wa oishi-i' fair will be organized at Takashimaya Department Store (Tokyo) for exhibiting products jointly developed by universities and food processing companies. Kasetsat University plans to join the fair in collaboration with Niigata University for the first time. Development of Thai rice products sales channels in Japan is much desired.

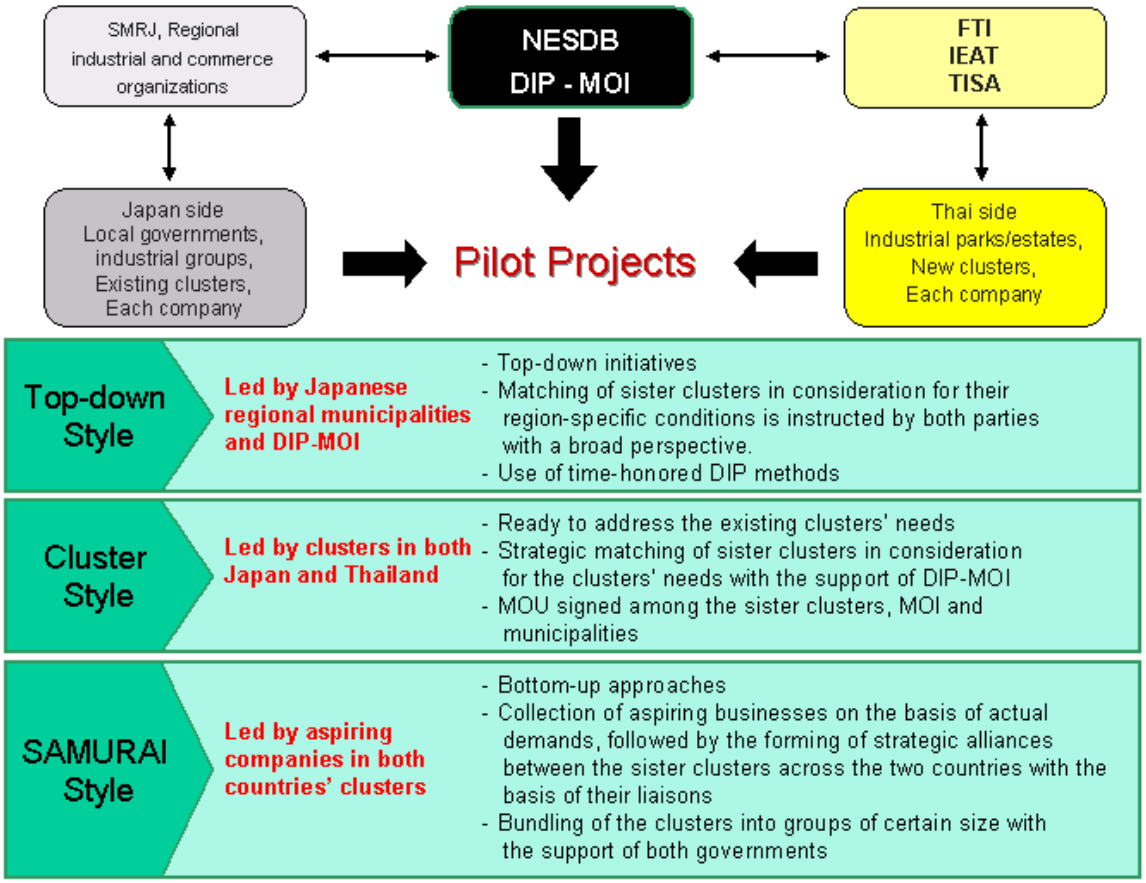
4.3 Current Status of Otagai Project and Extraction of Best Practices

4.3.1 Presence of project candidates other than Rice Valley, and the known problems

On top of the Rice Valley concept mentioned in the last clause, Yamanashi Prefecture and MOI concluded an MOU to ensure that companies in the prefecture will be assisted in conjunction with their collaboration with companies in Thai industrial estates/parks, and their business expansion in Thailand. With reference to the initiatives chiefly led by individual companies in the two countries, under the Samurai Cluster concept, companies in both countries who consider substitutability and new business (and overseas) development from the viewpoint of business continuity will be able to upload their business profiles on the Otagai B. C. website, so they can cooperate with each other in a specific project.

In fact, various entities and concepts, including the die-casting and confectionery industries in Yamanashi Prefecture, the auto industry in Hiroshima Prefecture, the Kitakyushu Smart Community project, gem processing in Thailand's GEMOPOLIS industrial estate, are moving forward. However, most of them are still at the phases of concept and planning. Some projects are in the process of being adjusted into Otagai Project, after having been financed through other sources. It is therefore premature to explain such cases in this report.

Promotional challenges need to be addressed through securing pump-priming grants from the government, coordinating with individual projects, which have been financed through sources different from Otagai Project (e.g. Industrial Missing Link, Society for the Study of Administrative Localization, Smart Community). Suggestions for addressing individual challenges, and attempts at building frameworks are being planned while executing the project.



Note: Top-down style: e.g. Yamanashi prefecture and Thai MOI, Cluster style: e.g. Rice Valley, SAMURAI style: SAMURAI Cluster

Figure 4-3: Otagai Project (pilot projects)
（Sources: 'Otagai B. C.' by The Crisis Management and Preparedness Organization）

4.3.2 Study on best practices

As of March 2013, most of the pilot projects are still at the stages of concept and planning; and thus the number of the projects being executed is limited. Though it is rather difficult to highlight best practices, the Rice Valley project has admittedly stood out, putting itself in a commanding position among the other projects. In some projects, likewise the Rice Valley concept mentioned in the last clause, the scope of the effects goes beyond emergency supply chain supplement, and potentially covers sales expansions and supports for overseas operations. This research is being planned to monitor the progress of such cases, and extract and study best practices.

4.4 Similar Cases of “Otagai Project” in Japan

At the time of wide-scale disaster, it’s assumed that the local factories, business recovery and production activities in disaster area would be difficult in the long term. Provide for such kind of circumstance, the BC (Business Continuity) planning is approaching in current factories. In this context, efforts are progressing across the country to capture the business continuity in areas and regions, as well as to accommodate people, material and money in disaster time.

In this section, we have defined the “Otagai Project” which promotes the cooperation of industrial estates and regions, and then investigated/organized the similar cases.

－Cases of efforts related to disaster prevention and environment in Japanese industrial estates

－The features of “Otagai Project” seen from the cases

4.4.1 Cases of efforts related to disaster prevention and environment at industrial estates in Japan

（1） The efforts related to the BC(Business Continuity) among industrial estates

Case1: The “Otagaisama” BC cooperation network for mutual assistance and support, founded by inter-prefecture group of private companies, in terms of the BC (Business Continuity) and the spirit of mutual assistance in disaster (Niigata Prefecture)[1]

The “Otagaisama” BC (Business Continuity) cooperation network is the generic term of efforts in the spirit of “Otagaisama” (mutual cooperation) for business flexibility in difficulties. The implementation of this effort starts with confidentiality obligation and quality assurance, builds up the situation in advance for publication based on prior contract, and requires the relationship to ensure the reliability of business continuity for suppliers.

At Niigata Prefecture, in order to match the disaster area through intermediary support, a project of business registration is promoting to recruit the factories to provide assistant to the factories affected by the Great Earthquake in East Japan, in the spirit of “Otagai”.

For early recovery and continual assistance to the business in disaster area, the business registration project is continuing to recruit companies who are looking forward to assist the business in disaster area and to provide information to the afflicted local authorities.

On the other hand, for the pre-cooperation of non-disaster areas, on Apr. 25, 2011, Niigata Electro Plating Industry Association and Kanagawa Electro Plating Industry Association contracted the cooperative relationship of alternate production for each other association (factories) in the circumstance of disaster, as a part of the “Otagaisama” BC (Business Continuity) cooperation network”.

The specialty is to provide the information for all contracted companies, and the easy contract of alternate production among business units.

Case2:The disaster prevention and mitigation measurement for new industry in Tokai area (Chubu Bureau of Economy, Trade and Industry)[2]

As the future issue of widespread disaster prevention and mitigation for industry in Tokai area, “The workshop of disaster prevention and mitigation measurement for new industry in Tokai area (established in Aug. 2011, Chairman: Prof. K. Watanabe, Nagoya Institute of Technology)” is making a proposal to promote the “intra-regional BC (Business Continuity) cooperation” aiming for mutual cooperation among the enterprises, associations and business groups inside the industrial estate. In addition, the workshop is also making a proposal related to the promotion of “inter-regional BC (Business Continuity) cooperation” among areas such as Kinki, Hokuriku and Kanto.

[1] http://www.pref.niigata.lg.jp/sangyoseisaku/1302559301473.html

[2] http://www.chubu.meti.go.jp/tisin/download/20120213gaiyou.pdf

The “intra-regional BC (Business Continuity) cooperation” includes proactive measures such like disaster drills, joint stockpile of emergency supplies, human safety in disaster, evacuation space, and security of communication methods.

On the other hand, the “inter-regional BC (Business Continuity) cooperation” includes proactive measurements such as proactive contract of alternate production, alternate production in the stage of early recovery from disaster, and the rental factory for temporary production.

In addition, as the effort to increase the effectiveness of local cooperation, we must remind the necessity of regional cooperation based on the attitude of mutual assistance. 2 items should be reminded: mutual assistance in business activities; mutual assistance between local industry and local society.

Furthermore, as the organization to further promote the effort of disaster prevention/mitigation due to mutual assistance in the future, it’s important to set and operate the Disaster Prevention Forum for Chubu Local Industry (tentative name). This forum gathers industrial, academic and governmental circles in Chubu area (region centered in Aichi, Gifu, Shizuoka, Mie), implements human resource cultivation, public awareness and training, etc. As a result, the region can be formed strong enough towards disasters.

Case3: Support for eco-town in Thai industrial estates due to One Stop Service maintenance (Kinki Bureau of Economy, Team E-Kansai)[3]

Kinki Bureau of Economy, Trade and Industry has begun the F/S survey and human resource cultivation support in order to assist the eco town maintenance in Thailand since 2009. Nowadays, in Amata Nakorn Industrial Estate, the largest industrial estate of Thailand, Team E-Kansai(Kansai-Asia Environmental and Energy-Saving Business Promotion Forum) is working together with the local public and private sectors for zero-emission inside the industrial estate, due to One Stop Service maintenance.

Towards the One Stop Service maintenance, based on the future documents of cooperation, the Department of Industrial Works of the Ministry of Industry, Thailand, the Industrial Estate Authority of Thailand, Amata Corporation PCL, Kinki Bureau of Economy and Team E-Kansai entered into an agreement (Jun.7, 2012) to promote the following approaches:

1) To establish a joint committee by public and private sectors of Kansai and Thailand
2) The feasibility of One Stop Service on a commercial basis and the possibility of incentives due to the government
3) Efforts to improve the understanding of One Stop Service
4) A glance to the development in other regions as a business model
5) Expansion of efforts for low-carbon, energy saving, etc.

[3] http://www.kansai.meti.go.jp/2kokusai/teamE-kansai/press_release_Thai.pdf

(2) Special efforts inside the industrial estates (and the cooperation of local business)

Case1:DCP promotion in Kyoto Phoenix Park (Uji City)

Development of DCP (District Continuity Plan) model has been promoted in Kyoto Phoenix Park since the “Workshop on the development of DCP model for disaster prevention in local enterprises of Kyoto Phoenix Park” in 2010. This workshop started with the “Communication Committee for Disaster Prevention", centered by the Disaster Prevention Research Institute of Kyoto University; 7 SMEs in Kyoto Phoenix Park joined, Kyoto Prefecture, Uji City and Kumiyama town also attended as local public institutions. Now it involves around 30 companies.

After the enterprises drew up the BCP, they implemented the common actions like joint stockpile of emergency food, etc. Some individual businesses step further for continuance measurements by identifying the materials and types of sharable parts, and considering the method for flexible accommodation in emergency. In addition, BCP is also utilized by detailed direct database of damage in the assumed circumstance of earthquake and flood. By attending the workshop, local authorities have internalized the needs of enterprises in disaster as know how. The Disaster Prevention Research Institute of Kyoto University gives advice to both enterprises and local authorities. In this way, this case has the feature of cooperative effort among industrial, academic and governmental circles.

Case2:The cooperative disaster prevention measurements due to intra-industrial estates cooperation

Table 4-2: Cases of cooperative disaster prevention measurements for factories inside industrial estates

Prefecture	City	Industrial estates	Contents of efforts related to disaster prevention measurements
Shizuoka Pref.	Fuji City	Ukishima Industrial Estate	In this manufacturing concentrated industrial estate, the units of union are drawing up the earthquake prevention plan as a detail effort aiming to create a safe and secure industrial estate. Moreover, as the tsunami measurement, a tsunami evacuation map was drawn to show the factories at higher place as evacuation areas.
Shizuoka Pref.	Iwata City	Iwata Sagisaka Industrial Estate Co-op	It’s also a manufacturing concentrated industrial estate. The BCP plan started in 2007 by the leadership of Co-op (the youth group) to recognize the necessity to boost up the value of enterprises and to carry through as business acquaintance of top makers in large scale disasters and to Not only the joint-hosting professional lecture class, but also the visit and research to the disaster areas are in process.
Kanagawa Pref.	Atsugi City	Kanagawa Nairiku Industrial Estate	The mutual assistance constitution of Kanagawa Nairiku Industrial Estate is being drawn up. Participating companies have responsibilities to complete their independent disaster prevention systems. 1) Development of individual disaster prevention regulations, 2) Regular disaster prevention education and training, 3) Maintenance and inspection for disaster prevention materials, 4) “Risk map” of premises prepared for fire-fighting, 5) Companies have the responsibility for stockpiling facilities, such as emergency wireless system,

Prefecture	City	Industrial estates	Contents of efforts related to disaster prevention measurements
			emergency food and supplies. In addition, for the responsibility of necessary activities in mutual support/cooperation, the personnel and materials for disaster prevention support should be decided in advance.
Aichi Pref.	(confirming)	Aichi Printing Industry Association	The cooperation is being built through a joint study session in order to create a network with same industry associations in other prefectures to prepare for assumed large-scale disaster.
Aichi Pref	Toyohashi City	Toyohashi Industrial Estate	It's an industrial estate built outside of the breakwater. In 2011, the wireless system was installed as evacuation measure. Moreover, based on the experiences of the Great East Japan Earthquake, the measurements such as evacuation to high ground and tsunami measurement for units are being promoted.
Kochi Pref.	Kochi City	Kochi Machinery Industry Development Cooperative Society	To set the head office of disaster control for the whole industrial estate (the needs of setting should be understood from a questionnaire to companies in the park), and to make the disaster prevention manual.

Case3:Mutual cooperation of Kitakyushu Eco-town (Kitakyushu City)[4]

Kitakyushu City has formulated the environment/recycling industries centering on "Kitakyushu Eco-town Plan" and embarked the practical business in the whole City. In order to promote this project, The "Kitakyushu Eco-town Execution Plan" was formulated to set the direction of basic approaches, and the individual regional policy was laid out by integrating environmental policy and industrial development policy.

The Kitakyushu Eco-town project aims to utilize the merit of collections from recycle and reuse factories, and achieve the mutual cooperation to reuse the residuals of each other factory in the process of recycling.

Furthermore, we are aiming to zero-emission by developing the complex core facility to reuse the residuals that can't be recycled for generating electricity, and then to sell the electricity to the enterprises in the eco-town at a low price.

Case4:Kawasaki Zero Emission Industrial Estate[5]

The Kawasaki Zero Emission Industrial Estate has been operated since Nov.2002. It locates at Mizuecho, Kawasaki Ward, Kawasaki City, inside the eco-town area which is a model establishment of the eco-town framework of Kawasaki City.

For the industrial estate, the aim is to minimize the environmental impact through reducing emission and co-product as much as possible, as well as reutilization/source recycling and cyclic usage of energy. Moreover, by the chance to operate the recycling system in the Zero Emission Industrial Estate, zero-emission activity has been promoted widely to the whole region.

The Co-op of Kawasaki Zero Emission Industrial Estate (founded in 1999) is approaching for the basic concept of zero emission such as pollution control (especially soil pollution control) and promotion of recycling. Each partner company tries to reduce the generation of waste, sorts the waste by paper, plastic, metals, etc, and then recycles or reuses the waste as fuel in other partner

[4] http://www.kitaq-ecotown.com/

[5] http://www.city.kawasaki.jp/280/page/0000033413.html

companies or factories nearby. For others, such as usage of treated water from sewage plants nearby, and to make general waste into fertilizer at compost, the co-op and participant companies work together towards zero-emission. Moreover, each partner company has their own special environmental approaches, such like the paper mill equips the newest large equipment for used paper that is hard to recycle, and the factory which sets up the stand for gas vehicles.

（3） Efforts in accord with other features (regional feature of the industrial estates, etc.)

Case1:Establishment of industrial estates at upland (Muroto City)

Muroto City is assumed to be damaged by great tsunami in coastal area in the circumstance of great earthquake. So the small-scale industrial land is under urgent improvement for enterprises that want to move to upland.

According to the new assumption summed up by “Nankai trough earthquake investigative commission”, Muroto City might be attacked by earthquake of maximum seismic intensity 7 and tsunami height of 24.9m. In this case, the anxiety for business continuity would be broaden among enterprises located in costal area.

Because of this anxiety, the city decided to develop an intermountain region at Hane in the northwest with altitude of 35m and area of 1 hectare including roads.

4.4.2 Features of “Otagai Project” in Japan

The features of “Otagai Project” in Japan can be organized by summing up the cases seen so far.

- An example to substantiate the inter-regional BC cooperation is the formulation of “Otagaisama” BC cooperation network. However, the foundation of inter-regional BC cooperation is very significant to form and foster the intra-regional BC cooperation.
- Inter-regional BC cooperation builds up the effort for business continuity among the unions of domestic and international industrial estates. For example, in the circumstance of disaster, we can consider temporarily alternate production among industrial estates, flexible materials, to rent some of the equipments and facilities, and to share the food. However, to ensure the effectiveness of these efforts, it’s very important to make a pre-arrangement (e.g. mutual contract manufacturing agreement, quality assurance agreements, and mutual support in disaster).
- Intra-regional BC cooperation also builds up a business continuity system that includes both the industrial estates and the local authorities. This refers to promote the efforts, which should be carried out by the ordinary business units, into the cross-effective cooperation among all business units in the industrial estates. For example, we can have the united emergency drills, joint stockpile, hazard map and power supply in the factories when disaster occurs.
- In order to promote the development, the efforts described as above are limited only in the case if business unit and industrial estate make the efforts individually. Therefore, we started the promotion forum and look forward the cooperation of government and the public.

4.5 Strategic Superiority and Challenge of Japan

4.5.1 Strategic superiority of Japan

So far, Japan has made contributions to the penetration of Japanese enterprises in Thailand and the technical cooperation for human infrastructure development in Thailand. In the future, these performances can be considered as the strategic superiority of Japan in the promotion of "Otagai Project".

(1) Performance of human infrastructure for manufacturing

In order to ensure the skill level of labor force for Japanese companies' needs, Japanese companies have utilized the Japanese production KAIZEN and 5S for human resources development when they are penetrating in Thailand. It is a significant contribution to improve the quality of the labor force in Thailand.

Moreover, due to the steady effort of the Association for Overseas Technical Scholarship (AOTS, as HIDA at present), the human infrastructure for Japanese-style production base is put into place. By the funds raised by AOTS alumni, the Thai-Nichi Institute of Technology was founded for vocational training.

(2)Performance of Japanese technical cooperation for eco-industrial estates

Japanese technical cooperation, such as Team E-Kansai and New Energy and Industrial Technology Development Organization (NEDO), etc, had already promoted the "eco-town" activity for the industrial estates in Thailand.

Case A: Kansai public-private partnership for eco-town development in Thailand[6]

Kinki Bureau of Economy, Trade and Industry and "Kansai-Asia Environmental and Energy-Saving Business Promotion Forum" (Team E-Kansai) reached an agreement on Jun. 7, 2012 at Amata Nakorn Industrial Estate with the Ministry of Industry, Thailand, Industrial Estate Authority of Thailand and Amata Corporation, in order to build up the "environment-conscious industrial estate model", and to develop the waste management company "One Stop Service" for strengthening waste management and effectively utilization of recycling.

Case B: Eco-town in Thai industrial estate due to the technical cooperation of NEDO

From the reflection on the pollution problem of Map Ta Phut Industrial Estate, IEAT is promoting the eco-town activity in industrial estates around the country in cooperation with NEDO. Based on the index of 22 items in 5 areas of nature, economy, society, environment and management, the establishment of ecology industrial estate for symbiosis with local citizens is being promoted. From 2010 to present, IEAT has made Amata Nakorn Industrial Estate and Nong Khae Industrial Estate into eco-towns. The eco-town policy of Bangchan Industrial Estate, Samut Sakhon Industrial Estate and Amata City Industrial Estate was determined was published in Apr. 2012[7].

In addition, promoted by the Ministry of Industry, Thailand, along with the environment-conscious framework for industrial estate and city development "Eco-Industry Town Plan", the Ministry of Industry and NEDO reached into an agreement to introduce the new energy and energy-saving such as smart grid and biomass into industrial estates. Solar power, biomass fuel technology, heat pump, high performance industrial furnace, wastewater treatment and water recycle system are introduced in. The aim is to build a lower environmental impact industrial park by utilizing smart grid-related technologies.[8]

Furthermore, the Ministry of Industry, Thailand and NEDO announced a joint statement on the approach of energy saving in Map Ta Phut industrial estate, in order to draw up the energy saving

[6] http://www.kansai.meti.go.jp/2kokusai/teamE-kansai/120621Thai_press_release.html

[7] http://news.nna.jp/free/news/20120410thb008A.html

[8] http://www.nikkan.co.jp/toku/smartglid/sg1222-02n-173ps.html

plan for the entire industrial estate, spread to other industrial estates and confirm the effort of institutional design for the Ministry of Industry.[9]

(3)The similarity of design thought of manufacturing in Japan and ASEAN countries

According to the discussion "industrial architecture" proposed by Prof. T. Fujimoto, the design thoughts of manufacturing are classified to modular architecture (combination of parts) and integral architecture (lapping).

The modular architecture is a method to complete the product by combining parts. Due to the huge capital spent on the best procurement around the world, cheap parts were combined to products. It's represented by Apple and Dell Computers, applicable in Asia such as China.

The integral architecture is the method to lap the plural parts, adjust the structure of each feature, and then lead to the demand and structure of multiple functions. The representative is Japanese manufacturing as automobile industry. In the ASEAN countries centered on Thailand, as the result of the penetration of Japanese companies due to FDI, The Japanese lapping style is being established.

The similarity and affinity of design thought in Japan, Thai and ASEAN countries can be considered as the strategic superiority of Japan in the future promotion of "Otagai Project".

4.5.2 Challenge of Japan

On the other hand of "the strategic superiority of Japan" described as above, we must overcome the challenges as below:

(1)Tariff barrier

In the future, according to the "Project Otagai", for the accommodation of materials, parts and products between Japan and Thailand, we have concern about the tariff barrier between the two countries. Hereafter, in the conclusions of EPA(Economic Partnership Agreement), FTA(Free Trade Agreement) and so on, it's necessary to consider tariff reduction.

(2)High-cost and self-righteousness constitutions

Because Japanese companies rely too much on their own technology and know-how, they are difficult to leave the high-cost constitution; moreover, they stick too much to the models spread and succeeded in the past, they hardly consider the flexible thinking and course correction. That's the reason why Japanese companies are difficult to win the international competition. It's better not to import the excessive quality of Japanese manufacturing to the first emerging Asian country as Thailand.

According to the "Otagai Project", Japanese products are imported into Thailand, and the manufactured goods will go to the market; therefore, it's better to change the consideration from "product-out" type to the "market-pull" and "market-driven" types which provide the products meet the needs of local market.

[9] http://www.nedo.go.jp/ugoki/ZZ_100108.html

4.6 Concern of Japanese Government and Related Organizations

Japanese companies are extending their business field from within the nation to various overseas countries such as Asian countries. The Japanese Government and related organizations are aggressively promoting support for Small and medium-sized enterprises (SMEs) which are planning overseas development.

As for the strategies of the Japanese government and related organizations towards Thailand, two types are presumable. One of them (1) is to assist Japanese companies which are expanding their business in Thailand. The other (2) is, when Thailand expands or makes outbound investments to the Mekong region such as Myanmar or Vietnam, it is hopeful for the Japanese government and related organizations to apply the Japan - Thailand standards to the system and/or institution of those countries. As a result, it will make a favorable base for Japanese companies to expand their business in those countries with facility.

As for the above strategy No.(1), the Japanese government and related organizations are aggressively promoting both directly and indirectly, to support the companies which are expanding their business area in Thailand. Strategy No.(2) is that of a new development. The Japan - Thailand collaborative project now in progress has the potential to become the pioneer of a new type of strategy.
Examples of various policies of the Japanese government are described as follows.

4.6.1 Case examples of direct support to the Japanese companies

（1） Political measures of the Japanese government

The Japanese Government will propose a policy to support the international development of SMEs as one of the growth strategies that the Japanese economy revitalization headquarters considers. Specifically, the Japanese Government considers the establishment of a fund to support the overseas development of SMEs, and also considers conclusion of investment pacts and tax agreements in order to bring together accomplishments of the overseas investing to domestic growth.[10]

Within the Japanese Government, the Ministry of Economy, Trade and Industry (METI) plays a key role and proposes policies to support the overseas development of SMEs successively. The METI holds the "Overseas development support meeting for SMEs " that assumes the Minister of METI as chairperson to support the SMEs smoothly and established a contact window throughout the country, which carries out a one-stop consulting function in each region.[11](**Figure 4-4**)

[10] http://www.kantei.go.jp/jp/singi/keizaisaisei/dai2/siryou02.pdf
[11] http://www.chusho.meti.go.jp/keiei/kokusai/index.html

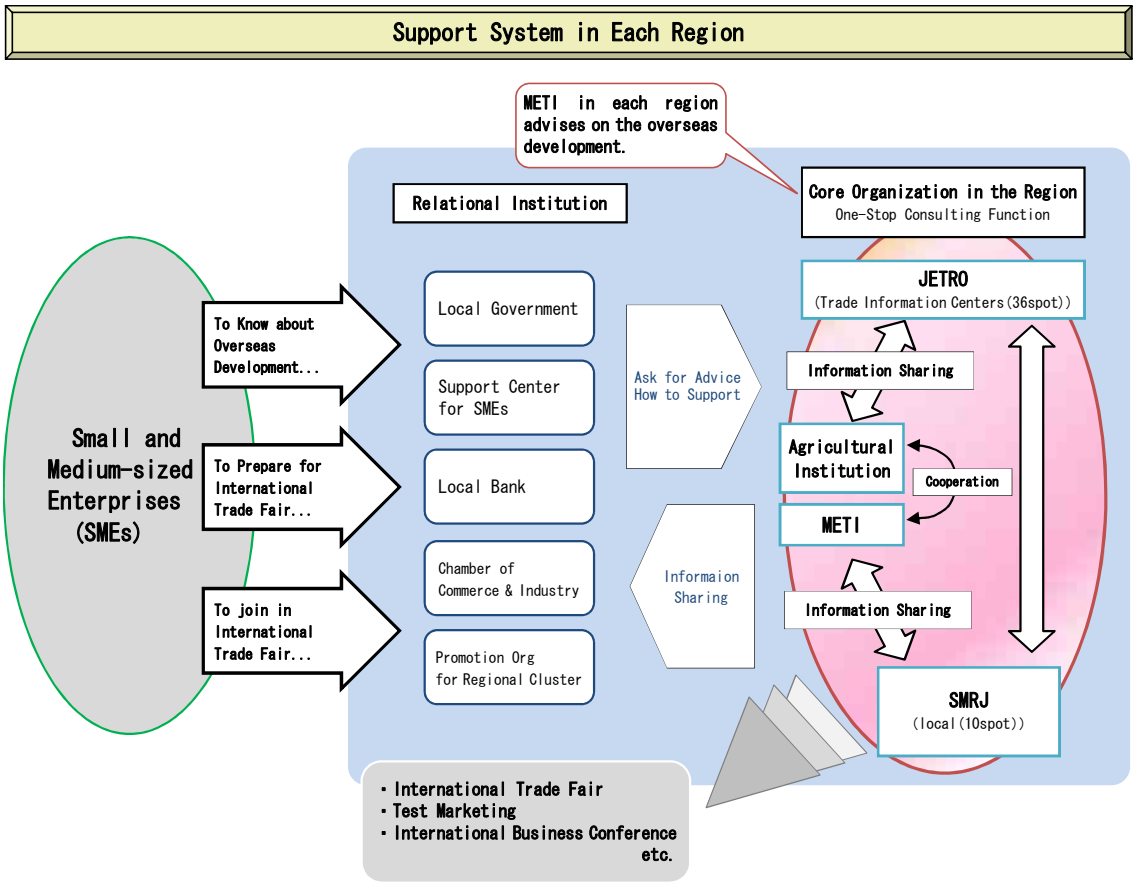


Figure 4-4: Support System by METI in each region(Prepared by METI Kantou)

The SMEs Agency, which is an external bureau of METI, is also taking action energetically. In January 2013, it published the “Collection of overseas development measures for SMEs”. It deals with the overall measures of the SMEs Agency, Japan External Trade Organization (JETRO), Organization for Small and Medium Enterprises and Regional Innovation (SMRJ), The Japan Chamber of Commerce and Industry (JCCI), Tokyo Chamber of Commerce and Industry (TCCI), Japan Bank for International Cooperation (JBIC) and the like, according to the purposes.

(2) Measures and policies of related organizations

The governmental financial institutions are also preparing a substantial supporting package. Japan Bank for International Cooperation (JBIC) make effort together with private enterprises to build up an investing and financing contract for Southeast Asian countries with the goal of 20 to 30 billion yen per year, targeting infrastructure business, climate change combating business and/or poverty reduction business. JBIC will reduce business risks and will encourage Japanese companies’ overseas expansion by supplying a low-interest fund as a capital source as well as participating in negotiations with the local government.[12]

Japan External Trade Organization (JETRO) supports Japanese companies to conduct overseas activities smoothly by using more than 70 of its offices worldwide. Specifically, JETRO places experienced advisers from private enterprises (trading companies, manufacturing industries, accounting firms) to the offices in ASEAN countries to perform an information supplement and/or provide appropriate advice concerning corporate management such as a local legal system, tax practice, the labor side and the like. JETRO runs a “Business support center" in Bangkok, Hanoi, Manila, New Delhi, Mumbai, Chennai, Yangon, where each are utilized as a temporary

[12] http://www.nikkei.com/article/DGKDASGM1803P_Z10C13A2MM0000/

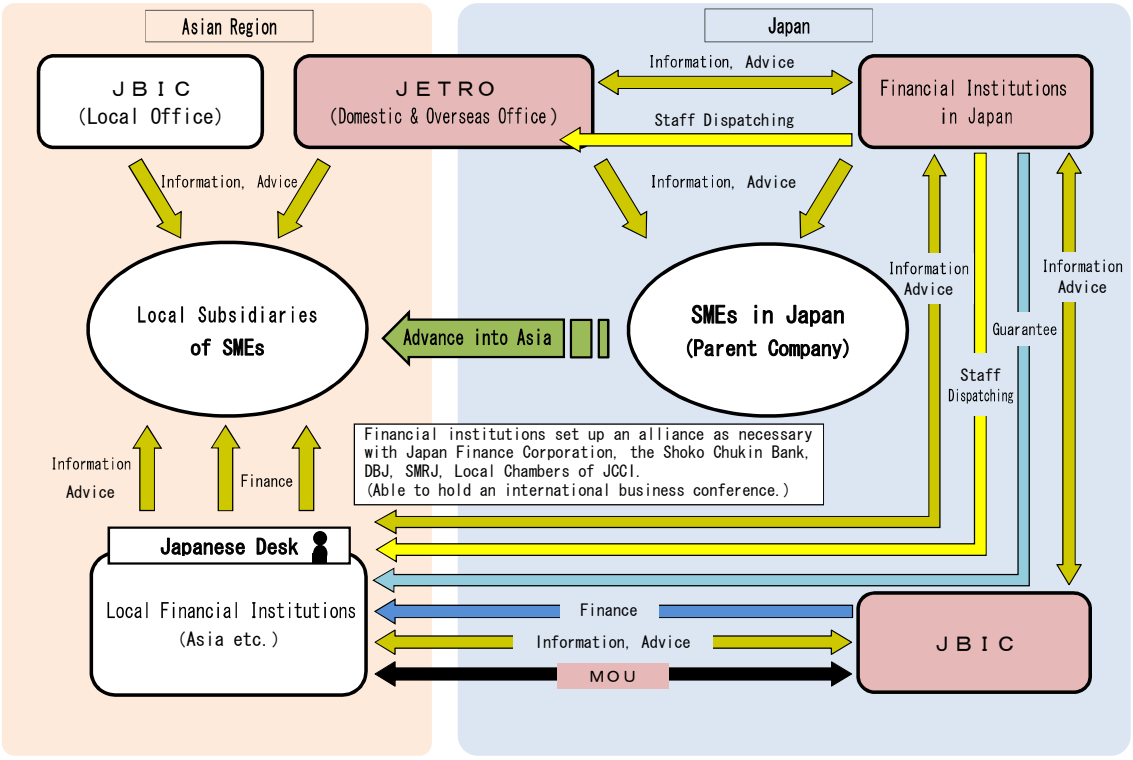


Figure 4-5: Alliance with Financial Institutions -JBIC-JETRO(Prepared by METI and others)

office until a Japanese company establishes a local corporation in those countries.[13]

Also, the coalition amongst the related organizations is strengthened. Based on the ideas of the new growth strategy, financial institutions (regional), JBIC, JETRO and the like work in close cooperation in order to support the SMEs expanding their business area to Asian regions.[14] (**Figure 4-5**)

An example of a partnership between a governmental financial institution and a private enterprise is as follows. Development Bank of Japan (DBJ) set up an alliance with Sojitz Corporation in April 2012 by promoting support for Japanese companies that are expanding into the Asian market. Also, DBJ established the “DBJ financial support center” in June 2011 to develop consultancy services and information supplement for local SMEs through local banks which are members of the center.[15]

4.6.2 Examples of indirect methods to support to the Japanese companies

On the other hand, there are some examples of tactics to indirectly support the overseas development of Japanese companies, which are as follows.

From February, 2013, Japan Bank for International Cooperation (JBIC) begins a system to finance foreign firms (buyers), when they purchase or import infrastructure-related products from overseas subsidiaries of the Japanese companies. Financing to the buyer companies was limited until now, only possible when they import directly from “Japanese companies within Japan”, but JBIC will enlarge the targets of finance when they import from “Japanese companies within Japan” to "Japanese affiliated", as a result JBIC supports Japanese companies pushing forward outward shifts overseas.[16] (**Figure 4-6**)

[13] http://www.jetro.go.jp/invest/ibsc/
[14] http://www.chusho.meti.go.jp/koukai/kenkyukai/kaigai/download/110202HS-S-6.pdf
[15] http://www.dbj.jp/ja/topics/dbj_news/2012/html/0000009910.html
[16] http://www.jbic.go.jp/ja/about/news/2012/0201-01/index.html

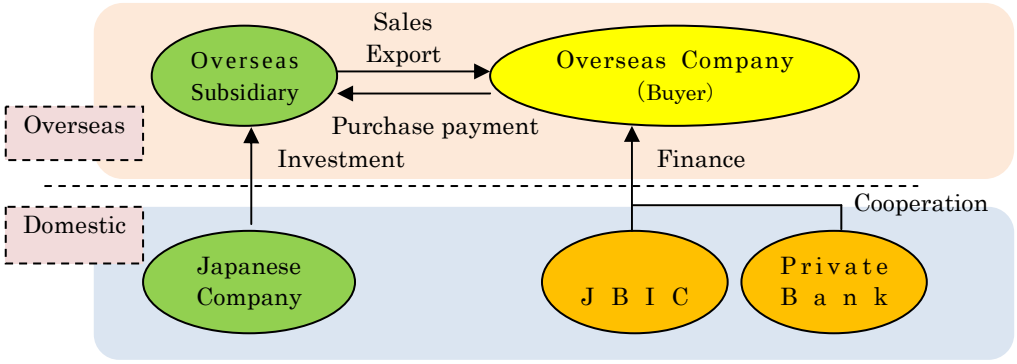


Figure 4-6: Supporting scheme by JBIC(Prepared based on the data of JBIC)

4.6.3 Candidate for Hearing

In consideration of the current situation above, the following organizations listed in **Table 4-3** are to be surveyed.

Generally, the framework for supporting SMEs in overseas business focuses on the following issues. (1) Information, (2) Marketing, (3) Human resources development and securing talent, (4) Financing, (5) Improvement of the trade and investment environment. So the survey will be conducted considering these points.

Table 4-3: Organization to be surveyed

Group	Organization
Japanese government	Ministry of Economy, Trade and Industry (METI), SMEs Agency, Ministry of Internal Affairs and Communications, Ministry of Land, Infrastructure, Transport and Tourism, etc.
Related Organization	Japan Bank for International Cooperation (JBIC），Development Bank of Japan (DBJ), Organization for Small and Medium Enterprises and Regional Innovation (SMRJ), Japan External Trade Organization (JETRO), etc.
Private Sector	The Japan Chamber of Commerce and Industry (JCCI), Tokyo Chamber of Commerce and Industry (TCCI), Private financial institution, Local bank, Credit association, Innovation Network Corporation of Japan (INCJ), etc.

Chapter 5: Policy of the Study (Second Year)

5.1 Preliminary Survey

Despite the period (March 30 to May 23, 2013) being a non-contract period, which was between the first and second years under the agreement, we independently carried out the following activities to smoothly execute the future survey and understand the precise points of the survey. While ensuring the breadth of vision, we implemented activities to determine our direction.

Table 5-1: Details of Preliminary Survey (March 30 to May 23, 2013)

Date		Survey details
April	Monday 1	Explain the progress to Professor Eiji Arai, a member of the THAICOBAN Review Committee and lecturer at the Graduate School of Engineering, Osaka University
	Monday 8	The 1st Samurai Conference (regional meeting of key persons) "trial" (**Figure 5-1**)
	Monday 15	Interview with President Nakamura of Lexer Research, a Tottori-based company developing software that helps improve efficiency in plant operation
	Tuesday 16	First meeting on the orientation of the overall supporting companies with Nikkei BP
	Friday 19	Meeting on May 9, "Otagai" Forum in Bangkok and some other matters discussed with President Nakamura of Tokyo City University
	Sunday 21 to Tuesday 23	Meeting with Thai Policy Adviser Matsushima, Tottori Prefecture's Department of Labor and Commerce and president of Lexer Research
May	Thursday 9	"Otagai Forum 2013" targeting the Thai government in Bangkok (**Figure 5-2**)
	Friday 10	Interview with the Board of Investment of Thailand (BOI), the Japanese Chamber of Commerce, Bangkok (JCC), JETRO Bangkok, Thai Ministry of Industry (Bureau of Supporting Industries Development: BSID) and Summit Capital Leasing in Bangkok
		"Meeting of Regional Banks" involving 18 trainees and heads of regional banks and local offices from 15 banks
	Tuesday 14 to Wednesday 15	Second meeting on the orientation of the overall supporting companies with Nikkei BP
	Friday 17	Meeting with President & CEO Kibayashi of Asian Market Planning
		Meeting with former JICA expert Arikawa
	Thursday 23	Long meeting with Thai policy adviser Matsushima in Shimane Prefecture
		Meeting with executives of Shimane Prefecture and San-in Godo Bank

Figure 5-1: The 1st Samurai Conference Trial (April 8)

Held at Todofuken Kaikan in Hirakawacho, Tokyo on April 8, 2013. Participating municipalities and public-interest corporations were Saitama Prefecture's Department of Industry and Labor, Saitama Industrial Development Corporation, Yokohama Industrial Development Corporation, Yamanashi Industry Support Organization, Osaka Prefecture's Department of Commerce, Industry and Labor and Kitakyushu City Promotion Metropolitan Headquarters. A counselor took part as an observer from Chugoku Bureau of Economy, Trade and Industry. After the explanation of the clustering efforts by each municipality, a number of requests for evidence were raised by the survey team.

Figure 5-2: "Otagai Forum" in Bangkok (May 9)

Major participants included Secretary General Arkhom from the National Economic Social Development Board (NESDB), Economic Minister Iwama from the Embassy of Japan in Thailand and Deputy Secretary General Sirirat from the Department of Industrial Promotion (DIP) of the Ministry of Industry, Thailand. Guests were limited to Thai government affiliates and some media. This became the first substantive introduction of the "Otagai" Project in Thailand.

"Meeting of Regional Banks" in Bangkok is held on May 10. Banks present included the Hokuriku Bank, the Daishi Bank, the Hyakugo Bank, the Hachijuni Bank, the Bank of Fukuoka, the Shizuoka Bank, the Gunma Bank, 114 Bank, the Tokyo Tomin Bank, the Aichi Bank, the Juroku Bank, the Nanto Bank, the Bank of Nagoya, the Yamanashi Chuo Bank and Japan Finance. While explaining the project's outline, the introduction of companies (group) considering cluster advances into local markets was requested.

5.2 Basic Policy for Surveys in Thailand and Japan

In light of the interview, opinion and request results acquired through the abovementioned activities, we prescribed the basic policies for surveys in Japan and Thailand, especially the first (May 26 to June 1) and second (June 16 to 22) local surveys as follows and notified all team members through Survey Team Supervisor Miyazaki (Nikkei BP). The reasons and factors can be found in the next paragraph, 5.3.

- Collect and analyze information on Japanese companies that offer or intend to offer daily/hourly space leasing services (rental space and rent with furnishings, currently including volunteers) prior to others among the companies succeeding in business expansion in Thailand.
- Collect and analyze the current information on local "companies supporting the advance into Thailand and the Mekong (so-called coordinators)," which are providing credit information to local Thai companies.
- Organize major municipalities' key persons, financial institutions and candidate-likely clusters (for example, precision instruments in Yamanashi and ultra compact mobility in Tottori, etc.) and formulate cluster-type advance support measures on the Japanese side.
- As measures to support the introduction of Japanese infrastructure technologies, explore the possibility of introducing result-reward-type models targeting owners and operator companies of some industrial complexes such as Amata Industrial Estate and Rojana Industrial Park. The infrastructures are limited to those needed to "sophisticate the industrial complexes" in this survey.

5.3 Factors behind Basic Policies for Surveys in Thailand and Japan

To achieve results in the limited survey period, priority is given to the items strongly requested from advance support municipalities and small- and medium-sized enterprises (SMEs). One is the establishment of a method to acquire "credit information" on local companies in Thailand. The other is the provision of information on "daily/hourly leasing and rent with furnishings," which lowers the hurdle for SMEs to advance into Thailand. We consider these are indispensable for a "thorough survey on local Thai companies."

Including the former "credit information," there are about 30 local and Japanese companies and individuals supporting Japan's advance into Thailand, and their best state agrees with the "useful coordinators" we aim to foster. Before realizing a fostering facility, however, we believe it is more important to grasp the reality of actual coordinators. The reality is focused on 1) what companies with what background and history are doing business 2) with what lineup and 3) to what extent (details in Chapter 11).

The latter information on "daily/hourly space leasing and rent with furnishings" is the information on the Japanese companies that have already advanced into and succeeded in Thailand and are willing to lease part of their property for SMEs advancing into Thailand from now (details in Chapter 10). We consider the provision of such information very beneficial since it significantly lowers the hurdles to advancing compared with "lease plants (rental plants in industrial complexes)" that the industrial complexes offer to supporting municipalities and SMEs.

We also heard from the interested party, whom we surveyed in Japan in advance and who is famous for lease plants, that the Ota Techno Park (OTP) was carefully tailored for Ota-ku-based companies, and there could only be not many municipalities that would succeed with the OTP model considering the regional characteristics of Japanese enterprises. In other words, it is a warning against the "general knowledge" that it is better to leverage rental plants in industrial complexes, considering it is financially impossible for SMEs to launch a business after acquiring a site in these complexes.

Quickly choosing a rental plant could end up as a dead-end due to factors such as expandability, cost, maintenance, human resource procurement and sales/business exploitation. In addition, monthly rents of 200 baht or more per 1 m^2 are not necessarily low. As a result, we decided to add this information to the pillars of the basic survey policies, focusing on the opinions from many municipalities that it appears to be the shortest route to starting up by renting building space from Japanese companies

already successful in Thailand, and what they are seeking is such information, and after confirming their presence through the preliminary survey.

5.4 Method for Survey in Thailand

Based on the abovementioned basic policies, we allocated the roles in the first Thai local interview from May 26 to June 1 and the second interview from June 16 to 22 as below.

-To increase efficiency, the activities utilize a three-team-structure.
-The following three teams from A to C will independently make appointments and share the appointment schedule with Nikkei BP, which unifies and manages those schedules. Each team will join the other teams if time allows.

(A) The team to survey organizations and government affiliates to acquire information on credit, attorneys and companies leasing their unused space (Nikkei BP)
(B) The team to interview primarily local coordinators and institutions fostering coordinators (the Overseas Human Resources and Industry Development Association/HIDA and Sasin Japan Center of Chulalongkorn University)
(C) The construction consultant team to be responsible for sophisticating industrial complexes (CTI Engineering and Pacific Consultants)

5.5 Main Task Flow Chart

The main task (survey) flow is defined as shown on the next page, in consideration of the new basic policies for the second year and reflecting the content in “1.4 Policy of the Study (First Year).”

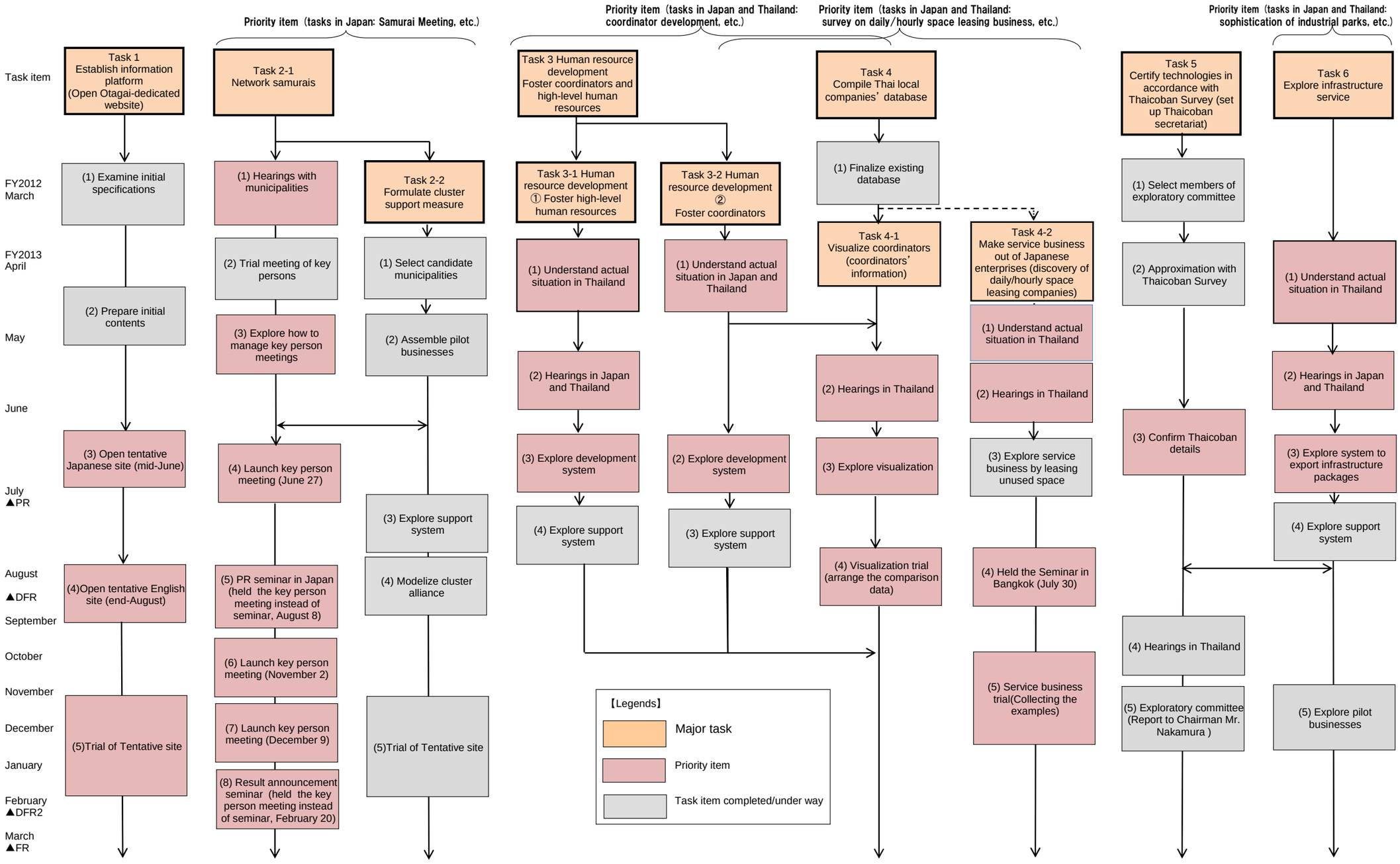


Figure 5-3: Main Task Flow Chart

Item \ Priod	FY2013											
	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Tie-up with the Thai government and related organizations		▼Seminar targeting Thai government（9 May）			▼Seminar targeting Japanese companies（30 july）							
Substitute organization for the committee＝ Operation of the "samurai" network	▼Samurai conference (trial)		▼Samurai Conferen		▼Samurai Conference		▼Samurai Conference		▼Samurai Conference			▼Samurai Conference
Report (submission deadline)			PR (middle of Jul) ▼		DFR1 (end of Aug) ▼					DFR2 (middle of Feb) ▼		FR (biginning of Mar) ▼
(1) Collection and organization of existing information (review of study policy, methods, schedule through literature review and field studies/interviews)												
(2) Study of the actual situation in Thailand (conducting hearing sessions on the Thai government and industries/private-sector corporations, as well as Japanese corporations in Thailand)		Reinforcement team of Thailand / Study team / Study team / Study team			Interview of those in the top levels in tandem with the study	Study team						
(3) Study of the resources of Japanese corporations (analysis of business opportunities for private-sector manufacturers and infrastructure companies)												
(4) Review on networking and establishment of platforms for the Otagai Project												
(5) Design for the basic policy on the implementation of the Otagai Project (draft)												
(6) Formulation of progress report (domestic)			Upload interview articles on the website									
(7) Formulation of overview of the networking and platform projects for the Otagai Project (draft)			Ad-hoc recruitment of potential companies for infrastructural technologies and collective FDI on the website. At the same time, submissions to the website will be reflected in the study as and when necessary.	Study team △−△								
(8) Review of the implementation, operational structure, and methods for the Otagai Project (draft)												
(9) External publicity and trial operation of the implementation, oeprational structure, and methods (draft) (website + other operations)		Soft launch of website▼		add English site▼								
(10) Proposals for the support structure of the Japanese and Thai governments				Uploading of articles about once a week								
(11) Formulation of the implementation plan for the Otagai Project (draft)												
(12) Formulation of the draft final report (amendments, explanations to the related organizations in Thailand, and revisions)						△−△						
(13) Dissemination of the results (Seminar in Thailand with 100 participants + Seminar in Japan + Seminars in one/two countries near Thailand)		WS with BOI▼(5/29)		WS with MI▼(7/31)		Technology Census WS ▼(9/4)	▼-▼(10/7-9)				▼	Samurai Conference on Feb. 20 is expanded and it substitutes for the Tokyo
(14) Submission of final report (domestic)						WS in Vietnam and Laos						
Tie-up with THAICOBAN: Joint committee with THAICOBAN study	▼Joint committee 2 (8 Apr)		▼3(31 May)	▼4(28 Jun)		5(24 Sep)▼	▼ ▼▼6(1 Oct)、7（10 Oct）、Thaicoban WS in Bangkok(11 Oct)					
Tie-up with THAICOBAN: Establishment of THAICOBAN review committee									Examination of operation			
Tie-up with THAICOBAN: Abstract on the specific technologies to THAICOBAN												
Tie-up with THAICOBAN: Publicity of the THAICOBAN study							Collecting Technologies		Examination of public relations			

Legend for processes：———Preparation period

■ Period for implementation of processes in the field

▭ Period for implementation of domestic processes

△——△ Explanation on reports, etc.

------- Other processes

Legend for reports:

ICR: Inception Report

PR: Progress Report

DFR: Draft Final Report

FR：Final Report

*Processes (1) to (14) are in line with Article 7: Operational Contents, of Appendix II: Special Specifications of the project agreement

Figure 6-1: Operational Flow Chart

Chapter 6: Methods of Implementation

6.1 Operational Flow Chart

6.1.1 Points of Survey Process

The operational flow chart is as shown on the previous page (A3-sized folding chart). The content of tasks from (1) to (14) indicated in the task item sections followed the specially noted specifications, and what should be focused on in the flow of survey tasks toward the “establishment of a structure for the Otagai Project” is the flow from “(2) Study of the actual situation inThailand” to “(5) Design for the basic policy on the implementation of the Otagai Project (draft).”

Regional study (2) in Thailand will be conducted after acquiring targets from the hearing candidates as indicated in page 21 in accordance with Chapter 5: Policy of the Study (Second Year). Newly added to the hearing candidates are advance support coordinators (advance support consultants). The regional study should be conducted by roughly dividing the members into three teams to increase the efficiency of the activities. They are, namely, Team A formed by members from Nikkei BP, “promoting investment” Team B formed by two institutions from Japan and Thailand, respectively, and Team C responsible for “ infrastructural development” formed by two construction consultancies. The survey teams will come up with a draft basic policy to be implemented in (5), while staying in close contact with each other.

We would like to mention the cooperation through the website tentatively launched on June 19, 2013. We are planning to post the hearing results on the website as articles to the extent allowed by the sources. As a result, it will become possible to reflect the feedback on the survey.

6.1.2 Website Operation

We would like to add some information on the new website. Along with the basic information such as what the Otagai Project is, a symbolic article was posted in each of the three major article groups, namely, “pilot projects,” “news topics” and “key person,” when the site was tentatively opened on June 19. Following this, we are planning to update the articles by one or more per week. The website is aimed at advertising this survey, but we will make efforts so it can interest more people, serving in series the interviews with “samurais” who are the key persons of the municipalities. The ‘Interview with Samurai’ itself will form an archive of key persons. One of the website’s features is interactive communication based on the business SNS that Nikkei BP developed in-house. It enables the efficient gathering of information and questions from infrastructure-related companies and potential companies that could advance into Thailand, and immediately reflect that in the survey.

6.1.3 Cooperation with THAICOBAN Study

To work in tandem with the preceding “THAICOBAN Study,” “joint contact meetings” will be carried out as needed. We are also planning to set up the “THAICOBAN Rweview Committee” to certify individual infrastructure technologies and products. Application procedures by construction consultants will become important prior to the certification. In accordance with the THAICOBAN Study, how to “visualize” concrete technologies, for example, will also be approximated through the joint contact meetings.

Chapter 7: Surveys in Thailand and Japan (Second Year)

7.1 Preliminary Survey

7.1.1 Purposes of Survey

The purposes of the preliminary survey in Thailand were to make the project known to the government affiliates and mass media by conducting the “Otagai” Project Seminar in Bangkok with the National Economic and Social Development Board (NESDB) and JICA Thailand Office and to hold a kickoff meeting of the Otagai Project by visiting related institutions on the Thai side. The survey was also aimed at having the Thai side understand the framework of the project and building up cooperative relations before implementing other surveys in Thailand and pilot businesses in the future.

7.1.2 Survey Schedule

Table 7-1: Preliminary survey in Thailand (May 8 to 11, 2013)

Date		Destinations
Wednesday, May 8	12：00 16：30	Departure from Narita Airport Arrival in Bangkok
Thursday, May 9	10：00	Ministry of Industry (MOI), Department of Industrial Promotion (DIP)
	13：00	Otagai Forum 2013 (at Prince Palace Hotel)
Friday, May 10	9：00	The Board of Investment (BOI)
	11：00	Japanese Chamber of Commerce, Bangkok (JCC)
	13：30	Japan External Trade Organization (JETRO)
	16：00	Bureau of Supporting Industry Development (BSID)
	18：00	Summit Capital Leasing
	19：00	Japanese regional bank affiliates living in Bangkok
Saturday, May 11	14：20 22：30	Departure from Bangkok Arrival at Haneda Airport

7.1.3 Survey Members (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/ Establishment of information platform)
-Hiroyuki Itani (Deputy Team Leader: Promotion and expansion of investment in Thailand)
-Seitaro Seko (Promotion of investment: Establishment of investment environment in Thailand)
-Susumu Mori (General coordination: The study in general, publicity/dissemination)
-Kazuhiro Ono (Promotion of investment: Support for Japanese corporations)
-Yutaka Hirashima (PR: to write articles/committee secretariat)

7.1.4 Major Destinations of Hearing

(1) Ministry of Industry (MOI), Department of Industrial Promotion (DIP)

Confirmed the future schedule of the Memorandum of Understanding (MOU) exchange between DIP and Nikkei BP, which have increasingly been discussed, alongside the Otagai Project, with Director Passakorn. He replied he would make adjustments in the direction of exchanging an MOU or a Letter of Intent (LOI) in near future.

(2) Otagai Forum 2013

The National Economic and Social Development Board (NESDB) and Nikkei BP jointly held the “Otagai Forum 2013” in Bangkok on May 9. Advertised the full-fledged launch of the Otagai Project to about 60 people from the Ministry of Industry and affiliated institutions. At the same time, Nikkei BP was announced as the project’s secretariat.

Figure 7-1: “Otagai Forum 2013” (prepared by Nikkei BP)

(3) The Board of Investment (BOI)

Asked how to acquire credit information on Thai local companies and was explained to about the corporate information database of the Ministry of Commerce. Proposed and obtained BOI’s informal consent for a workshop to explain the survey results by Deloitte Tohmatsu on missing links in Thai industry conducted. Also asked to introduce successful matching examples between Japanese and Thai SMEs.

(4) Japanese Chamber of Commerce, Bangkok (JCC)

Explained the outline of the Otagai Project to Secretary General Ishii. He indicated the possibility of new legal issues and the significance of a judgment by the BOI regarding the lease of unused space by the enterprises that have already advanced into Thailand. JCC later released the “Checklist for Future Advance into Thailand” targeting Japanese enterprises.

(5) Japan External Trade Organization (JETRO)

Explained the outline of the Otagai Project to Mr. Yajima of JETRO Business Support Center. He explained to us JETRO’s advance support structure, the increasing advance by Aichi-, Shizuoka- and Nagano-based SMEs and the reality of advance support consultants.

(6) Ministry of Industry, Bureau of Supporting Industry Development (BSID)

Explained the recent circumstances of the Otagai Project to Department Director Panuwat of BSID. He pointed out the necessity of a leader company to form a partnership among multiple enterprises of Japan and Thailand and the issues that should be solved, such as the profit-sharing method.

7.2 First Survey in Thailand

7.2.1 Purposes of Survey

We conducted a survey in Thailand in accordance with 5.2 “Basic Policy for Surveys in Thailand and Japan.” The first and second surveys extended to seven days, respectively, with a two-week interval between them; the second survey was undertaken in such a way as we could reflect the results in the first survey. The survey was conducted by three teams, namely Team A, B and C, and we tried to share as much information as we could by going along with other teams’ surveys when possible.

7.2.2 Schedule

Table 7-2: First Survey in Thailand (May 26 to June 1, 2013)

Date		Destination		
		Team A (unused space leasing business)	Team B (coordinator, fostering, etc.)	Team C (sophistication of industrial area, etc.)
Sunday, May 26	12：00	Departure from Narita Airport		
	16：30	Arrival in Bangkok		
Monday, May 27	AM	SME Multi Consultant	SME Multi Consultant	Rojana Industrial Park
	PM	M&A Group	M&A Group Sasin Japan Center	Sasin Japan Center
Tuesday, May 28	AM	Japanese Chamber of Commerce (JCC)	Japanese Chamber of Commerce (JCC)	Japanese Chamber of Commerce (JCC)
	PM	The National Economic and Social Development Board (NESDB) Tottori Prefecture and logistics companies	Asahi Business Solution	Systena (Thailand)
Wednesday, May 29	AM	Collected materials	Bangkok Shuho	Sumikin Bussan (Rojana Industrial Park)
	PM	Tokyo University of Foreign Studies The Board of Investment (BOI) Attorneys and accountants	PCBK INTERNATIONAL The Board of Investment (BOI) Attorneys and accountants	PCBK INTERNATIONAL The Board of Investment (BOI) Attorneys and accountants
Thursday, May 30	AM	Ota Techno Park (OTP) Ezaki Industrial (OTP)	Organizing materials	Amata Corporation Public Company Limited
	PM	Nambu cyl. IT + logistics companies	FDI International IT + logistics companies	IT + logistics companies
Friday, May 31	AM	Yamazen Thailand	Yamazen Thailand Nihon Consulting	Pinthong Industrial Estate
	PM	Innova Software JICA Thailand Office (jointly with the Japan Research Institute)	JICA Thailand Office (jointly with the Japan Research Institute)	Travel
Saturday, June 1	14：20	Departure from Bangkok		
	22：30	Arrival at Haneda Airport		

7.2.3 Survey Members (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/ Establishment of information platform): Team A
-Hiroyuki Itani (Deputy Team Leader: Promotion and expansion of investment in Thailand): Team A
-Seitaro Seko (Promotion of investment: Establishment of investment environment in Thailand): Team B
-Susumu Mori (General coordination: Study in general, publicity/dissemination): Team A
-Hidenori Hanahara (Infrastructure establishment: Disaster prevention): Team C
-Hirotaka Hiyama (Infrastructure establishment: Disaster prevention): Team C (support staff)
-Hiroshi Uehara (Infrastructure establishment: Environmental care): Team C
-Miki Ikenaga (Promotion of investment: Manufacturing/ human resource development): Team B

7.2.4 Major Destinations of Hearings

(1) Team A (unused space leasing business, etc.)

To find out the merits of rental plants for SMEs, we conducted hearings with Ezaki Industrial, which has already put its business on track in Ota Techno Park (OTP), a rental plant in Ota-ku, Tokyo, and Nambu cyl., which relocated to the neighborhood because of business expansion. Asking how they have felt about their current plants since moving in, we established a benchmark for exploring what kind of space leasing business could be effective. We also offered a workshop with the Board of Investment (BOI), explaining the results of the survey conducted by Deloitte Tohmatsu on missing links in the major industries in Thailand. To know the missing links of the manufacturing process in the automobile and other major industries in Thailand is particularly beneficial for Japanese small and medium manufacturers planning to advance into Thailand.

(2) Team B (coordinators and fostering, etc.)

In Bangkok, there are about 30 consultant companies engaged in support for Japanese enterprises advancing into Thailand. Selecting about ten companies out of them based on their background of foundation and corporate size, we conducted hearings concerning their business range and whether and how they collect credit information on Thai local companies.

(3) Team C (sophistication of industrial area, etc.)

Of industrial parks in Thailand, we selected those into which especially many Japanese enterprises have advanced, and exchanged opinions with the owner side in a style of brainstorming. This was aimed at drawing their needs for water treatment and power supply, for example, toward the sophistication of the industrial parks, and exploring the possibility of introducing result-rewarding-type business.

7.3 Second Survey in Thailand

7.3.1 Purposes of Survey

We conducted hearings concerning how to secure and foster high-level industrial human resources, as well as the reality and needs of Japanese enterprises and industrial parks in Thailand, compensating for the lack of information and inquiring further into the matter in accordance with the results of the first survey.

7.3.2 Schedule

Table 7-3: Second Survey in Thailand (June 16 to 22, 2013)

Date		Destinations		
		Team A (unused space leasing business)	Team B (coordinator, fostering, etc.)	Team C (sophistication of industrial area, etc.)
Sunday, June 16	11：00	Departure from Narita Airport		
	15：30	Arrival in Bangkok Japanese mega bank	Arrival in Bangkok	
Monday, June 17	AM	Travel	Travel	Collected materials
	PM	Korat Matsushita Co., Ltd. NK Mechatronics Co., Ltd. Koyama Barinder Co., Ltd.	Korat Matsushita Co., Ltd. NK Mechatronics Co., Ltd. Koyama Barinder Co., Ltd.	Team meeting Compiled materials
Tuesday, June 18	AM	SAEILO (Thailand) Co., Ltd.	Toyo Business Service Co., Ltd. Personnel Consultant	Team E-Kansai (REMATEC)
	PM	Organized materials	Systena (Thailand) Co., Ltd.	Amata Facility Services Co., Ltd. Amata Power Limited
Wednesday, June 19	AM	Nissin Electric (Thailand) Co., Ltd.	Nissin Electric (Thailand) Co., Ltd.	Organized and compiled materials
	PM	KIKUWA Thailand Systena (Thailand)	KIKUWA Thailand Systena (Thailand)	Systena (Thailand)
Thursday, June 20	AM	Ministry of Industry (MOI) Department of Industrial Promotion (DIP)	Thai-Nichi Institute of Technology (TNI) Technology Promotion Association (TPA) (Thailand-Japan)	Ministry of Industry (MOI) Department of Industrial Promotion (DIP)
	PM	The Board of Investment Japanese Chamber of Commerce, Bangkok (JCC) Innova Software Japanese consultant company	Japan Student Services Organization (JASSO) The Japan Foundation, Bangkok (Thailand)	TEAM (Thailand's largest construction consultant)
Friday, June 21	AM	Collected materials	JAC Recruitment Adecco	Rojana Power Co., Ltd.
	PM	JICA Thailand Office (TV conference with Saitama Prefecture and others) The National Economic	Organized and Compiled materials	Rojana RDC

		and Social Development Board (NESDB) Japanese attorneys + supportive advisors	Japanese attorneys + supportive advisors	Japanese attorneys + supportive advisors
Saturday, June 22	14：20	Departure from Bangkok		
	22：30	Arrival at Haneda Airport		

7.3.3 Survey Member (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/ Establishment of information platform): Team A
-Seitaro Seko (Promotion of investment: Establishment of investment environment in Thailand): Team B
-Susumu Mori (General coordination: Study in general, publicity/dissemination): Team A
-Hidenori Hanahara (Infrastructure establishment: Disaster prevention): Team C
-Hirotaka Hiyama (Infrastructure establishment: Disaster prevention): Team C (support staff)
-Hiroshi Uehara (Infrastructure establishment: Environmental care): Team C
-Miki Ikenaga (Promotion of investment: Manufacturing/human resource development): Team B

7.3.4 Major Destinations of Hearings

(1) Team A (unused space leasing business, etc.)

There are several ways to support enterprises advancing into Thailand, for example by offering unused factory space at the already established Japanese companies in Thailand and manufacturing not only components but also end-products on their behalf. Regarding such support, we conducted hearings with Nissin Electric and SAEILO (Thailand), which have already made some notable achievements, and Korat Matsushita, which was willing to consider leasing spaces in its property if consulted. As for legal challenges when offering support as business, we interviewed a Japanese lawyer in Thailand on how to interpret and deal with local law.

(2) Team B (coordinators and fostering, etc.)

We conducted hearings with Japanese advance consultant companies following the first survey. Along with staffing companies, we interviewed IT companies on how to procure high-level industrial human resources. As for manufacturing companies, we accompanied Team A and asked them how to foster human resources and procure a high-level industrial workforce. We also interviewed Thai-Nichi Institute of Technology (TNI) and Technology Promotion Association (TPA) Thailand-Japan about the development of high-level industrial human resources, Japan Student Services Organization (JASSO) about studying abroad, and The Japan Foundation, Bangkok (Thailand) about the reality of Japanese language education.

(3) Team C (sophisticating industrial area, etc.)

In light of results from the first survey, we conducted hearings with Amata Facility Services which maintains roads and street plants, and Amata Power, which supplies power in Amata Nakorn Industrial Estate, to understand their needs and explore the potential of result-rewarding-type business. We also interviewed two other companies engaged in power supply and water treatment in Rojana Industrial Park.

7.4 Third Survey in Thailand

7.4.1 Purposes of Survey

Conduct a seminar in Bangkok on the "missing link" in Thai industries with the aim of advertising the Otagai Project, and exchange opinions in the Otagai Project Workshop at the Mekong Institute (MI) in Khon Kaen. Also conduct hearings on partial leasing business to propose a framework that could benefit enterprises already advancing into Thailand.

7.4.2 Schedule

Table 7-4: Third Survey in Thailand (July 28 to August 3, 2013)

Date		Destination
Sunday, July 28	12：00	Departure from Narita Airport
	16：30	Arrival in Bangkok
Monday, July 29	AM	Meeting on the Otagai Project with the National Economic and Social Development Board (NESDB)
	PM	Meeting on the Otagai Project and 2nd Otagai Conclave with the Department of Industrial Promotion (DIP), the Ministry of Industry (MOI) Meeting on the Otagai Project with Chulalongkorn University Sasin Japan Center (SJC)
Tuesday, July 30	AM	Seminar preparation
	PM	Seminar titled “Challenges in and Prospects for Industrial Upgrading by Solving the Missing Link in Thai Industries” by the Board of Investment (BOI) and Japan International Cooperation Agency (JICA), secretariat and a number of lecturers (110 participants)
Wednesday, July 31	AM	Travel from Bangkok to Khon Kaen Otagai Project workshop at Mekong Institute (MI)
	PM	Meeting on the Otagai Project with NESDB
Thursday, August 1	AM	Travel from Khon Kaen to Bangkok
	PM	Hearing on the partial leasing business at YOSHU (Thailand) Co., Ltd. Meeting on the Otagai Project with NESDB
Friday, August 2	AM	Meeting on the Otagai Project Survey with SJC
	PM	Hearing on the partial leasing business with Valuable Industrial Technology Co., Ltd. (V.I.T.)
Saturday, August 3	14：20	Departure from Bangkok
	22：30	Arrival at Haneda Airport

7.4.3 Survey Members (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/ Establishment of information platform)
-Hiroyuki Itani (Deputy Team Leader: Promotion and expansion of investment in Thailand)
-Susumu Mori (General coordination: Study in general, publicity/dissemination)
-Daisuke Sasaki (General coordination: Study in general, publicity/dissemination): support staff
-Yutaka Hirashima (PR: Article writing/secretariat)
-Daisuke Takeda (PR: Article writing/secretariat): support staff

7.4.4 Major Actions in Thailand

(1) Seminar titled “Challenges in and Prospects for Industrial Upgrading by Solving the Missing Link in Thai Industries”

The seminar, hosted by BOI and JICA, took place in Bangkok, while the Otagai Project Survey Team (project secretariat) served as the seminar secretariat. The number of participants, mainly the member enterprises of the Japanese Chamber of Commerce, Bangkok (JCC), totaled approximately110, including affiliates. The seminar highlighted the results of the study conducted by Detroit Tomatsu on the missing link in Thai industries. The study, through questionnaires and hearings, was aimed at understanding the so-called missing link, which refers to not having a domestic manufacturing process, based on Thailand’s four mainstay industries as examples. This could be a marketing tool for the SMEs considering advancing into Thailand. If used effectively, the seminar could help those SMEs co-exist and co-prosper with the existing Japanese SMEs in Thailand.

Meanwhile, the Otagai Project places emphasis on the survey on partial leasing business. The business is expected to help the existing Japanese SMEs in Thailand generate new business opportunities, which could also lead to a framework for co-existence and co-prosperity. The lecture by the Otagai Project Survey Team stressed these benefits. It was the perfect opportunity to ask current Japanese enterprises in Thailand to provide information primarily on partial leasing business.

BOI, on the other hand, explained the orientation of the new investment promotion strategy to be implemented in January 2015. This new strategy is focused on supporting regional industry clusters that facilitate industrial upgrading, instead of the zone system that operates at present.

In the questionnaire targeting the participants, a strong response was observed, with over 60% of the respondents finding the overall seminar program “very good” or “good”.

The seminar took place at the Sofitel Bangkok Sukhumvit Hotel in the afternoon on July 30, 2013. It was hosted by BOI and JICA with the cooperation of JCC.

Figure 7-2: “Challenges in and Prospects for Industrial Upgrading by Solving the Missing Link in Thai Industries” (prepared by Nikkei BP)

(2) Otagai Project Workshop

We opened a workshop (WS) titled “Otagai Seminar in the Mekong Institute” at the MI in Khon Kaen, on July 31. This became the first step of full-fledged cooperation by MI and Nikkei BP, which exchanged a memorandum of understanding (MOU) to promote the Otagai Project in January 2013.

MI is a UN organization jointly run by the six governments in the Greater Mekong Subregion (GMS); in addition, the alliance with MI, which has a significant influence in the subregion, is essential for the Otagai Project to spread across the GMS. The participants from MI were Dr. Jacqueline Parisi (Deputy Director for Programs), Mr. Madhurjya Kumar Dutta (Trade & Investment Facilitation) and Dr. Nittana (SME Development Specialist, Trade & Investment Facilitation), along with the researchers dispatched from member countries.

In the WS, Director Matsushima of NESDB gave a concept presentation, followed by an explanation of the project’s progress by Mr. Miyazaki (Nikkei BP) of the Otagai Project Secretariat. Then, Mr. Dutta of MI presented the idea of the cluster alliance in the Mekong Region, which was followed by a discussion.

According to Mr. Dutta, there is an urgent need for economic development and improved productivity at SMEs in the GMS countries to further ASEAN unification; thus, MI has focused its studies on 1) facilitating SMEs’ cluster advance and each country’s export networks, and 2) establishing a system that enables SMEs to benefit through free trade. “It is only large companies that can earn profits from free trade under the current circumstances,” explained Mr. Dutta. “As it is difficult for SMEs to individually benefit from the merits, they need to tie up with each other as a cluster.” Hence, MI is encouraging the cluster advance for silk and rattan in Cambodia, wood furniture and silk in Laos, fishery and mangoes in Myanmar and tea and pottery in Vietnam. “In Cambodia, Laos, Myanmar and Vietnam, we have not yet reached the level of forming new clusters as in Japan, but we hope we can establish a new relationship to ally clusters between Japan and those four countries,” he said. Upon receiving this suggestion, we promised to undertake continued information exchange. We also requested Mr. Dutta to join the third “Otagai Conclave”, slated for October, in Osaka as a guest, and he gave us his willing consent.

The WS at MI on July 31

Figure 7-3: “Otagai Seminar in the Mekong Institute”
(Prepared by Nikkei BP)

7.5 Fourth Survey in Thailand

7.5.1 Purposes of Survey

According to questionnaires conducted in the July seminar in Bangkok, we found that Japanese companies are greatly interested in the unused space leasing business. In light of this fact, we will focus on proceeding with a survey on the unused space leasing business, while organizing a workshop in Bangkok in order to support the Otagai Project by Tottori Prefectural Government.

7.5.2 Schedule

Table 7-5: Fourth Survey in Thailand (September 1 to 5, 2013)

Date		Destination	
		Team A (unused space leasing business)	Team B (coordinator, training, etc.)
Sunday, September 1	11:00	Departure from Narita Airport	
	15:25 Evening	Arrival in Bangkok Meeting with the National Graduate Institute for Policy Studies, the Kansai Bureau of Economy, Trade and Industry, and Osaka Prefectural Government	
Monday, September 2	AM	Team meeting	DENSO Thailand
	PM	National Economic and Social Development Board of Thailand (NESDB) Nishimura & Asahi	Recording of minutes
Tuesday, September 3	AM	Akane-Asia Consulting (Unused space leasing business)	
	PM	SIAM SOMAR (Unused space leasing business) Meeting on the Otagai Technology Census Workshop with Tottori Prefectural Government	
Wednesday, September 4	AM	Iwatani Corporation Thailand (Unused space leasing business)	
	PM	Participate in the Second Thai Business Matching Seminar organized by Sasin Japan Center and Hannan University Medium and Small Business Research Venture Support Center Hold Otagai Technology Census Workshop	
	22:25	Departure from Bangkok	
Thursday, September 5	6:40	Arrival at Haneda Airport	

7.5.3 Survey Members (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/ Establishment of information platform): Team A
-Susumu Mori (General coordination: General survey, publicity/dissemination): Team A
-Miki Ikenaga (Promotion of investment: Manufacturing/ human resources development): Team B

7.5.4 Major Objectives of Hearings

In addition to the surveys and hearings, our activities this time focus on organizing workshops and participating in seminars. Our first activity is the "Otagai Technology Census Workshop." In the future,

Tottori Prefectural Government plans to conduct a technology census survey (see the description on the page 59) in Thailand for which they intend to seek cooperation from SHINDAN-SHIs (SME management consultants). As the first step, the workshop aims to address the SHINDAN-SHIs about the technology census in order to enhance their understanding. Tottori Prefectural Government aims to establish mutual cooperation with Thailand in terms of device-related manufacturing, such as LED lighting and electric wheelchairs, as part of the Otagai Project. We believe a short way to achieving their goal is to understand the level of technology each Tottori company and Thai subcontractor have. The workshop is a part of supporting measures for such understanding.

In the afternoon on Day 2, we attended another seminar: the Second Thai Business Matching Seminar, which offers an opportunity for business matching between Thai and Japanese small and medium manufacturers. After a presentation given by Adviser Matsushima of the NESDB regarding the Otagai Project, we exchanged opinions with Chairman Somkiat of the Thai Subcontracting Promotion Association.

Meanwhile, our surveys focus on the unused space leasing business. After the July seminar, information regarding the unused space leasing business has been provided by more than 10 companies, from which we selected important companies and consultants, and conducted hearings with them. SIAM SOMAR, a Thai-based corporation in Somar, is considering how to effectively use the empty space of their factory site. Iwatani Corporation Thailand is thinking about utilizing its local subsidiary's premises in order to concentrate several different coating lines, thus creating synergies. Additionally, we conducted hearings with Akane-Asia Consulting, a business advisor for Japanese SMEs. Akane-Asia Consulting provides support for the start-up stage of businesses upon opening a factory in Thailand, including recruitment of Thai staff.

7.5.5 Major Local Activities

(1) Second Thai Business Matching Seminar

Held concurrently with the seminar, Sasin Japan Center and Hannan University Medium and Small Business Research Venture Support Center arranged a tie-up with a Japanese SMEs association in order to organize a Japan-Thai business matching, which offers an opportunity to conduct business matching between SMEs in both countries.

On the Thai side, the Thailand Subcontracting Promotion Association and the DIP Network (one of the SMEs associations) cooperated with each other. The seminar was held for 2 days on September 3 and 4. This year, a discussion regarding the Otagai Project was held in the afternoon of the second day. Several Japanese-owned companies, including I.N.PRECISION, led by President Minoru Ikeda, also participate in the Thailand Subcontracting Promotion Association. Ikeda has supported the association as an advisor since its founding. "Due to the differences in the language and atmosphere, the association has made little headway on exchanges with Japanese people. On the other hand, DENSO, for example, has established development frameworks with local Thai

Chairman Somkiat of the Thailand Subcontracting Promotion Association, commenting in the discussion. The seminar was coordinated by members of our survey team who are employees of Sasin Japan Center

Figure 7-4: Thai Business Matching Seminar on September 3 and 4 (Prepared by Nikkei BP)

companies, breaking away from the conventional style. As an ambassador between companies in the two countries, I will do my best to achieve a Japan-Thai cooperative partnership," he said.

(2) Otagai Technology Census Workshop

The workshop was held on September 4 at 16:00 in a conference room of the Bureau of Supporting Industries Development (BSID) of the Thai Ministry of Industry (MOI). In addition to 25 Thai SHINDAN-SHIs (SME management consultants), Department Director Panuwat Triyangkulsri of the BSID, Director Passakorn Chairat of the Department of Industrial Promotion (DIP) of the MOI, Matsushima of the NESDB, and Sato of JICA Bangkok Office participated in the workshop. The central lecturer role was undertaken by Seiji Okamura, Director of Commerce, Industry and Labor Division, Tottori Prefectural Government. Satoshi Yoshizumi, President of Techno Consul, took care of the specialized content. Yoshizumi took charge of the review of survey sheets prepared 25 years ago. The survey sheets originally prepared in Japanese were translated into Thai this time, and distributed together with a sample sheet.

Companies in Tottori are mainly engaged in manufacturing of devices such as LED lighting, electric wheelchairs and micro mobility systems. Among these, they will not mass produce electric wheelchairs and micro mobility systems, customizing small-quantity production depending on the individual needs. Okamura described the technology census, saying, "Please tell us about Thai SMEs capable of manufacturing components used in such products."

If, for example, the technology census survey could be used to evaluate the level of technology of Thai SMEs, we could select the most suitable company to place an order with for component manufacturing, based on the evaluation results. Further, Tottori Prefectural Government also intends to proceed with a human resources development program as a national project, in order to increase the level of electrical and electronics device companies, many of which are located in the prefecture.

Behind this trend is the fact that the rebuilding of Tottori Sanyo Electric led to the demise of the pyramid formed by its group companies within the prefecture. Okamura said, "We expect SHINDAN-SHIs to evaluate the technology of Thai SMEs and collect data that will be used in business matching with Japanese companies in Tottori." The prefecture will invite SHINDAN-SHIs who contributed to their program to Tottori, offer an opportunity to hold discussions with local Japanese companies, and organize an inspection tour of their factories.

25 SHINDAN-SHIs listening to Okamura of Tottori Prefectural Government

Figure 7-5: Otagai Technology Census Workshop held on September 4
(Prepared by Nikkei BP)

Technology Census and its Development

Technology Census Survey Sheets (**Figure 7-6**) were compiled in 1988 through "Study on the Development of the Regional and Technological Census Method" conducted by the Research Institute of Small & Medium Enterprises, the Organization for Small & Medium Enterprises, in which Okamura, a Tottori enterprise management consultant at the time, participated and played a leading role. The survey sheets we used this time are those altered and added to the initial version by members of the working group led by Yoshizumi of Techno Consul.

One of the major features of the survey is to focus on the manufacturing process such as design, forging, pressing, cutting and assembly, rather than industrial field classifications, such as automobiles, electronics and machinery. The survey includes the investigation into specifications of measuring devices and machine tools owned by individual companies. It is designed to help understand what kind of technologies component manufacturing subcontractors have, what kind of facilities they use, and what kind of materials and how accurately they are able to treat these materials, viewing each element as part of the entire process. The purpose is to enhance understanding in terms of factories by region and compile a database.

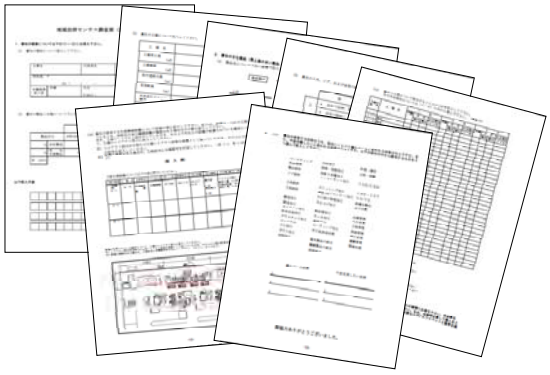


Figure 7-6: Technology Census Survey Sheets

Through the technology census, Tottori Prefectural Government attempts to understand the actual situations of material processing and device-related companies located in the prefecture and local Thai companies in terms of their levels of technology, exploring possible technical cooperation and technology fusion between the two regions. They also intend to highlight existing issues the two regions should address in order to create new demand in Southeast Asia.

After we provided a detailed explanation to Thai SHINDAN-SHIs at the "Otagai Technology Census Workshop" held on September 4, some of them actually visited the local subcontractors and conducted the technology census survey as a trial. Consequently, in January 2014, Tottori Prefectural Government held the "Thai-Tottori Small and Medium Enterprises Cooperation Promotion Forum," to which the Thai Ministry of Industry, the Thailand Subcontracting Promotion Association, as well as 2 SHINDAN-SHIs were invited. They exchanged opinions together with local Tottori companies (**Figure 7-7**). The prefecture plans to proceed with the technology census survey in terms of Thai companies, in cooperation with these SHINDAN-SHIs.

Figure 7-7: Thai-Tottori Small and Medium Enterprises Cooperation Promotion Forum held on January 14, 2014 (Prepared by Nikkei BP)

7.6 Fifth Survey in Thailand

7.6.1 Purposes of Survey

Teams A to C conduct additional in-depth hearings in light of individual survey results obtained so far. Assuming the adoption of the THAICOBAN study in the Otagai Project, they conducted hearings with major Japanese non-life insurance companies regarding risk management of industrial complexes and damage insurance. Further, in relation to the Otagai Technology Census Workshop in September, the survey also aims to follow up the local SHINDAN-SHIs.

7.6.2 Schedule

Table 7-6: Fifth Survey in Thailand (September 22 to 28, 2013)

Date		Destination		
		Team A (unused space leasing business)	Team B (coordinator, training, etc.)	Team C (upgrading of industrial area, etc.)
Sunday, September 22	10:50 11:00	Departure from Narita Airport (Uehara, Ikenaga) Departure from Narita Airport (Other survey members)		
	15:25 15:30	Arrival in Bangkok (Uehara, Ikenaga) Arrival in Bangkok (Other survey members)		
Monday, September 23	AM	Interview with Thai SHINDAN-SHIs, Kaanpakpum and Yostana		
	PM	Participate in a workshop of the Thailand Subcontracting Promotion Association and the DIP-SME Network organized by Sasin Japan Center		
		AEM-METI Economic and Industrial Cooperation Committee (AMECC)	AEM-METI Economic and Industrial Cooperation Committee (AMECC)	Prepare materials
Tuesday, September 24	AM	Nomura Research Institute TV conference with Japan Research Institute regarding the THAICOBAN Study	TV conference with Japan Research Institute regarding the THAICOBAN Study	TV conference with Japan Research Institute regarding the THAICOBAN Study
	PM	JETRO Bangkok Nishimura & Asahi + Mori Hamada & Matsumoto + Anderson Mori & Tomotsune	Mitsubishi Electric Thailand	Krung Thai IBJ Leasing
Wednesday, September 25	AM	Japanese Embassy Sompo Japan Insuranc	Prepare materials/ Recording of minutes	Sompo Japan Insurance
	PM	Department of Industrial	Sasin Japan Center	Waku Consulting

		Promotion (DIP), Thailand's Ministry of Industry (MOI)		
Thursday, September 26	AM	Mitsui Sumitomo Insurance	Thai-German Institute	Mitsui Sumitomo Insurance
	PM	Plenary meeting	Plenary meeting	Plenary meeting
Friday, September 27	AM	Siam Cement Group Tokio Marine & Nichido Fire Insurance	Siam Cement Group	Siam Cement Group
	PM	TKC PROGRESS (accompanied by Thai SHINDAN-SHI Kaanpakpum)	TKC PROGRESS (accompanied by Thai SHINDAN-SHI Kaanpakpum)	Azbil Corporation
	22:25	Departure from Bangkok (Uehara, Ikenaga)		
Saturday, September 28	06:40	Arrival at Haneda Airport		
	14:20	Departure from Bangkok (Other survey members)		
	22:30	Arrival at Haneda Airport		

7.6.3 Survey Member (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/ Establishment of information platform): Team A
-Susumu Mori (General coordination: General survey, publicity/dissemination): Team A
-Shun Kimura (Promotion of investment: Manufacturing, infrastructure-related business): Team A
-Hidenori Hanahara (Infrastructure establishment: Disaster prevention): Team C
-Hiroshi Uehara (Infrastructure establishment: Environmental care): Team C
-Miki Ikenaga (Promotion of investment: Manufacturing/human resources development): Team B

7.6.4 Major Objectives of Hearings

(1) Team A (unused space leasing business, etc.)

Team A has conducted hearings mainly with Japanese companies that have expanded business in Thailand, regarding the possible unused space leasing business, such as leasing unused spaces or empty sites in their premises to other companies newly entered into the Thai market. Through the hearings, what emerged as major issues were legislative matters. This time, in order to organize legislative issues, we invited three Japanese lawyers based in Thailand to the hearings, and discussed what was possible in the unused space leasing business and what requires attention, classifying the conditions. Further, all the team members participated in workshops with the Thailand Subcontracting Promotion Association, and conducted a meeting with Thai SHINDAN-SHIs regarding the technology census survey. We also visited TKC PROGRESS, local Thai enterprise, and asked for their cooperation in the survey.

(2) Team B (coordinators and training, etc.)

In the past surveys, we have completed hearings with major Japanese consultant firms that have advanced into Thailand. This time, we interviewed Mitsubishi Electric Thailand and Thai-German Institute (TGI) regarding advanced human resources development in Japanese manufacturers operating in Thailand. TGI, established with financial support from the German government, provides short-term job training to employees in Thai manufacturers.

(3) Team C (upgrading industrial area, etc.)

In light of results from past surveys, in order to understand the feasibility of the result-rewarding-type business, we conducted hearings with Azbil Corporation and Waku Consulting. With Krung Thai IBJ Leasing, which is a non-infrastructure business addressing lease systems, we undertook a brainstorming session regarding the system's possibilities. Meanwhile, regarding the utilization of the THAICOBAN study, we conducted joint hearings with Team A with three major Japanese non-life insurance companies, regarding the possibility of operating in combination with risk management of industrial complexes.

7.6.5 Major Activities in Thailand

(1) Sasin Japan Center Otagai Project Workshop

On the afternoon of September 23, Sasin Japan Center, Chulalongkorn University, held the "Otagai Project Workshop (Sasin)," in which all the survey members participated. This workshop aimed to share details of the Otagai Project conducted by Japanese municipalities with Thai counterparts, and to discuss the actual course of collaboration. This time, representatives from the Thailand Subcontracting Promotion Association and the DIP-SME Network participated in the workshop. People say that it is very unusual for multiple Thai organizations to participate in one workshop. We provided explanations of the unused space leasing business, which is one of the most important themes in this survey, in addition to descriptions of the technology census survey by Tottori Prefecture and efforts in the precision machinery cluster by Yamanashi Prefecture. The Thailand Subcontracting Promotion Association suggested a rental factory that multiple companies can rent at the same time, which contributed to a lively exchange of views among participants.

The "Otagai Project Workshop" organized by Sasin Japan Center, in which executives from two organizations, the Thai Subcontracting Promotion Association, which controls all the SMEs in Thailand, and the DIP-SME Network, participated

Figure 7-8: Otagai Project Workshop held on September 23
(Prepared by Nikkei BP)

7.7 Sixth Survey in Thailand

7.7.1 Purposes of Survey

In order to inform the Mekong region near Thailand of the results of our past surveys, we held a joint workshop with the Mekong Institute (MI) in Khon Kaen, Thailand, "Otagai Industrial Cluster in GMS Countries" in three venues: two cities in Vietnam and one in Laos, in which we provided an opportunity to exchange opinions. Simultaneously, we participated in the final workshop for the preceding THAICOBAN study held in Bangkok, in which we reported the outline of the Otagai Project.

7.7.2 Schedule

Table 7-7: Sixth Survey in Thailand (October 6 to 12, 2013)

Date		Destination
Sunday, October 6	10:00	Departure from Narita Airport
	17:15	Arrival in Da Nang via Hanoi
Monday, October 7	AM	Hold "GMS Otagai Industrial Cluster Workshop" in Da Nang, Vietnam (co-hosted with Mekong Institute)
	PM	Hearings with Mabuchi Motor Da Nang Drive to Dong Ha
Tuesday, October 8	AM	Hold "GMS Otagai Industrial Cluster Workshop" in Dong Ha, Vietnam (co-hosted with Mekong Institute)
	PM	Drive to Savannakhet, Laos, via the East-West Economic Corridor
	20:25	Departure from Hue Airport (Miyazaki, Takeda)
Wednesday, October 9	6:55	Arrival at Narita Airport via Hanoi (Miyazaki, Takeda)
	AM	Hold "GMS Otagai Industrial Cluster Workshop" in Savannakhet, Laos (co-hosted with Mekong Institute)
	PM	Drive to Khon Kaen, Thailand, via the East-West Economic Corridor Fly to Bangkok from Khon Kaen
Thursday, October 10	AM	Meeting at JICA Bangkok Office regarding the THAICOBAN Workshop on October 11
	PM	Prepare materials for the THAICOBAN Workshop Participate in a launch party of the San-In Godo Bank Bangkok Office
Friday, October 11	AM	Hold a workshop regarding the Otagai Project (THAICOBAN) at the Department of Labour, Protection and Welfare
	PM	Participate in the THAICOBAN Workshop (Introduction to THAICOBAN) held at the Westin Grande Sukhumvit, Bangkok
Saturday, October 12	8:10	Departure from Bangkok (Other members)
	16:25	Arrival at Narita Airport (Other members)

7.7.3 Survey Member (Otagai Team)

-Kiyoshi Miyazaki (Team Leader/Establishment of information platform)
-Susumu Mori (General coordination: General survey, publicity/dissemination)
-Shigeru Segawa (General coordination: General survey, publicity/dissemination): support staff
-Yutaka Hirashima (PR: Article writing/secretariat)
-Daisuke Takeda (PR: Article writing/secretariat): support staff

7.7.4 Major Activities in Thailand

The Otagai Team co-hosted the workshop "Otagai Industrial Cluster in GMS Countries" with the Mekong Institute (MI) on October 7 to October 9, 2013, in Da Nang and Dong Ha, Vietnam, and Savannakhet, Laos, in order to introduce and discuss the Otagai concept in the Mekong countries. The workshop organizers travelled by car from east to west along the East-West Economic Corridor between the venues (**Figure 7-9**).

The program consists of the following three topics: 1) Outline of the Otagai Project (Policy Advisor Daisuke Matsushima of the National Economic and Social Development Board), 2) Cluster linkage in the Otagai Project (Otagai Study Team), and 3) Cluster linkage in the CLMV countries (MI), and allows ample time for questions and answers.

In order to help identify which topic people are most interested in in each venue, records of the actual questions and answers are provided below.

(1) Da Nang (Vietnam), held on October 7. Number of participants: 29 including 6 presenters

Q. Please give us a detailed explanation about the technology census.

A. The system was developed as a method of accumulating information about individual SMEs. By filling out approximately 15 profile pages, you will be able to see the abilities and characteristics of individual SMEs. Through this system, we can conduct business matching with partner companies in a scientific manner. What is important here is that this system provides not only the information about individual companies but also a new business opportunity.

Held a workshop in several venues located along the East-West Economic Corridor. Photos: (starting from the top) Scenery in the Corridor in Vietnam, Laos and Thailand

Figure 7-9: Route of the Otagai Project Mekong Workshop (Prepared by Nikkei BP)

Q. Many Japanese companies have advanced successfully into Hanoi and Ho Chi Minh, Vietnam. If there is a possibility in Da Nang, in terms of manufacturing in particular, which field would it be?
A. The location is very important. The Japanese car industry has already been shifting toward Da Nang. We guess future infrastructure development will be the key.

Q. Tell us about the future action plan.
A. We hope to conclude an agreement or an MOU if possible. We will continue to seek a suitable course of investment for both Japan and the GMS countries.

Q. Regarding the training program designed for the industrial cluster provided by the Mekong Institute, could you implement the same training in terms of certain products in Da Nang as well?
A. Of course we could. The Mekong Institute has already been providing training in three locations in the CLMV region regarding specific local products, such as coffee in Dong Ha and rice in Savannakhet, Laos.

Q. What kind of support could we receive in terms of the improvement of production quality?
A-1. It is important for the local SMEs to maintain a certain quality standard. The Mekong Institute provides technical training to local universities, rather than directly to producers. There are also some certification programs such as THAICOBAN.
A-2. In terms of certain products, we have information about candidates for the sister cluster's counterpart. Take fisheries for example, we could collaborate with Iwate Prefecture, Japan. The Overseas Human Resources and Industry Development Association (HIDA) also participates in the Otagai Project as a member and we could coordinate technical training programs with them. We should firstly determine a potential industry.
(From the Da Nang side) The workshop was very productive. We really hope that this will lead to further industrial development in Da Nang. We look forward to the next workshop.

(2) Dong Ha (Vietnam), held on October 8. Number of participants: 30 including 6 presenters

Q. After the Mekong Institute released a company database along the Corridor in 2011, what kind of impact did it have on business?
A. The number of accesses to the database has exceeded 100,000; however, the number of contracts signed between companies is unknown. What we know is that, as of December 2012, 23 companies located along the East-West Economic Corridor had successfully closed contracts.

Q. Central Vietnam lacks competitiveness compared to Hanoi or Ho Chi Minh; how can we improve this?
A. Individual companies should provide information that could attract investors.

Q. Based on this workshop, what kind of activities should prefectures in Vietnam implement in the future?
A. If you could inform us about what kind of information prefectures need and their industrial strength, Nikkei BP could search for potential Japanese companies and conduct business matching.

Q. What kind of possibilities do you think there are for SMEs in Dong Ha?
A. They could possibly cooperate with a certain region in Japan, creating a new business with the Japan side. First of all, it is very important to work closely with Japanese people living in Thailand. If a key-person conference is held in Bangkok, SMEs could attend and get the chance to be asked many questions by Japanese companies. The amount of FDI is still small in Central Vietnam; however, we think its potential is quite high. For instance, tea and pepper are specialty products in Central Vietnam, and are also strongly promoted by the Mekong Institute.

(3) Savannakhet (Laos), held on October 9. Number of participants: 43 (including 5 presenters)

Q-1. I am grateful for the specialists' "Otagai Project" presentations, which are comprehensive and

useful. Next time a meeting is held in Bangkok, it would be good if the invitation is also sent to other relevant persons such as governors. I do not expect that this will be the last meeting, and I hope more meetings will be held on a continuous basis.
Q-2. What are the governmental support systems for the Otagai Project?
A. The agreement document based on the actions declared in the 2012 Mekong-Japan Summit Meeting refers to the Otagai Project. Specialists have been dispatched to each of the countries in the Mekong region. The purpose is to create a business platform for overseas SME expansion, as a national project of JICA or the Ministry of Economy, Trade and Industry. Successful results such as Rice Valley have been realized within a year and a half.

Q. What kind of information is expected from Laos? We also need contact addresses.
A. We are conducting a technology census to collect enterprise data/information. The agency to contact in this regard is Nikkei BP. The information provided to Nikkei BP will be shared by the Mekong Institute.

Q. Are you working in cooperation with Chulalongkorn University in Thailand?
A. The project is also being conducted in cooperation with Dr. Fujioka of Sasin Japan Center of Chulalongkorn University. We also share the information and knowledge about FDI (foreign direct investment) in Thailand.

Q. Related to the Japanese "*Michi no eki*" (roadside stations) mentioned in the presentation, the condition of the roads involved in the Economic Corridor are bad and it is unlikely that tourists or customers will come under these circumstances. Do you have any suggestions about this?
A. "*Michi no eki*" is presented as one idea. In the Economic Corridor program, it is important to establish a lasting system by which tourism and industries are interconnected. We can suggest the introduction of a platform from Japan, which includes road repair/maintenance.

Q. More than 200 companies have come from Japan, but the investment by SMEs is still limited. We want to facilitate investment activities through information exchange with the Otagai Project. What are your concrete proposals for this?
A. By conducting scientific analyses through the technology census, missing links can be discovered, whereby it becomes possible to match both needs from the supply side and the demand side. Showing the product quality or how production lines can be managed without disruption in case of disasters will also facilitate the establishment of a partnership with Japanese companies.

Workshops held in the three cities participating in the Mekong East-West Economic Corridor. From the top: Da Nang (Vietnam), Dong Ha (Vietnam) and Savannakhet (Laos)

Figure 7-10: Workshops held in two countries in the Mekong region
(Prepared by Nikkei BP)

7.8 Seventh Survey in Thailand

7.8.1 Purpose of Survey

In addition to the final hearings on unused space leasing business, the activities of the last survey in Thailand include having a meeting with the National Economic and Social Development Board (NESDB) and reporting the survey results to the AEM-METI Economic and Industrial Cooperation Committee (AMECC). The direction for Otagai Project commercialization will be set.

7.8.2 Schedule

Table 7-8: Seventh Survey in Thailand (December 18 to 21, 2013)

Date		Destination
Wednesday, December 18	PM	Participation in the briefing on the survey DFR at JICA headquarters
	Midnight	Departure from Narita Airport
Thursday, December 19	5:20	Arrival in Bangkok
	AM	Japanese consultant for commercialization
	PM	National Economic and Social Development Board (NESDB) AEM-METI Economic and Industrial Cooperation Committee (AMEICC) Major Japanese distribution company
Friday, December 20	AM	National Economic and Social Development Board (NESDB)
	PM	Lohakit Metal (unused space leasing business) JETRO Bangkok
Saturday, December 21	14:50	Departure from Bangkok
	22:30	Arrival at Narita Airport

7.8.3 Survey Members (Otagai Team)

-Kiyoshi Miyazaki (Team leader/Establishment of information platform)
-Susumu Mori (General coordination: General survey, publicity/dissemination)
-Hirotaka Hiyama (Infrastructure establishment: Disaster prevention): Support staff (partial participation)

7.8.4 Major Objectives of Hearings

In hearings on the unused space leasing business, a survey was conducted on the companies that are considering not only the effective use of unused spaces in the premises but also business expansion through cooperation with Japanese companies. Once in a while, there are local Thai companies with an interest in these ideas, including the already surveyed items. As referential information to make plans for the Otagai Project, hearings were conducted about a major Japanese distribution company regarding their situation about product development in Thailand and about a Japanese business plan consultant regarding the direction of Otagai Project commercialization. We also reported the issues including the workshops held in the Mekong region in October to AEM-METI Economic and Industrial Cooperation Committee (AMEICC) and exchanged opinions on future schemes of the Otagai Project in ASEAN.
It let this process pass and the future large frame of Otagai project was decided. It mentions later in Chapter 14.

7.9 Survey in Japan

7.9.1 Purposes of Survey

The survey in Japan also complied with 5.2 “Basic Policy for Surveys in Thailand and Japan.” As the preliminary survey between the first and second years was detailed in 5.1, this paragraph summarizes the survey’s second year. We will continue surveys on resources and other factors concerning infrastructure-related companies.

7.9.2 Schedule

Table 7-9: Survey in Japan (partly including preliminary survey)

Date		Destinations	Matters of hearings
Wednesday, May 22	14 : 30	Mr. Motoda Tokio (Yokohama City) / Miki Ikenaga	The reality of coordinators supporting Japanese enterprises’ advance into Thailand
Thursday, May 23	10 : 00	National Olympics Memorial Youth Center, Conference room (Yoyogi, Tokyo) / Yutaka Hirashima	Rice Valley’s business development in Thailand, studies by Kasetsart University and studies by Niigata University at “Rice Valley Forum in Tokyo” (hosted by Rice Valley Head Office, the Crisis Management & Preparedness Organization)
Tuesday, June 11	10 : 30	Yamanashi Industry Support Organization, Industry and Labor Department, Yamanashi Prefectural Government (Kofu City) / Kiyoshi Miyazaki	The case in Taiwan and the candidate project in Thailand in terms of Yamanashi Prefecture’s support for overseas advance. Preliminary meeting on the regional meeting of key persons on June 27
Thursday, June 12	17 : 00	Citizen Machinery Miyano Co.,Ltd.(Miyotamachi, Nagano Prefecture) / Kazuhiro Ono	The support service for companies advancing into Thailand, which local firms started to offer
Thursday, June 13	10 : 30	Department of Commerce, Industry and Labor, Osaka Prefectural Government (Osaka City) / Susumu Mori	The case in Vietnam concerning Osaka Prefecture’s support for overseas advance. Preliminary meeting on the regional meeting of key persons on June 27
	13 : 30	Kansai Bureau of Economy, Trade and Industry / Susumu Mori, Hidenori Hanahara, Hiroshi Uehara	Kansai-based enterprises’ efforts to go overseas led by the Kansai Bureau of Economy, Trade and Industry (Team E-Kansai) and the pilot business in Thailand
Thursday, June 27	14 : 00	Tokyo International Center, JICA(Hatagaya, Tokyo) / all members	First Otagai Conclave (Regional Key person meeting) (see page 76)
Friday, June 28	13 : 30	Nagoya University of Commerce & Business (Ochanomizu, Tokyo) / Thai Policy Advisor Matsushima, Susumu Mori	Projects in Aichi Prefecture and overseas internships in which the university participates

Tuesday, July 9	10 : 30	Industry and Labor Department of Okayama Prefecture (Okayama-shi)/ Kiyoshi Miyazaki, Kazuhiro Ono	Conducted a hearing on Okayama Prefecture's overseas advance and explained the Otagai Project, while suggesting their participation in the Otagai Conclave
Monday, August 5	11 : 30	Asian Market Planning (Tokyo)/ Thai Policy Advisor Matsushima, Kiyoshi Miyazaki	Conducted a hearing on Asian Market Planning's approach in rural cities and the commercialization of the Otagai Project
Wednesday, August 7	11 : 00	Industry and Labor Department of Okayama Prefecture (Okayama-shi)/ Director Passakorn, Department of Industrial Promotion (DIP), Ministry of Industry (MOI), Thai Policy Advisor Matsushima, Kiyoshi Miyazaki, Kazuhiro Ono	Visited Okayama Prefecture's overseas advance support section with DIP, MOI and NESDB, the organizations executing the Otagai Project. Exchanged opinions after explaining the progress and framework of the Otagai Project
Wednesday, August 7	16 : 00	Industry and Labor Department of Shimane Prefecture (Matsue-shi)/ Director Passakorn, DIP, MOI, Thai Policy Advisor Matsushima, Kiyoshi Miyazaki, Kazuhiro Ono	Visited Shimane Prefecture's overseas advance support section with DIP, MOI and NESDB, the organizations executing the Otagai Project. Exchanged opinions after explaining the progress and framework of the Otagai Project
Thursday, August 8	10 : 00	Commerce, Industry and Labor Division of Tottori Prefecture (Tottori-shi)/ Director Passakorn, DIP, MOI, Thai Policy Advisor Matsushima, Kiyoshi Miyazaki, Kazuhiro Ono	Visited Tottori Prefecture's overseas advance support section with DIP, MOI and NESDB, the organizations executing the Otagai Project. On September 4, explained the Otagai Project's promotion system and had a meeting regarding the "Technology Census" lecture in Bangkok targeting local SME management consultants. Two instructors, including the director of the Commerce, Industry and Labor Division, will deliver lectures at the class
Thursday, August 8	14 : 00	Tottori City Hotel (Tottori-shi)/ all members	Held the second the Otagai Conclave (regional meeting of key persons) (see page 64). A total of 50 people participated from not only municipalities and public-interest corporations in Tottori but also regional groups and Tottori-based enterprises considering advancing overseas
Thursday, September 12	13:00	Department of Commerce, Industry and Labor, Osaka Prefectural Government (Osaka-shi)/Kazuhiro Ono, Susumu Mori	Preliminary discussion about the program and role sharing in the Local Key Persons Meeting to be held on 2 October (host: Osaka Prefecture). Venue inspection and reservation

Thursday, September 19	15:00	WiLLGROW Thai, YOSHU Thailand (Tokyo Big Sight)/Kiyoshi Miyazaki, Susumu Mori	Hearings from WiLLGROW Thai (a Bangkok-based support company for business expansion of Japanese companies into Thailand) and its group company YOSHO Thailand, regarding the possibilities of unused space leasing business and their support services
Wednesday, October 2	13:30	Creator's Plaza (Higashi Osaka-shi)/all members	The 3rd Otagai Conclave (Local Key Persons Meeting) (See page 79). A guest is invited from the Mekong Institute. A total of 50 attendants, including municipalities across Japan, and public-interest corporations and enterprises in Osaka Prefecture
Thursday, October 3	14:00	FNN (Nikkei BP)/Kiyoshi Miyazaki. Susumu Mori	A referential hearing from FNN that has started the business matching and planning/operating of a manufacturing business expo in Thailand, following China
Thursday, October 3	16:00	Industry and Labor Department of Shimane Prefecture, etc. (Tokyo Big Sight)/Thai Policy Advisor Matsushima, Kiyoshi Miyazaki, Susumu Mori	Participation in the workshop of Hitachi Metals and "SUSANOO," a group of Shimane-based special steel processing enterprises (host: Industry and Labor Department of Shimane Prefecture). Opinion exchange
Wednesday, December 9	13:30	Moeginomura, main office (Hokuto-shi, Yamanashi) / all members	The 4th Otagai Conclave (Local Key Persons Meeting) (See page 80). The guests are invited from the Ministry of Industry of Thailand and the Thai Subcontracting Promotion Association. A total of 43 attendants, including municipalities across Japan and public-interest corporations and enterprises in Yamanashi Prefecture
Thursday, December 10	9:00	Yamanashi Prefectural Government Office (Kofu-shi, Yamanashi) / Thai Policy Advisor Matsushima, Kiyoshi Miyazaki, Susumu Mori	Attending the MOU signing ceremony between the Yamanashi Industry Support Organization and the Thai Subcontracting Promotion Association. Their plans for concrete activities under the Otagai Project are affirmed
Tuesday, December 17	10:00	Hokuriku Economic Federation (Kanazawa-shi)/Susumu Mori	Preliminary discussion about the program and role sharing in the Local Key Persons Meeting to be held on 20 February (hosts: Hokuriku Economic Federation and Hokuriku AJEC). Visit to Ishikawa Prefecture to request cooperation. Venue inspection and reservation
Saturday, December 28	10:00	Commerce, Industry and Labor Division of Tottori Prefectural Government (Tottori-shi)/ Kiyoshi Miyazaki	Visit to the Commerce, Industry and Labor Division of Tottori Prefectural Government to confirm the progress of the Otagai Project. The other topics on the agenda include how to proceed with the technology census

Monday, January 13 to Tuesday, January 14, 2014	18:00 (on 13th) 14:30 (on 14th)	Hotel Monarque Tottori (Tottori-shi)/Thai Policy Advisor Matsushima, Kiyoshi Miyazaki, Susumu Mori	Participation in the "Forum for Promotion of SME Partnership between Thailand and Tottori" (host: Tottori Prefecture; see page 60). At the forum, Ministry of Industry of Thailand and Tottori Prefectural Government have affirmed their cooperation to discover potential demand especially in Thailand. Apart from the forum, a hearing was conducted on the Commerce, Industry and Labor Division of Tottori Prefectural Government regarding their plans on cooperation with Thailand
Thursday, February 20	13:30	Kanazawa New Grand Hotel (Kanazawa-shi, Ishikawa)/all members	The 5th Otagai Conclave (Local Key Persons Meeting) was held. The guests are invited from the Designated Areas for Sustainable Tourism Administration (DASTA), Ministry of Industry of Thailand (MOI), the Association of Thai Tourism Marketing (ATTM) and Thai TV Channel 3. 120 persons attended, including municipalities across Japan and public-interest corporations and enterprises in the Hokuriku region

Chapter 8: Establishment of Platform

8.1 Information Platform (Task 1)

Otagai Study Team launched a website dedicated to the Otagai Project on June 19, 2013. This website now externally works as the project's main contact (**Figure 8-1**). Its domain is 【otagaiproject.com】. The website's English version was also completed on August 23.

The website was announced at the "First Otagai Conclave (regional meeting of key persons)" on June 27 to some people such as those of municipality affiliates and JICA staff.

Its functions are wide ranging, but can be summarized by the following seven functions:
1) News/events
2) Details on Thai industrial parks (industrial clusters) by tenant company
3) Report from Chulalongkorn University Sasin Japan Center and Mekong Institute
4) Inquiries and requests for information materials from enterprises considering advancing into Thailand
5) Inquiries and requests for information materials from enterprises wishing to sell infrastructure products to the Thai Mekong region
6) Download of the format to register the company's own infrastructure product/technology
7) Business SNS (developed by Nikkei BP) for sharing the threaded content of each question
Other than these basic functions, information from samurais (key persons in municipalities, etc.) and other administrative institutions will be incorporated.

As of the launching, placing the functions above on the top layer as "Leading Project," "News Topics," "Key Person Interview" and Otagai Project as specific columns, another six columns, namely, "Information (information on support for advance into Thai industrial parks and related data)," "Contact (inquiries and information request concerning advance into Thailand)," "Sales (promotion of infrastructure technologies)," "Business SNS for information exchange (members only)," "Partner Link (Mekong Institute and Chulalongkorn University Sasin Japan Center)" and "What is THAICOBAN?" were linked for one-click access from the same layer.

Its English version was launched in middle of August. We were also requested by Industrial Technical Officer Surach of the Department of Industrial Promotion, Ministry of Industry, which we visited on June 20 to report on progress, to launch another version in the Thai language.

At present, however, the website is "under construction" excluding the active part such as news, interviews and leading projects and the links to Mekong Institute and Sasin Japan Center. Nikkei BP issues 38 serial magazines, and the related websites boast a total of 130 million page view (PV) counts per month, which makes it easy to provide a strong link to the new site. If we actually did that, however, the project would be deemed to have entered a "real stage" beyond the formulation of "study on structural establishment (draft)." In addition, no flow that can appropriately process hundreds of accesses has apparently been established in-house, and the content of another project, "THAICOBAN," is yet to be determined. Therefore, we are considering keeping the links within the related companies and hearing opinions for a while before setting a test period for the beginning. We explained this to the staff of Industrial Development and Public Policy Department, JICA, and gained their consent on May 22.

We will update the news and the introduction of leading projects one after another, making preparations for the external launch expected for this fall or later when the environment is likely to be established. In any case, this website will eventually cover everything about the Otagai Project including its notifications, public relations, information collection, inquiries and the project's result reports. We believe this is an edge the Nikkei BP, the Otagai Project's secretariat, possesses.

Figure 8-1: Top screen of Otagai Project-dedicated website (http://www.otagaiproject.com)

Figure 8-2: Top page of the Otagai Project-dedicated website (English version)

8.2 Network Samurais (Task 2-1)

On June 27, the Otagai Project held the first "regional meeting of key persons (hereinafter Samurai Conference)" at JICA Tokyo International Center. It was the first time that local officials directly involved with the enterprises' advance into Thailand and other Mekong countries met at the same time, and we consider this was the proof that the project had started operating on the Japanese side.

Since late 2012, we found out that opinions about supportive measures and support vary even among the preceding municipalities from our preliminary interviews with Ota-ku of Tokyo, Yamanashi, Saitama and Osaka prefectures, which have a strong desire to advance, and key persons. Meanwhile, all those people we interviewed pointed out that "both Japan and Thailand are lacking people who directly support enterprises' advance overseas," "they could not have a base of discussion lacking shared data to support overseas advance among municipalities," and "they had too little accurate and detailed data to deal with Thai local companies, which is essential to expand the business of Japanese enterprises in Thailand." In other words, there was no place for the motivated "samurais" to gather and talk with each other across the regions.

Considering this is one of the solutions to accelerate collective FDI by SMEs, we, the survey team, had an unofficial meeting with some municipalities on April 8. Based on the feel obtained from the meeting, we explained the intent of the Otagai Project, individually visiting prefectural governments in every region and invited no one else but those from which we could obtain support for the Otagai Project to the first regional meeting of key persons on June 27.

Including JICA staff and survey teams, 44 people attended the meeting. Of the 43, the 18 people below participated from municipalities and public-interest corporations. From the Ministry of Economy, Trade and Industry (METI), Tsuyoshi Morishita, manager for International Business Promotion of Kansai Bureau and Minoru Ishida, assistant manager for Next-Generation Industry Division, Chugoku Bureau of Economy, Trade and Industry joined the meeting.

Table 8-1: Participants from municipalities and their directly affiliated public-interest corporations (First "Samurai Conference")

Area/name of prefecture		Position/name
East Japan	Saitama	Hideharu KAWABATA, Senior Manager, International Economic Affairs, Industry and Labor Department, Saitama Prefectural Government Kazunori YOSHIDA, Group Manager, International Economic Affairs, Industry and Labor Department, Saitama Prefectural Government Junko IJIMA, Assistant to Executive Director of Public Communications, Saitama Prefectural Government
	Tokyo	Yuichi HOTTA, Overseas Projects, Industrial Promotion Organization, Ota City Makiko UCHIDA, Overseas Projects, Industrial Promotion Organization, Ota City
	Kanagawa	Kaichi IKEYA, Director, International Business Support Department, Yokohama Industrial Development Corporation
	Yamanashi	Shin TEZUKA, Senior Director, Yamanashi Industry Support Organization Naoki OCHIAI, Assistant General Manager, Overseas Development & Growth Areas Promoting Office, Industry and Labor Department, Yamanashi Prefectural Government Tomohiro CHIDA, Chief, Overseas Development & Growth Areas Promoting Office, Industry and Labor Department, Yamanashi Prefectural Government
West Japan	Osaka	Makoto RYOKE, Deputy Director, Manufacturing Support Division, SMEs Support Office, Department of Commerce, Industry and Labor, Osaka Prefectural Government

	Tottori	Seiji OKAMURA, Director of, Commerce, Industry and Labor Division, Tottori Prefectural Government Atsuhide WADA, Assistant Manager, Commerce & Industry Policy Division, Commerce, Industry and Labor Division, Tottori Prefectural Government
	Shimane	Hironori MATSUURA, Group Leader, General Coordination & Policy Planning Group, Industrial development Division, Commerce, Industry and Labor Division, Shimane Prefectural Government Shuichi HASEGAWA, Planning Member, Industrial development Division, Commerce, Industry and Labor Division, Shimane Prefectural Government Masakatsu AMENOMORI, Deputy Director, Shimane Industrial Promotion Foundation
	Hiroshima	Koso MIYATANI, Deputy Director, Foreign Business Division, Commerce, Industry and Labor Bureau, Hiroshima Prefectural Government
	Fukuoka	Tomohiro YOSHIMURA, Department Chief, International Environmental Strategies Division, Environmental Bureau, City of Kitakyushu Koji KUBOTA, Section Chief, Kitakyushu City Promotion Metropolitan Headquarters

We invited Director Takamasa Fujioka of Chulalongkorn University Sasin Japan Center and Policy Advisor Daisuke Matsushima of the National Economic and Social Development Board (NESDB) from the Thai side.

At this meeting, the theoretical background of Director Fujioka's cluster-type advance was shown from the academia side, while Rice Valley (Minami-Uonuma, Niigata), a support company in Vietnam (Osaka), a method to develop the case of a precision machine cluster in Taiwan (Yamanashi) and medical micro mobility (Tottori) were introduced as example clusters. Director Okamura of Commerce, Industry and Labor Division, Tottori Prefectural Government, distributed survey sheets for "Region/Technology Census," a survey method to know where and how regional technologies are dispersed. Using this method by SME management consultants and others in both Japan and Thailand, compiled technologies and missing technologies, for example, in both countries would be recognized. With some municipalities showing interest, future development in Japan and Thailand is expected. How we would involve many existing SME management consultants in Thailand was left to the Otagai Study Team to determine.

Figure 8-3: First "Samurai Conference" (June 27)
(Prepared by Nikkei BP)

Before the meeting was shifted to the following social gathering, the Otagai Project Team announced the following three notices:
1) Next meeting will be held in Tottori Prefecture on August 8.
2) Executive members will be invited from the Ministry of Industry, Thailand.
3) We will consider inviting not only municipalities but also enterprises.

Although the opinion was only from a few people, we were told they found the project "not grounded in general." Taking it as them having high expectations and encouragement for the Otagai Project, we are determined to further crystallize and elevate the project.

The Otagai Project had its second Samurai Meeting (aka Samurai Conclave) in Tottori-shi, Tottori Prefecture, on August 8, 2013. We held it outside Tokyo to reflect the participants' view that Samurai Meetings aimed for "regional emergence" should have a regional tour style.

The number of participants totaled 50, more than that in the preceding meeting. Okayama Prefectural Government, Hokuriku Economic Federation, Himeji Business Kouryukai and SME Support from Japan's Chugoku Head Office newly joined this time as key organizations among the participant municipalities and in the region. From Tottori Prefecture, where the meeting took place, the presidents of Nano Optonics Energy, a company developing nursing EV scooters, and LEXER RESEARCH, which develops 3D plant productivity improvement software, among others, attended. Director Passakorn Chairat was invited as a special guest from the DIP, MIO, which is the Otagai Project's counterpart in Thailand. We also asked Director Passakorn to join the meeting with the executives of Okayama and Shimane prefectures, with whom he had exchanged opinions on the previous day.

Keynote lecturer Director Passakorn expressed his expectations for Thailand's potential and the significance of the Japan-Thailand Otagai Project. Among his remarks, he offered inspiration with his forward-looking, active viewpoint, in particular, by saying, "This project's concept is to help each other, focusing, above all else, on mutual support in the industrial area. As Japan has technologies which are unique in the world, Thailand could develop to become a competitive production base by joining hands with Japan. Furthermore, from now, Thailand will, without a doubt, be the gateway to ASEAN through the partnership between Thailand and Japan."

Seiji Okamura, director of the Commerce, Industry and Labor Division, Tottori Prefecture, revealed a plan to set up a Tottori prefectural office in Bangkok on November 12, 2013, and declared, "Targeting 30 electric/electronic device companies and 70 materials processing companies in Tottori, we will undertake initiatives and foster human resources at each company. For that purpose, we will establish a council to promote the Tottori Prefecture Strategic Industry Employment Creation Project and start developing a new manufacturing framework." He indicated the regional government's plan to establish a new industrial framework, making the most of the drastic decline in plant shipment value in Tottori Prefecture. Tottori Prefecture's revitalization was largely foreseen owing to Sharp announcing at a press conference on the same day a plan to develop the next-generation panel "MEMS display" at Sharp Yonago Plant in Tottori Prefecture.

Director Passakorn (left) and the conference (upper) on August 8

Figure 8-4: The Second "Otagai Conclave" (August 8) (Prepared by Nikkei BP)

The Samurai Conference is held approximately every two months. The 3rd conference was held in Osaka Prefecture on 2 October, and the 4th was in Yamanashi Prefecture in December. Guests from Thailand were invited to both conferences. We had the opportunity to have Mr. Madhurjya Dutta (Program Manager of the Mekong Institute (MI)) as our guest in Osaka, while Mr. Kobchai Sungsitthisawad (Deputy Director General, Department of Industrial Promotion of the Ministry of Industry of Thailand (DIP/MOI)), Mr. Passakorn Chairat (Director of the Business Opportunity Center of DIP/MOI), Mr. Somkiat Chupukcharoen (President of the Thai Subcontracting Promotion Association) and two advisors from Yamanashi also attended. Mr. Daisuke Matsushima (Policy Advisor of the National Economic and Social Development Board) kindly attended both conferences.

In October, Mr. Dutta and the Otagai Team visited Vietnam and Laos together and opened a seminar. The topics included the introduction of the concept of "Otagai," the implementation status of the project and the MI activities.

In his keynote lecture at the 3rd conference held in October, Mr. Dutta pointed out the following four issues: 1) in Cambodia, Laos, Myanmar and Vietnam (CLMV), exports are very limited and these countries lack competitiveness. Their challenge lies in the establishment of a connection between local industries and international markets, 2) in CLMV, old and new SME clusters exist together and are still in the process of developing. The first important step should be the promotion of a cluster in a specific district regarding a particular item, 3) products for clusters in these countries are mangoes and fishery in Myanmar, silk and rattan in Cambodia, silk and wooden furniture in Laos, and tea and earthenware in Vietnam, and 4) a big problem that CLMV clusters have is that there is hardly any data on their technologies and finances. It will be of great help if such data are accumulated as a database. Mr. Dutta explained, "With understanding of these issues, MI provides practical programs to SMEs for their clusters and export expansion. To promote clusters, human resources development is especially important. First, visit an existing cluster, make action plans and then form an import consortium. One year later, after opening an investor forum, we will hold a workshop for more advanced training."

From the host prefecture, Ms. Rie Yamada (Special Zone and Location Promotion Division, Growth Industry Promotion Office, Department of Commerce, Industry and Labor, Osaka Prefectural Government) addressed the prefectural strategies in her speech titled "Osaka Prefectural Growth Strategies and Overseas Development for Support/Special District Policy and Infrastructure Export." In addition to the details of the support desk, she described the situation of her prefecture's "real business" by stating, "At present, we are developing overseas support for water-related business, but the export of public infrastructure is difficult. Therefore, as the first step, we are focusing on the field of waste water treatment facilities by targeting private infrastructure facilities or factory/commercial facilities. Also, utilizing the Model Project for Improving Water Environment in Asia (Ministry of the Environment), we carried out a project for water environment improvement by means of the

The 3rd Samurai Conference (in Osaka) and Mr. Dutta from MI during his keynote lecture. 50 key persons gathered and their passionate discussions also continued at the fellowship social party after the conference

Figure 8-5: The 3rd “Otagai Conclave”(October 2)
(Prepared by Nikkei BP)

energy-saving treatment of industrial organic waste water in Vietnam. In 2012, the FS was conducted and in 2013, the demonstration experiment was performed. We are proceeding with the project to establish it as an overseas business." As the front line of Osaka prefectural and SME manufactures' clusters and their overseas business expansion, Mr. Ryoichi Taira (President of Taira Sohki Co., Ltd. and Chairman of the Osaka Prefectural Global Study Association), Mr. Satoru Toyooka (President of Nippon Fusso Co., Ltd.) and Dr. Takamasa Fujioka (Director of Sasin Japan Center, Chulalongkorn University) introduced their approaches and initiatives from the respective perspectives.

President Toyooka of Nippon Fusso explained their current situation: "While domestic orders are decreasing, more overseas investment projects are coming in. Many are related to Thailand or Singapore. More and more of our clients are expanding their businesses into foreign countries. Especially, business advancement into ASEAN is conspicuous and therefore, how well you understand and respond to the ASEAN markets is the key. We also want to advance into Thailand, which will be our base in ASEAN. Specifically, we are thinking of expanding our business into Thailand as a joint venture with a company whose specialty is fluorine coating."

As special reports, lectures were given by Professor Izumi Ohno of the National Graduate Institute for Policy Studies, Mr. Kengo Ishida (Director of the Kitakyushu Asian Center for Low Carbon, Environmental Bureau, City of Kitakyushu), and Visiting Professor Sadahiro Sugita of Waseda University and Doshisha University. In the question session at the end of the conference, questions related to specific cases were asked by municipal officials, such as "When a manufacturer subleases, what business enterprise system should it use?" and "In the case of business expansion by renting an unused space, are there any special conditions regarding tax?" Some of the answers to these questions from attorneys in Thailand are carried in "10.2 Commercialization of Support for Business Expansion and Related Issues."

In December, the 4th Samurai Conference was held in Kiyosato, Yamanashi Prefecture (Takane-cho, Hokuto-shi, Yamanashi). Five senior officials from Thailand were invited, including Mr. Kobchai (Deputy Director General of DIP/MOI) and Mr. Somkiat (President of the Thai Subcontracting Promotion Association). The conference was also attended by Mr. Takeshi Fujimoto (Director of the International Economic Affairs Division, Trade Policy Bureau, Ministry of Economy, Trade and Industry of Japan).

In his speech "Otagai Project and Thai-Japanese Cooperation," Deputy Director General Kobchai expressed his expectation of further binational growth through the Otagai Project. Director Fujimoto said, "In February 2014, we are also establishing a system to promptly pick local needs and bring the agenda to specialists without delay. We want to effectively incorporate the Otagai Project into it."

From the host prefecture, Yamanashi, Mr. Shin Tezuka (Executive Director of the Yamanashi Industry Support Organization) addressed the issues his prefecture is facing, by pointing out 1) an "agglomeration of manufacturing engineering businesses" as a structural characteristic of the prefectural engineering and electronic industries, 2) measures against poor availability of information on overseas markets and improvement of name recognition and credibility of Yamanashi-based SMEs and their sales capabilities in foreign countries, and 3) utilization of services provided by the JETRO Yamanashi Information Center, which opened in April 2013.

Mr. Somkiat (President of the Thai Subcontracting Promotion Association) showed a video of their activities with the positive anticipation of finding a good match between the member enterprises of more than 360 Yamanashi-based companies. In addition to Yamanashi-based enterprises, Mr. Atsuhide Wada (Section Head of the Department of Commerce, Industry and Labor, Tottori Prefectural Government) described the current status of the "Technology Census," while Mr. Masayuki Kiyama (Chief of the Chubu Bureau, Ministry of Economy, Trade and Industry of Japan) explained the "Greater Nagoya Initiatives."

The 4th Samurai Conference in Yamanashi (left) and the MOU signing ceremony between the Yamanashi Industry Support Organization and the Ministry of Industry of Thailand (right). On the far right is Governor Yokouchi

Figure 8-6: The 4th "Otagai Conclave" and the MOU signing ceremony (2 and 3 October) (Prepared by Nikkei BP)

Next day, the Yamanashi Industry Support Organization signed a memorandum of understanding (MOU) with the Thai Subcontracting Promotion Association in the presence of the Governor of Yamanashi Prefecture Shomei Yokouchi, following the MOU concluded between Yamanashi Prefecture and the Ministry of Industry of Thailand. Both MOUs refer to the "Otagai Business Concept," thus strengthening the relationship between both parties.

Table 8-2: Attendants at the 4th Local Key Persons Meeting from Thailand

Area	Affiliation/name
Thailand	Kobchai Sungsitthisawad, Deputy Director General, Department of Industrial Promotion, Ministry of Industry of Thailand Passakorn Chairat, Director, Business Opportunity Center, Department of Industrial Promotion, Ministry of Industry of Thailand Somkiat Chupukcharoen, President, Thai Subcontracting Promotion Association Jumrat Parnpiansil, Committee adviser board, Thai Subcontracting Promotion Association Makoto Ikeda, Committee adviser board, Thai Subcontracting Promotion Association

The 5th-round Samurai Conference sponsored by an Otagai Research Team was held in Kanazawa City of Ishikawa Prefecture on February 20, 2014. This round as the final during the period of research by this team, for the implementation of its contents and scale which are suitable for a final round of meeting while sticking to its basic spirit of "emphasis on regions," took the form of joint sponsorship with the Hokuriku Economic Federation and Hokuriku AJEC (The Around Japan Sea Economic Exchange Conference in Hokuriku), thus inviting key persons in charge of foreign affairs from the prefectures of Ishikawa, Fukui, and Toyama. The Hokuriku AJEC, as an organization established in 1992 in order that the industrial sector and universities in the Hokuriku area as well as industries, governments, and academic institutions of Toyama, Ishikawa, and Fukui Prefectures should promote economic exchanges with opposite shore counties in a body, acts integrally with the Hokuriku Economic Federation,

This round of Samurai Conference consists of two parts as a whole; Part 1 where exchanges between the venue area and a Thai-ASEAN region were discussed as ever before and Part 2 to focus on tourism, expanding the narrower discussion entitled "Turn to Cooperation of a Tourism Cluster." This is the Otagai Study Team's intention, given a situation where not only the City of Kanazawa but also three Hokuriku prefectures see "tourism" as a theme for economic exchanges, to explore the possibility of both Japan and the ASEAN region developing value-enhanced high-grade tours for staying under the tie-ups with each other as a "tourism cluster" instead of common ones which pinpoint places to view, limiting them to famous sightseeing spots.

For this implementation, key persons satisfying the intended purpose were also invited from the Thai side, namely Dr. Chuwit Mitrchob, Director of Strategic Management Office, Designated Areas for Sustainable Tourism Administration (DASTA), the Thai government and Ms. Mingkwan Metmowlee, President of Association Thai Tourism of Marketing (ATTM), which has as many as 200 members. In addition, Mr. Passakorn Chairat, Director, Department of Industrial Promotion, Ministry of Industry of Thailand, who attended the 2nd conference (held in Tottori Prefecture) and the 4th conference (held in Yamanashi Prefecture), and Mr. Baworn Sattayawuthiphong, Minister-Counsellor, Office of Industrial Affairs, Royal Thai Embassy also joined us.

We also have Dr. Rungthip Chotnapalai, news anchor, and others of the Thai-largest TV station Thai Television Channel 3 here in Japan for this round of meeting as special guests to concurrently collect news materials. Telecasting the attraction of Hokuriku that Japan boasts by the Thai-largest TV station will never fail to add momentum to cooperation of a tourism cluster (with a conference scene shown in **Figure 8-7** and guests from the Thai side, in **Figure 8-8**).

Figure 8-7: The 5th"Otagai Conclave" (February 2, 2014)
(Prepared by Nikkei BP)

Among local governments as main players in Samurai Conference, one prefecture or city newly participated in the conference after another. The present 5th round was newly joined by two Hokuriku prefectures of

Fukui and Toyama (Ishikawa Pref. also attended the 4th round) as well as by Mie Prefecture, Ibaraki Prefecture, and Kanazawa City. Unfortunately, "hard-core" Yamanashi Pref. failed to attend due to unprecedentedly heavy snow but, instead, key persons took part from Osaka Pref., Kobe City, Tottori Pref., and Shimane Pref. Local government participants up to the 5th round total 18 in number, consisting of Tokyo metropolitan government, Osaka and 13 other prefectures, and 3 cities. The number of participants in the conference has reached 121, including guests from the Thai side and the personnel from the Ministry of Economy, Trade and Industry of Japan, Small and Medium Enterprise Agency, Japan Inter National Cooperation Agency (JICA), local companies, and Otagai Research Team. This figure is twice as large as the average number of participants in the 1st through the 4th round.

Figure 8-8: Participants from the Thai side
(Prepared by Nikkei BP)

From right in the front row, Director Dr. Chuwit of DASTA, Director Mr. Passakorn of Industrial Promotion Department, Ministry of Industry, Minister-Counsellor Mr. Baworn of Industrial Affairs Office, Royal Thai Embassy, and President Ms Mingkwan of ATTM. In the middle of the back row is news anchor Dr. Rungthip of Thai TV Channel 3

The conference began with the opening remarks given by Mr. Juji Terao, Managing Director of Hokuriku AJEC, followed by contents explanation by Mr. Daisuke Matsushima, Adviser, Office of Thailand (NESDB). In Part 1, Department Director Mr. Passakorn of Industry Ministry and Minister-Counsellor Mr. Baworn of Royal Thai Embassy gave a respective presentation entitled "Possibility of the Otagai Cooperation between each Cluster of Hokuriku and Thailand," explaining about the achievements so far made from the Japan-Thailand Otagai Project including the signing of MOU (memorandum for business cooperation) with prefectures of Tottori, Saitama, Yamanashi, and Akita They also depicted the possibility of future cooperation with Hokuriku, citing "automobiles, food, fashion, health, and graphic design" as examples from their standpoint of top position in Ministry of Industry.

Meanwhile, President Mr. Yoshiaki Sakai of Mechatro Associates Co., Ltd., a manufacturer of various precision robots, attending from the venue area in Japan, indicated a strategy of "digitizing technology or skill of 'Takumi' to be integrated into a robot" and important considerations for advance from his company's point of view. In addition, Project Director Yukihiro Fukui of "Hokuriku Life Science Cluster," where three Hokuriku prefectures aim at establishing medical/diagnostic/curative procedures for the day of more aged people and fewer children, disclosed its cooperation with MEJ (Medical Excellence JAPAN) as well as the present procurement of raw materials for herbal medicines from Thailand and subsequent Thai market development programs. It is considered that attractive matters have been added to cooperation of a cluster with Thai-ASEAN.

Part 2 started with the explanation of sustainable tourism strategies in Thailand by Director Dr. Chuwit of DASTA as a main guest invited to this round. He explained that the DASTA inaugurated as a government body in 2003 leads them and has already designated 6 locations

as "special zones for sustainable tourism" within Thailand.

Specifically, they are 1) Ko Chang island and neighboring area (designated in 2004), 2) Pattaya City and neighboring area (designated in 2009), 3) Remains/historical parks in Sukhothai, Si Sachanalai, and kamphaeng phet (2011), 4) Loei (2011), 5) old town Nan (2012), and 6) Ancient City U Thong (2012).

From three sub-items, value of the relevant tourist resort (40 points), possibilities of further resort development (25 points), and operation (35 points), the score of each area is calculated to be designated if 75% or more is achieved. Allocation of the greatest 25 points to "preservation of tourist resorts and management of the environment" is among many practices informative and even instructive to Japan. Director Dr. Chuwit finally concluded his speech, saying, "An urgent issue is how local communities should be strengthened to establish valiant cultural heritages and tourist products in each area toward the inauguration of the ASEAN Economic Community (AEC)." It is evident that, for the expected AEC inauguration in 2015, Thailand has already proceeded with steady preparation in terms of tourism.

Following the above, explanations were given from the Japanese side of the "root of 'O-Mo-Te-Na-Shi' hospitality" by Chairperson Mr. Sadahiko Oda (Chairman of Kagaya) of Broader-based tourism promotion committee, Hokuriku Economic Federation, and then of the "Kanazawa-Hakka" composed of 8 urban style hotels by Chairman Mr. Shoichi Shoda (President of Kanazawa New Grand Hotel) of Kanazawa Hotel Konwakai.

On the other hand, as a new Otagai Project matter, Director Mr. Kimihito Miki of Planning Division, Shinki Bus of Himeji City, Hyogo Prefecture, possessing the largest number of buses in Japan, introduced a strategy of "Himeji Tourism Cluster" which interactively connects Thailand and Japan. Shinki Bus made it clear at the same time that it had signed an MOU with International Tours Center (ITC), a leading Thai travel agent, in December, 2013, and was aiming at planning/putting on sale a new tour product in spring, 2014.

Following the presentation from the Japanese side, President Ms Mingkwan of ATTM and news anchor Dr. Rungthip of Channel 3 respectively stated their interesting impressions. President Ms Mingkwan said, "According to the newest data, 230 thousand Thai tourists came to Japan. Partly thanks to the Japanese government's incentive VISA-free measures in favor of Thai people, the figure may come near 500 thousand. In Thailand, however, Kanazawa is almost unknown unlike Osaka and Kyoto. I would also like to amore positively appeal charms of Kanazawa/Hokuriku." Dr. Rungthip also said, "I travelled around Japan while I was in Japan (as a foreign student of Osaka University) but have never been to Kanazawa. To Thai people, 3Ss of Sightseeing, Shopping, and Sashimi are attractive. Here are all of them," drawing applause from people in the conference hall. "Still known little" conversely means very great latent possibilities. Future active dissemination of Hokuriku charms is being looked forward to.

Figure 8-9: News anchor Dr. Rungthip (right) and camera man (left) of Thai TV Channel 3 energetically engaged in filming in Kenrokuen Garden (Kanazawa City) (Prepared by Nikkei BP)

Figure 8-10: Thai guests directly explained from Mr. Kenji Maida well-known worldwide for Kagayuzen (Kanazawa City) (Prepared by Nikkei BP)

The news data collection team led by Dr. Rungthip made a field trip to tourist attractions elaborated by Hokuriku AJEC between 21st day (Fri.), the following day of meeting, and 23rd day (Sun.) On 21st day, after inspection of Ohi Museum (Kanazawa City), D.T. Suzuki Museum (the same), Kenji Maida's Kagayuzen Workshop (the same), and 21st Century Museum of Contemporary Art (the same), moved to Kagaya (Nanao City, Ishikawa Pref.). On 22nd day, energetically inspected world heritage Gokayama (Nanto City, Toyama Pref.), Kenrokuen Garden (Kanazawa City), and then Kato Kichibei Brewery (Sabae City, Fukui Pref.), while Eihei-ji Temple (Yoshida County, Fukui Pref.), SKIJAM Katsuyama (Katsuyama City, Fukui Pref.), Dinosaur Museum (the same), on 23rd day (**Figure 8-9** and **Figure 8-10**)

Table 8-3: Attendants at the 5th Local Key Persons Meeting from Thailand

Area	Affiliation/name
Thailand	Dr. Chuwit Mitrchob, Director of Strategic Management Office, Designated Areas for Sustainable Tourism Administration (DASTA) Mr. Passakorn Chairat, Director, Business Opportunity Center, Department of Industrial Promotion, Ministry of Industry of Thailand Mr. Baworn Sattayawuthiphong, Minister-Counsellor, Office of Industrial Affairs Royal Thai Embassy Ms.Mingkwan Metmowlee, President, Association Thai Tourism of Marketing (ATTM) Dr. Rungthip Chotnapalai, News Anchor, Thai Television Channel 3 Mr. Chick Kwok Meng, Thai Television Channel 3

8.3 Network of Other Support Businesses

The Otagai Project is aimed at formulating an action plan to actually operate, not just compose a report. To meet that goal, just exploring measures to support overseas advance (plan) based on the Japanese side's needs is not sufficient. To explore how we could follow Japanese enterprises in Thailand after their advance is also the project's focal point.

In fact, what turns out to be most difficult when SMEs advance into Thailand and other Mekong countries is legal issues. Professionals including lawyers and qualified accountants are frequently needed 'on the scene,' such as commercialization scheme exploration before advances, company establishment after advances, fringe benefits of the Board of Investment, all sorts of registration, work permits for employees and accounting affairs as well as legal conflicts and labor-management confrontation which SMEs would face immediately after their advance.

Figure 8-11: "Professional meeting (lawyers and qualified accountants)" at JICA Thailand Office (May 29) (Prepared by Nikkei BP)

The Secretariat of the Otagai Project called for a meeting of lawyers and qualified accountants practicing in Thailand on May 29, 2013, with the help of the Thai government's Advisor Matsushima. Attorneys responding to our call included Hideshi Obara (also licensed to practice law in New York State, U.S.) of Nishimura & Asahi, which is a core for Japanese lawyers residing in Bangkok; Naoki Hieda (also licensed in NYS) of Siam City Law Offices Limited; Shinji Maruyama of Iwata Godo; Akitaka Anzai of Anderson Mori & Tomotsune; Masao Katsuyama (also licensed in NYS) of Baker & McKenzie Services Ltd.; and Shohei Sasaki of Nagashima, Ohno & Tsunematsu. Responding qualified accountants included Satoshi Aikawa (also a licensed tax accountant) of Atagoyama Sogo Accounting Office; Kenichi Kanai of Fair Consulting (Thailand) Co., Ltd.; and Kazuhiro Tadano, who is also a mediator for accountants in Bangkok (names in random order). All the participants committed themselves to supporting the Otagai Project after hearing out the explanation on the significance and context of the Otagai Project and the following question-and-answer session.

"Coordinators" who support advance overseas sometimes encourage SMEs just to earn fees even though they are aware of some risk. However, "The reason why attorneys like us are practicing law in Bangkok is to squeeze the risk to zero from the beginning," said Obara. He continued, "We often completely disagree with coordinators, but it is our mission to make legal issues crystal clear in Thailand, where situations tend to vary by case and are uncertain." We are still contacting these attorneys and accountants about various issues, and they are now a strong support organization for the Otagai Project.

Chapter 9: Cluster Collaboration in Pilot Business

This chapter describes the “Rice Valley” project as an example of the best practice in the cluster collaboration between Japan and Thailand.

9.1 Case Studies of Best Practices (Task 2-2)

9.1.1 Collaboration with a local University

The “Rice Valley” project, which is organized by industries in the Niigata prefecture (rice producers, processors and distributors), the Niigata university food science center and various non-profit organizations, has already started as a pilot business of the “Otagai Project”. This project was originally planned in response to the Great East Japan Earthquake and the Thailand Floods in 2011, focusing on a scheme of mutual support between Japan and Thailand to maintain rice supply in case of unexpected disasters. The project started in full swing from the Health Business Summit “Uonuma Conference” held in November 2011.

In May 2012, under the assistance of Japan International Cooperation Agency (JICA),
Mr. Shinji Hosotsubo, Secretary-general of Crisis management & task organization (CMPO, a specified Non-profit Corporation), was received as an adviser at the Ministry of Industry in Thailand. He started up “Rice Valley” in Thailand as a sister cluster, and so it started as a pilot business of the “Otagai Project”. (**Figure 9-1**)

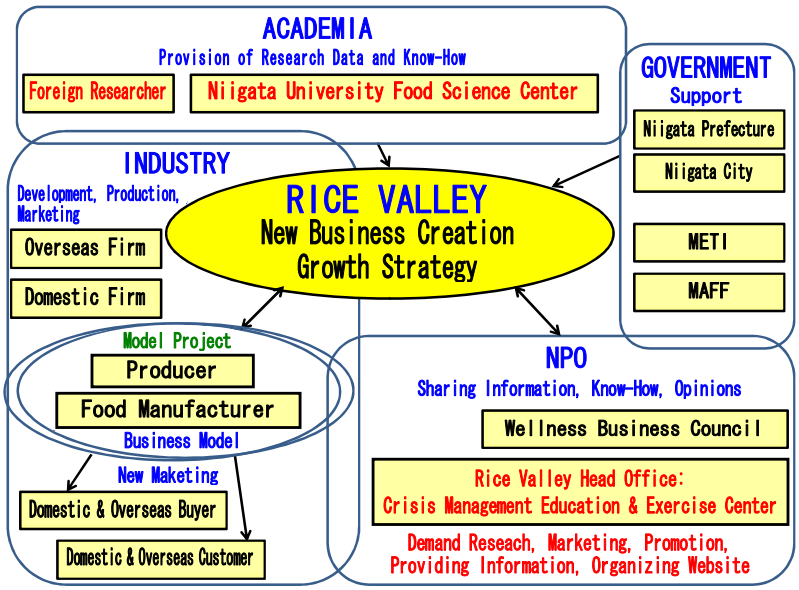


Figure 9-1: Outline of “Rice Valley” (documents: from Rice Valley operation bureau)

Since then, both Rice Valley in Niigata and Thailand have kept interchanging, and their recent major objectives are biotechnology transfer from Japan, joint research, sustainable development of rice products, and expansion of sales channels. (**Table 9-1**, **Figure 9-2**, **9-3**, **9-4**) As a result, an MOU (Memorandum of Understanding) relevant to international exchange was concluded between the head office of Rice Valley and Kasetsart University (Rice Valley in Thailand) in May 2013.

The MOU is about mutual exchange between Rice Valley in Japan and Thailand, as they promote research and international development. Specifically, the following 4 points are proclaimed within the agreement.

(1) Planning of joint research, lectures, and symposiums etc. concerning rice, and exchange between such researchers.
(2) Exchange of information and written materials which both clusters have concern in.
(3) Promotion of the “Otagai Project”.
(4) Intercommunion between Japan and Thailand participants.

At the end of May 2013, Niigata University food science center and Kasetsart University presented their collaborative product; cold noodles named “Niigata-Men-Thai-Ko” at an event named “University is delicious!” held in Tokyo, which was the first business achievement based on MOU.

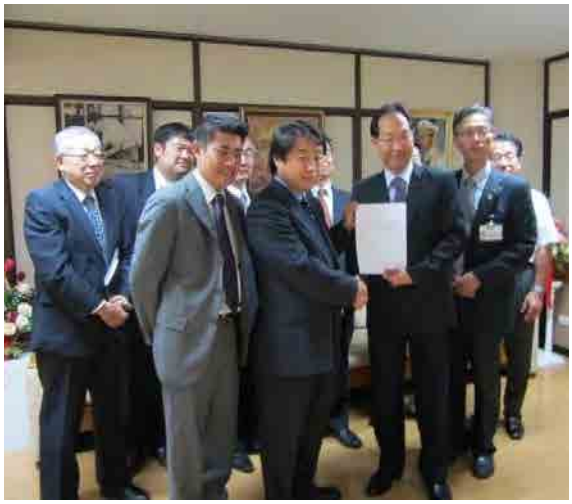


Figure 9-2: Members of Rice Valley and the Ministry of Industry in Thailand, who came to an agreement to promote the pilot business (August 2012) Left-of-center: Mr. Hosotsubo
(photos: from Rice Valley operation bureau)

Figure 9-3: Inspection of facilities in Nakhon Sawan (August 2012)

Figure 9-4: “Rice Valley Forum” held in Thailand (May 2013)

Table 9-1: Interchanging between Japan and Thailand

June 2012	**Inspection Tour from Thailand to Niigata**
	Meeting for an exchange of ideas & Social gathering
	Visit to the factory of Foricafoods
	Visit to the factory of JA in South-Uonuma
	Visit to the factory of Jinenjo-Soba
August 2012	**Inspection Tour from Niigata to Thailand (1st)**
	Meeting with Ministry of Industry in Thailand
	Meeting with JICA in Thailand
	Meeting with Ministry of Agriculture in Thailand
	Meeting with Kasetsart University
	Visit to the rice noodle factory of Kenmin Foods
	Visit to the factory of Kameda Seika
	Meeting for an exchange of ideas with people concerned with the agriculture in Nakhon Sawan
	Visit to the rice field & the rice mill in Nakhon Sawan
	Meeting with the president of Nutrition Science Society & the companies concerned with rice
January 2013	**Inspection Tour from Niigata to Thailand (2nd)**
	Visit to the rice field, the rice mill, the processing plant for rice & the Market in Nakhon Sawan
	Visit to Thai Smart life company
	"Rice Valley Forum" with Kasetsart University
	Meeting for "Otagai growth strategy" with local companies & Japanese companies
	Visit to the border area toward the port of Dawei, Mynmar
April 2013	**Inspection Tour from Niigata to Thailand (3rd)**
	Meeting for commercializing the rice products with Kasetsart University
	Visti to see the cultivation of the Japonica rice in Thailand
May 2013	**Inspection Tour from Niigata to Thailand (4th)**
	"Rice Valley Forum"
	Visit to the Kasetsart University
	Visit to the organic rice field
	Inspection Tour from Thailand to Niigata
	Visit to Eco Rice Niigata, Gateau Senka & Yamatogawa Sake Brewery

9.1.2 Product development by collaboration

The rice market in Japan is reducing continuously. By expanding the "Produce-Process-Sell" supply chains overseas, the clusters will become highly competitive, and business continuity and management strategic growth can be attained.

Rice Valley is carrying forward development of new products aiming for the worldwide market, by applying Japanese rice processing technology to Thailand's Indica rice, which can be produced in large quantities at a low cost. The developed products are of a different variety, such as rice cuisines from around the world (jambalaya, paella, pho, etc) that are processed into retort food, Sake-liqueur, and so on. For a product to be sold worldwide, costs must be kept low, and to adapt taste to the world sense will be future tasks.

Figure 9-5: "Niigata-Men-Thai-Ko", the first collaborative product Niigata University and Kasetsart University cooperatively developed (photos: Otagai Study Team)

Together with Kasetsart University, Rice Valley has jointly developed cold noodles named "Niigata-Men-Thai-Ko" which was displayed in the event, "University is delicious!" (**Figure 9-5**), and now they are planning to develop cup noodles made from rice flour. (**Figure 9-6**, **Figure 9-7**) The sales points of the products are not only good taste and convenience, but also as an additional value, to be 'healthy and organic', such as edible soup for patients afflicted with lifestyle-related diseases. Furthermore, they are researching the products naming, package design and branding strategy for its marketability.

Figure 9-6: Cup noodles under joint development by Niigata university and Kasetsart University

Rice Valley has dealt with rice noodles up until now, such as hosting the "Rice Noodles Grand Prix". By utilizing flour products such as bread and pasta, that goes well with western cuisine, can also be processed besides noodles.

At the "Rice Valley Forum" held in Tokyo for the first time on 30 May 2013, Mr. Hosotsubo, Mr. Motoji Kadowaki, chief manager of Niigata university food science center, and Mrs. Patcharee, chief manager of Institute of Food Research and Product Development, delivered lectures. (**Figure 9-8**, **9-9**) Mr. Kadowaki has already accomplished a great achievement on researching physiological functionality of rice. He recently takes particular notice on rice flour, and has stared research on technology of refrigerating and defrosting rice processed products and its physiological functionality.

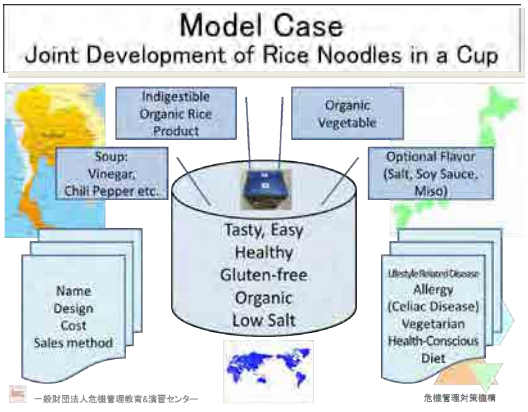


Figure 9-7: Selling point of the cup noodles

Mr. Kadowaki says that Japanese processing technology and basic research on rice are forefront in the world. By using the results of the research, Rice Valley is planning to develop high-value added products (for example, rice with low protein contents,

organic rice etc.), which will help form brands of Rice that can be accepted worldwide. Furthermore, this will lead to the strengthening of the supply chain “Produce-Process-Sell”, which is essential for the future progress of Rice Valley.

Figure 9-8: Mr. Kadowaki, presenting study cases at the “Rice Valley Forum in Tokyo”(left side photo)
Figure 9-9: Mrs. Patcharee, involved in developing the iced noodles, presenting research at the “Rice Valley Forum in Tokyo”

9.1.3 Establishing a business continuity management system

Rice Valley outlines a Thai-based growth strategy, while at the same time an establishment of a business continuity management system is aimed that will be a role model for domestic companies.

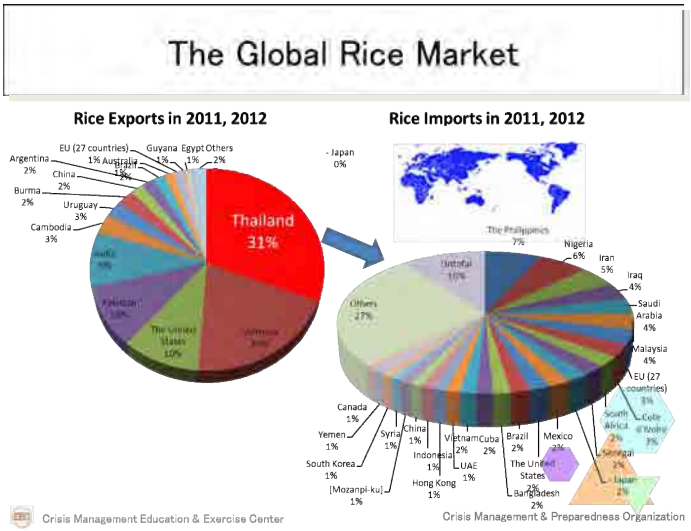


Figure 9-10: Exports and Imports of the rice

As described above, it is the objective of Rice Valley to transfer Japanese technology to the world’s pre-eminent rice-exporting Thailand’s Indica rice and develop competitive products in the world market. (**Figure 9-10**) The important point is, to match the advantages of Japan and Thailand; Japanese ‘technology’, ‘quality’ and ‘brand’, and Thailand’s ‘quantity of production’ and ‘low cost’. (**Figure 9-11**) They are intending to establish a sales company named “Rice Valley Marketing” in Thailand, to implement the project continuously, which is part of the strategy not only just to continue the existing business but also to be stimulated to growth.

In order to expand the market, it is of great importance to be a geopolitically strategic point in terms of economy and security. Thailand is the member of Association of South-East Asian Nations (ASEAN) and locates itself at the center of Japan, China, and India. (**Figure 9-12**) The large-scale development in the Dawei area, Myanmar, is also paid close attention to now.
If the 300km corridor from Bangkok to Dawei, opens its way to traffic, access from Thailand to India (Chennai), the Middle East, Africa, and Europe will improve drastically. In prospect of market expansion, the industry accumulation is expected to progress more and more, and benefits for rice related industries are immeasurable .

While Rice Valley plots their growth strategy based on Thailand, in Japan it aims for the organization of the business continuity management system (BCMS) as a model for the growth strategy of enterprises. Rice Valley has been selected as a case of “Japan-Thailand Otagai-Sama

growth strategy –a Model business of projects that organizes domestic and overseas (Thailand's) clusters which can cooperate with each other and promotes both growth strategy and business continuity". It has been adopted from "A model project that promotes business competitiveness by a new standard of management system about business continuity and its practical use ", planned by the Ministry of Economy, Trade and Industry (METI).

Figure 9-11: Business continuity taking advantage of both countries

Figure 9-12: Strategies of the development in the Dawei area

Establishment of a "Profitable BCMS (business continuity management system)" coupled to management strategy (management innovation) and supporting programs for certifications is under development contra Rice Valley. As business continuity projects tends to end up being a pie in the sky or a money pit-that is to say, a low-return project, Rice Valley aims to make BCMS reliable by establishing a concrete system and acquiring certifications (ISO 22301 etc.) (**Figure 9-13**)

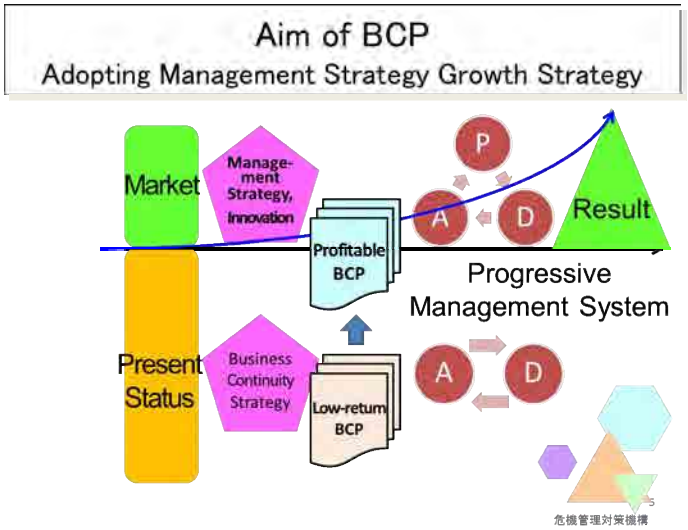


Figure 9-13: BCP based on the management strategy and the growth strategy

9.2 Analysis and Speculation on Best Practice

The reasons why Rice Valley is favorably proceeding as a best practice of the "Otagai Project" can be described from the following points;

(1) Thailand has been the center of the rice market in the world, and both Japan and Thailand can share same objectives.
(2) Triggered by disasters, the project started up from a cooperation of clusters consisted of private companies.
(3) A complementary relationship, based on utilizing mutual advantages of both Japan and Thailand, has come to effect.
(4) The shortness of the supply chain enables cooperation to be implemented easily, and the achievement to be visible.
(5) There are talented personnel who can cut into the interactive linkage and promote changes in the consciousness of concerned parties to support the project strongly.

Rice Valley originally started up as a scheme of mutual support between Japan and Thailand to maintain rice supply in case of unexpected disasters. Now, continuous development and worldwide market expansion of rice products are the main purposes for the clusters in both countries.

There is a background that both countries may easily share the same objectives; Both countries have a sense of crisis that is necessary to breakthrough. In Japan, the consumer market is reducing because of population decrease, and Thailand has a risk to become entrapped within semi-developed countries.

It is necessary for both countries not to compete, but to share the market and work out their strategies. One of the factors of Rice Valley's successful progress is their ability to make a modest analysis of the current situation by themselves. Being able to recognize both strong and weak points from the analysis, leads them to mutual complement.

It is difficult for small and medium-sized enterprises in Japan to advance into the overseas market. However, cooperation of clusters composed of the companies that are eager for innovation and growth can be an effective strategy to resolve the difficulty. (**Figure 9-14**) As the supply chain of the rice industry is short, the objective to become the "sextiary sector" in agriculture gives further impetus to the cooperation of clusters.

To establish such a relationship between the cooperation, talented personnel are necessary. In Rice Valley, Mr. Hosotsubo, who has leadership and personal connections with the government of Thailand, plays a truly significant role. He is working on the promotion of changes in the consciousness of concerned parties in Niigata, and what is more, he proposes the significance of the concept of growth strategy in business continuity from the management point of view. As for establishing the "Otagai Project", not someone just to coordinate, but someone who can perform directly in the center of project is essential.

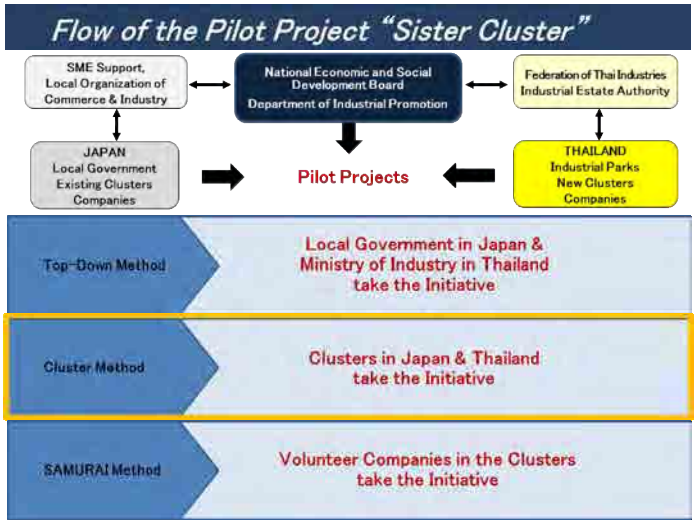


Figure 9-14: Three methods of the support

9.3 Situation of Other Pilot Projects

Aiming at the cluster cooperation with Thailand, although the Rice Valley project was described to the preceding clause, many projects are progressing as the Otagai Project all over the country in Japan. Since the Samurai meeting was inaugurated in June, 2013, exchange and a share of information are progressing among self-governing bodies. And sharing of know-how has been begun, and cooperation of the small and medium-sized enterprises beyond the frame of the local self-governing body has also been expected.

9.3.1 Other Cluster Projects

Since the spring of 2013, among many Prefectural Governments, the project which aims at the advance into Thailand as part of the Otagai Project is increasing. **Figure 9-15** is the Japanese map which plotted the on-going project. Precede the start of a project, the self-governing body which exchanges MOU (Memorandum of Understanding) with Thailand Ministry of Industry: MOI, is also conspicuous. The first one is Saitama Prefectural Government. And Yamanashi Prefectural Government, Tottori Prefectural Government and others continued after Saitama.

9.3.2 Network of Researchers of university

There is a limit in digging up of a cluster by information power of local self-governing bodies, and the help by a researcher of University is indispensable. Then, to connect the young researcher who makes a speciality the promotion measure of small and medium-sized enterprises in Japan by network, Director Fujioka of Chulalongkorn University Sasin Japan Center took the lead, and the first meeting was held on December 6, 2013. Otagai Study team also participated. Advisor Matsushima of NESDB explained the meaning of the Otagai Project and asked for cooperation.

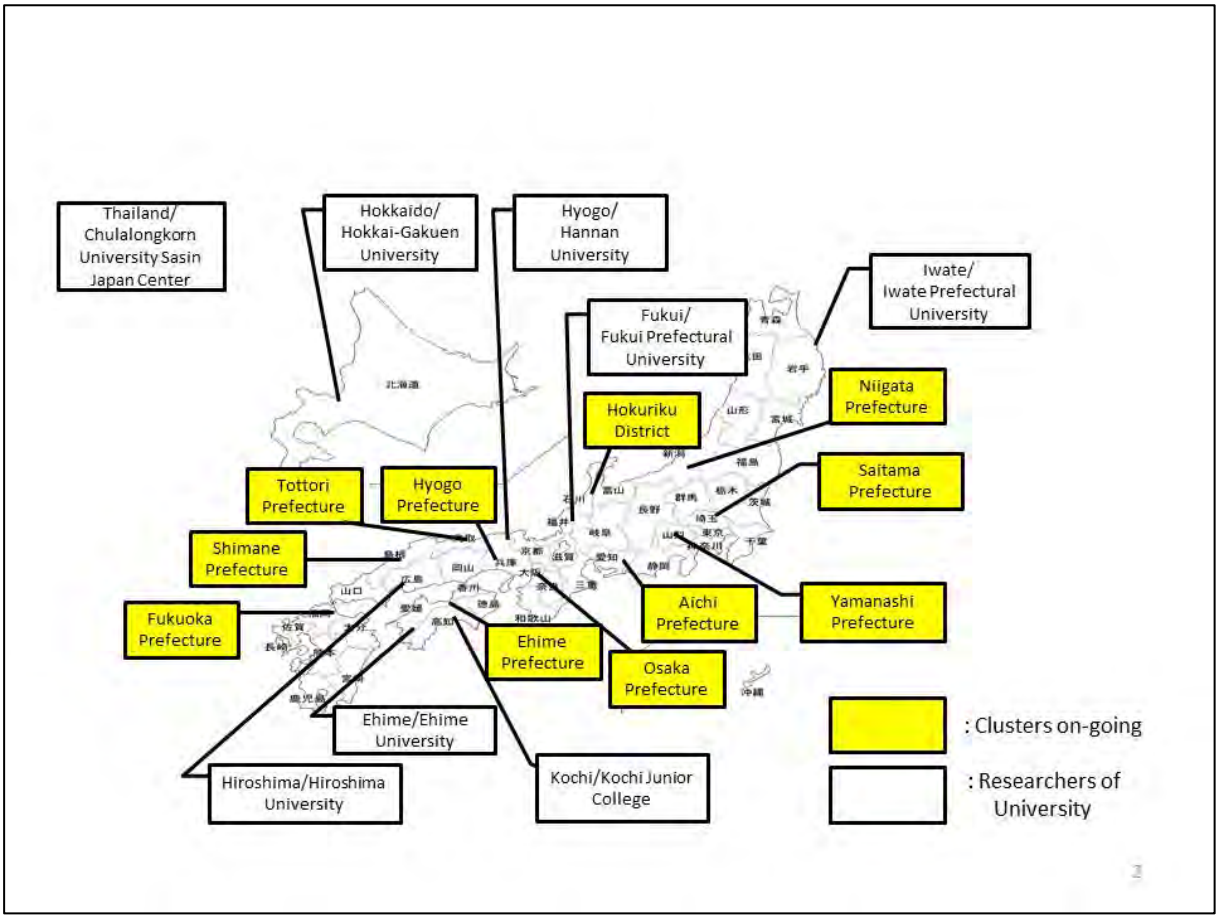


Figure 9-15: The main clusters and university researchers network (Prepared by Nikkei BP)

Chapter 10:
Support for Business Expansion from Japanese Companies in Thailand

10.1 Actual Conditions of “Unused Space Leasing Companies” and Their Types (Task 4-2)

The major objective of this project is to develop a support measure for potential Japanese SMEs to expand their businesses in Thailand in the form of a business cluster. To start business overseas may be difficult for individual companies both mentally and financially. However, if multiple companies focusing on the same goal get together and cooperate, barriers to expand business in Thailand and countries along the Mekong would be substantially lowered.

When a manufacturer starts business in any form in Thailand, the following would be the general options: 1) Buying own land outside the industrial complex, 2) Buying land within the industrial complex, and 3) Renting a factory provided by the industrial complex. To buy land at the very beginning of a new business is impossible with the financial power of SMEs. The most practical and general option would be “renting a factory provided by the industrial complex.” If the business needs to rent a vast space or long-term operation is promised, it may be cheaper to buy land, which would be highly unlikely for SMEs.

Fees for rental factories vary over a wide range. According to Yamazen Thailand, “the lowest monthly rate would be 40,000 baht per 1,000 square meters (=40 baht/square meter/month).” A monthly rate is generally 200 baht per square meter; however, some people say that the price has surged over the past year. For example, Ota Ward, Tokyo, and Thai-based Amata Corporation established a rental factory OTA TECHNO PARK (OTP) within the Amata Nakorn Industrial Estate, the high-end industrial complex in Thailand, for companies in Ota Ward. OTP charges 64,000 baht per unit (320 square meters) for the monthly rental fee excluding expenses for common interest. The rate for one square meter is exactly 200 baht. An officer from AMATA SUMMIT READY BUILT managing OTP stated, “OTP has not increased the rent to make it easier for SMEs to move in. From a commercial viewpoint, it takes a long time to make a profit.”

10.1.1 Unused space leasing companies and their usability

What comes into the picture now is the presence of unused space leasing companies. The name and idea appeared during a meeting with local communities held in Tokyo on April 8, as a trial prior to “Local Key Person Conference (Samurai Conference).”

“People say there are some companies who start business renting a part of a factory or an office owned by their business partner so they could easily withdraw from the business in case they fail.” “If there really are such unused space leasing, they could lower the barriers to start a new business in terms of the cost, as the rent would be cheaper than the ready-made rental factories the industrial complex provides.” “Why don’t we do some research about such unused space leasing companies?”…

To be more specific, the unused space leasing companies are Japanese companies who have already achieved considerable success in Thailand and who are willing to rent out a part of their properties to SMEs who also intend to expand their markets to Thailand in the future. “It is a very beautiful story that successful Japanese companies give a helping hand to other Japanese trying to enter the market in Thailand,” said some members from local communities. The local survey conducted by a group of researchers in Thailand throughout the months of May and June revealed the existence of such unused space leasing companies.

Among individual companies the researchers actually interviewed, the following three companies established a manufacturing base in the premises of their unused space leasing when they first started their businesses in Thailand: Ezaki Industrial, a motorcar oil, drain, pipe manufacturer, which is currently a tenant of OTP; Nambu, a mold hydraulic cylinder manufacturer, which “graduated” from OTP in 2011 and established its own factory nearby; and Koyama Barinder, a manufacturer of automatic burring machines for machinery, which opened its own plant in Korat (Nakhon Ratchasima)

in 2012. (Ezaki Industrial called off the rental just before moving in.)

For example, Nambu, which has grown to 60 employees and now possesses its own plant, started business in 2002 renting a space of 300 square meters within the premises of an oil retailer in Amata Nakorn, where they installed manufacturing machines and operated for 4 years. Koyama Barinder also began operation renting a corner of a factory owned by a subcontracting company of the head office in Japan. The subcontracting company entered the market in Korat, Thailand, about 16 to 17 years back. Nambu has now established its own factory nearby. There is no doubt that, for every company, renting the work space is the most effective option when starting up a business in Thailand.

In fact, there is a company that has chosen "unused space renting" as its first move into Thailand. It is a Japanese automobile harness manufacturer with 40 employees (sales revenue: 150 million yen).

The company's objectives behind business expansion into Thailand are 1) establishment of more secure employment for its employees (domestic product development and overseas manufacturing can bring more orders to domestic factories as well), 2) continuous growth of the company (there is potential for growth in overseas countries even if there is little domestically), and 3) seeking new clients (overseas companies are more eager and flexible than their rigid Japanese counterparts). Very concise.

It was Thailand that the company selected after careful and thorough consideration because of the growing market, well-maintained infrastructure, presence of many Japanese companies, agglomerated automobile industry, and good living environment. In addition, the mindset typically shared by SMEs to make things work with "limited human resources, materials and money," minimize risks and makes for a frank decision that what is needed is not an "own factory" but a "production base." All these factors led the company to the decision to rent an unused space from a Japanese company in Thailand with which it has established a solid relationship over the years.

Nothing can be done without confidence: "SMEs like us do have genuine technologies that can contribute to the latest technical capabilities in Thailand. We can cope with the limited production of a wide variety of products. Furthermore, we consider people as our most valuable assets" (the company's president). The company is going to commence production under the rented eaves of the Japanese manufacturer in Thailand by the end of 2014.It is quite tough to conduct an extensive investigation of “unused space leasing companies” without hoping for a fortunate break. After a thorough discussion between the group of researchers and Mr. Matsushima, the Advisor for Competitiveness in the Sub-region, who serves as the Thai counterpart of this project, we decided to organize a seminar, as a means of investigation, on July 30 in Bangkok in cooperation with the Japanese Chamber of Commerce, Bangkok (JCC), where we ask the JCC member companies whether they are interested in the unused space leasing business. The seminar will be co-sponsored by the Thailand Board of Investment (BOI) and JICA Thailand office.

During local research, some JCC member companies in Thailand expressed their concerns, stating, “If some Japanese companies actually expanded their businesses in Thailand through the Mutual Cooperation Project, they would end up becoming a threat to the existing companies.” On the contrary, by looking at unused space leasing as a new service that the existing companies provide, we can expect there will be new companies who are willing to be involved, seeing it as a safe business opportunity.

However, there are still some issues technically ambiguous relating to unused space leasing, which will be discussed in detail in the next section, 10.2.

10.1.2 Current state of the Supporting Industry

Local research shows that, in addition to expectations for the unused space leasing companies alone, increase and development of "the Supporting Industry" including the unused space leasing companies in a broad sense, may lead to strong support for SMEs in terms of their business expansion.

Apart from rental factories such as OTP, established by a local community, based on local research, the supporting industry is classified as follows: 1) Voluntarily emerging businesses of ordinary companies (Spirit of noblesse oblige for a successful company: Korat Matsushita), 2) Helping SMEs without a plant in Thailand achieve an integrated system of production from parts to finished products (Expansion of build-to-order manufacturing: Nissin Electric Thailand), 3) Providing existing customers with "a space" and support for start-up (Customer retention: Citizen Machinery Miyano), and 4) One-stop service in plant construction for small manufacturers expanding their businesses in Thailand (Expansion of product sales: Yamazen Thailand).

Hiroshi Matsushita, Managing director, Korat Matsushita

Figure 10-1: Vacant space that Korat Matsushita intends to rent out as a "unused space leasing" (Prepared by Nikkei BP)

Now, let us introduce Nissin Electric Thailand, a subsidiary in Thailand of Kyoto-based Nissin Electric, who, as we discovered through an interview, seem to be the ultimate form of the unused space leasing described above.

The parent company based in Japan is a major manufacturer flourishing mainly in the power industry, providing power companies with electric equipment and instruments. However, the subsidiary in Thailand is entirely different. Their transactions with the parent company account for only 6.8% of sales. The core business of Nissin Electric Thailand is "the Supporting Industry Business" in which they deal with everything from mass production of parts and devices to packaging and shipping, in accordance with specifications designated by the client, which accounts for 56% of their total sales (See **Figure 10-2**). "All the visitors from Japan making inspections always look very surprised to see how different we are from our parent company," said President Hideki Amagai.

Their supporting industry business includes, in descending order of sales-size, the equipment and components business (38.1%), the packaging business (6.7%), the PVD coating business (6.5%), and the CS maintenance business (4.0%). The core equipment production business, started in 2006 according to an idea generated by Amagai, had grown to the company's core business by 2011.

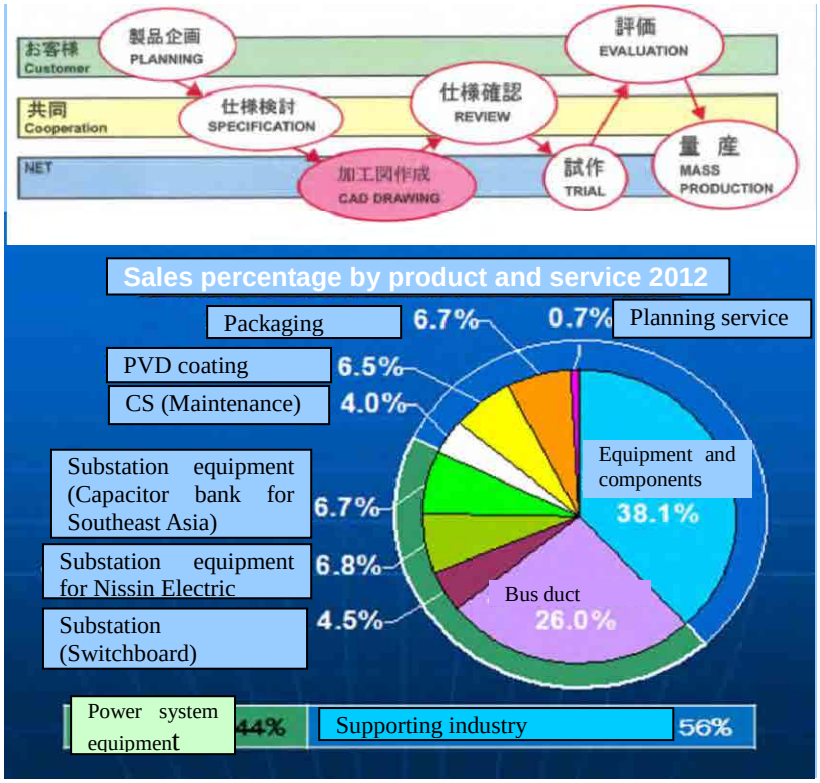


Figure 10-2: Roles of Nissin Electric Thailand and clients (Top), Sales percentage by product and service (Bottom) (Prepared by Nissin Electric Thailand)

The business flow is as shown in the upper half of **Figure 10-2**. Put simply, the client only needs to plan a new product and make an evaluation; Nissin Electric Thailand takes care of the rest. Therefore, "95% of our 70 existing clients are Japanese companies, most of which have no production facilities in Thailand. If a client sends to an engineer to Thailand with nothing else but his/her personal belongings, we will take care of the rest. We can ship finished products directly to the client and we would also be happy to offer assistance in selling them," which is amazing. However, "the unused space leasing" is classified as a service business which Nissin Electric is not approved for as in terms of the business form. Thus, they provide the unused space leasing service for the purpose of customer service, simply as part of build-to-order manufacturing. "There are many other companies engaged in build-to-order manufacturing in Thailand. However, it is only our company that provides product development and planning support," said Amagai. Nissin Electric Thailand owns bonded warehouses, and therefore, there is no need for them to pay import duties. They call this business form the "Thai Model" and have applied it to their plant in Vietnam.

Transaction forms also vary depending on the client's needs. Finished products may be shipped to destinations not only within Thailand but also directly to a third country upon request. In fact, 35% of finished products are shipped to destinations within Thailand and 65% are to the rest of the world. Recently, the company has frequently received inquiries regarding finished products directed to China and Southeast Asia. It is normally the manufacturer, the outsourcing contractor, who is responsible for collecting fees for the finished products directly from the client. Amagai also says, "Some Japanese carmakers instruct their subsidiaries specifically to place orders with Nissin Electric," from which we can assume the level of their technology is highly advanced.

Some people might say that a business form which prevents Japanese SMEs from entering the Thai market would not bring any benefits to Thailand. However, that concern would be entirely off the mark. Nissin Electric has installed new facilities and has proceeded with construction of new plants upon clients' requests, which are nothing else but genuine investments in Thailand.

We also interviewed two new companies running “partial leasing business” during our third survey in Thailand (July 28 to August 3, 2013). One is V.I.T. Co., Ltd. jointly established by SMEs in Nagoya. It started when TEKNIA (Nakagawa-ku, Nagoya-shi) relocated its plant, which its current chairman built in Thailand eight years ago, to Pinthong Industrial Estate for expansion due to business growth, and called for tenants among the Association of Small Business Entrepreneurs in Aichi Prefecture to turn the old plant into a rental property. As a result, Fukui (trading company) and TECHNO TAKAGI jointly established V.I.T. on March 15, 2011. The number of initial shareholders was 10; later increasing to 18, with some companies joining from outside Nagoya. President Ito said the number is likely to reach about 30 within this year. The shareholders can be from any industry sector.

Inside V.I.T. plant (600 m^2). Special machine tools, etc., are brought in by tenants. V.I.T. is a support company jointly established by SMEs. In the photo is President Yuji Ito

Figure 10-3: Inside V.I.T. plant
(Prepared by Nikkei BP)

The first shareholders each provided 300,000 yen as capital and paid an annual rent of 600,000 yen. The second shareholders needed a total of 1.55 million yen, including 650,000 yen of additional commission and royalty. Both shareholders only have to pay 600,000 yen per year from the second year onward. Other costs are calculated on an actual basis.

The plant and the office measure 600 and 200 m^2, respectively (registered size is 825 m^2 in total). The rent is 120 baht per m^2. V.I.T. is planning to start constructing a larger plant on the site in Pinthong 2 owned by SIAM TEKNIA by the end of this year.

V.I.T. supports financing companies as a business. It is, according to President Ito, an “all-round trading company” that leases spaces, machines and sometimes human resources, and is registered as a service company instead of a manufacturing company. Due to different requests by different companies, its operations vary in accordance with the customer’s situation.

System EYES, for example, requests V.I.T. to recruit Thai workers to assemble and install products in Thailand after winning contracts (related to electric control panels) in Japan. Deodorization equipment manufacturer Kyosei Air Techno commissions V.I.T. to act as a trading company and pays commission. Aobagiken requested V.I.T. to send an employee to Japan for training with a view to building its plant in three years in Thailand. Aobagiken will employ the trainee when he finishes the training. Wado only borrows part of the plant, while V.I.T. employs the people to work there. In this manner, the form of its operation varies by case. Additionally, a TEKNIA group company (SIAM TEKNIA) does the administration, labor and other related operations, and Fukui acts as the contact company for V.I.T. in Japan.

V.I.T. aimed for sales of 10 million baht in its first year, 50 million for the second and 70 million for the third. In fact, it only logged a loss until its second year, and started to record monthly profits in its third year. Six-month sales were slightly less than 30 million baht this year. Sales from financing companies accounted for 30% of overall sales, including 20% from System EYES. In other words, orders from AISIN and many other automobile-related companies, which are not financing companies, provided the remaining 70%.

Another strength of V.I.T. comes from its approximately 40 local suppliers. It can also be characterized

by its committed localization policy that it would never use Japanese companies “unless in special circumstances such as quick delivery.” The company even obtains competitive quotes depending on the job, listing contractors by area of expertise. It currently employs 18 Thai workers for System EYES.

The other company is the Osaka-based YOSHU Group. The parent company, YOSHU Tanpan Sangyo, was established in Yawatahama, Ehime Prefecture, in 1933 and moved to Osaka after the war due to the lack of metals in rural Japan. It develops business focusing on (stainless) plate cutting and processing. The company processes and offers the metal in stock in accordance with customer needs. It also delivers its products using its own delivery service. The number of items dealt with in Japan has reached 20,000. Its catchphrase is “A department store of stainless steel materials.”

YOSHU Tanpan Sangyo has operated for three generations; its president, Shingo Mori, and President Hayato Mori of Mori Kosan, the holding company of the YOSHU Group, are related. Mr. Hajime

Upper is President Hayato Mori of Mori Kosan (right) and President Hajime Kitahara of Seiken Kougyo. Their office is located in a state-of-the-art building (where an Okura Group hotel is also located) that was awarded the highest platinum rank by LEED, an environmental performance evaluation index

Figure 10-4: YOSHU (Thailand) office (Prepared by Nikkei BP)

Kitahara is the president of Seiken Kougyo, a YOSHU Group company; however, there is no capital relation between the two companies. Both companies, which have helped each other’s growth through “a longtime connection between people,” position themselves as strategic companies of the YOSHU Group in Thailand. Considering “there is no future just by continuing the existing business only in Japan,” they decided to advance into Thailand. “It makes no sense if we do the same thing as in Japan. We came to Thailand to explore everything new from suppliers to sale destinations,” explained President Kitahara.

Seiken Kougyo is an expert in stainless round bar grinding. President Kitahara has a friend in KANNETSU, a leading plastic mold cooler manufacturer, in Singapore, which advanced into Thailand 17 years ago and started partial leasing business. Seiken Kougyo and Mori Kosan entered that office as tenants. This is a rare case in which “everything stemmed from friendship without a capital relationship.”

The office in which Seiken Kougyo operates is a state-of-the-art building in Thailand (left). A firm founded by a company that had an affiliation with the president of KANNETSU to support enterprises advancing into Thailand also has its offices located in this building, part of which is leased to these two Japanese companies. Both refer to themselves as YOSHU (Thailand) in Thailand.

They set up their base in Thailand in February and started business in June. As for the plant, which is the main purpose of advancing into Thailand, President Kitahara said, “We were planning to rent part of the KANNETSU plant at first, but started to receive a lot of inquiries after entering Thailand. We are now considering renting a 1,000 m^2-class plant by ourselves and dividing it into sections to lease.” The case is once again unique, considering the company renting another company’s property is starting to lease its own property.

YOSHU – gradual transformation from a tenant to a company that can provide support to other companies for business expansion into Thailand

Although its name has already been mentioned in this report, KANNETSU is the supporting pivot for the business development of YOSHU Tanpan Sangyo and Seiken Kougyo in Thailand. Mr. Tsutomu Araki is the second-generation of the founding family (the current president of KANNETSU) and founded a base in Thailand in the late 1990s. Having managed to withstand the 2008 financial crisis triggered by the Lehman Brothers bankruptcy, the company expanded its business under a clear policy of "Let's be a one-stop shop that can do anything. If there is something we cannot do, we can find someone who can." As a result, sales tripled compared with those before the Lehman Shock.

With his motto – (We) Will Grow Together – President Araki founded "WiLLGROW," a company whose services are to support business expansion into Thailand. As President Araki and President Mori happened to be friends from childhood, he suggested President Hayato Mori of Mori Kosan and another acquaintance, President Kitahara, move into his office building in a prime location in Bangkok, Thailand. It is a "lease on some space in the main office" from the viewpoint of WiLLGROW President Araki, while it is a "rental of some space in the main office" from the viewpoint of President Mori and President Kitahara.

This is not the end of the story. WiLLGROW is a company founded by President Araki of KANNETSU with the objective of providing support for business expansion. Mori Kosan, which moved into the office as a tenant, has now become an indispensable member of the business-expansion support services. "President Mori understands legal issues very well. Because WiLLGROW can handle both accounting and legal administration, the companies advancing into Thailand can focus on their own business. After all, companies can earn trust only through their history in their business speciality. I want them to focus on their own business without worries, by allowing us to handle other issues" (President Araki). In such a beneficial environment, YOSHU is also transforming itself from a tenant to a company that can provide support to other companies with business expansion intentions.

Figure 10-5: President Tsutomu Araki of KANNETSU

10.2 Commercialization of Support for Business Expansion and Related Issues

As described above, there is possibility that utilization of unused space leasing leads to an important breakthrough for a group of SMEs who intend to enter the market in Thailand. However, as the unused space leasing business is not manufacturing but leasing, it seems that, according to the Foreign Business Act in Thailand, a lender basically needs to be a Thai company. In other words, the investment ratio of the Japanese company should be 49% and lower. There are also many other issues that the lender and the tenant both need to address, including regulations on benefits prescribed by the BOI and matters relating to work permits.

Although unused space leasing seems most practical as part of technical cooperation between manufacturers, what the Thai government makes of “license fees” and “technical assistance fees” incurred through technical cooperation remains somewhat uncertain. **Figure 11-6** lists examples of these kinds of issues. When an officer from the borrowing company is sent on a temporary transfer basis, there is virtually no “tenant.” In this case, we assume that only issues relating to “the lender” (not a real “lender” as there is no actual lending involved, used only for descriptive purposes) need to be resolved.

Figure 10-7 summarizes the unused space leasing business from the perspective of lenders; that is, whether leasing is legal or not. What can be assured is that there will be no problems if the lender is a local Thai company (with 51% Thai capital or more). On the other hand, if the lender is a Japanese company in Thailand and operating as a 100% manufacturing business that is exempt from application submission to BOI or IEAT, leasing is not possible. In this case, the only option is the aforementioned "temporary transfer basis" (temporary posting is allowed by any type of lender).

However, in the case of temporary postings, as a company must be well aware of money flow. A tenant is supposed to be sent to the lender company to manufacture products. Therefore, strictly speaking, the products belong to the lender and the tenant is not at liberty to trade the products. Furthermore, money basically flows only from the lender to the tenant on the pretext of expenses for temporary assignments. Without close examination into the matter to understand why it should be a temporary posting, you will see 'the tail wagging the dog'.

Another issue that needs attention is the lender's voluntary provision through good intentions. Whether it is charged or free, service business is still regarded as leasing business and is subject to the Foreign Business Act. This stems from a common understanding that "companies seek profits and thus never fail to make ends meet", and can cause a big problem with the Thai tax authority. Thus, the bottom line is to start as a business from the beginning.

If "under-the-eaves business" is the choice in spite of these obstacles, it may be possible for the lender and the tenant to discuss and found a local Thai company and figure out a way through this company. However, it may be less profitable without careful consideration into the nature of the business.

Figure 10-6 and **Figure 10-7** were prepared after a lot of discussions with a Japanese lawyer based in Thailand. However, the truth is that, according to NISHIMURA & ASAHI, “You should be careful as there is no guarantee that you will be fine even if you have met all the requirements. Every issue needs to be resolved basically one by one in order to eliminate risks.” Therefore, it is strongly advisable to proceed with the research carefully, keeping in mind the lessons from forerunners that there is no “absolute guarantee of safety” in Asia.

One more thing, which is crucial in this regard, is the personal relationship between the borrower and the lender. Everyone we talked to about this project emphasized that nothing would go right with business connections alone. It is obvious that a personal relationship is the most basic of basic skills. If the presidents from both companies are connected based on mutual trust and the lender is a local Thai company, things develop quickly and the early establishment of a business becomes possible. Temporary cost reduction when founding a base in Thailand is not the only merit of under-the-eaves business. Through cooperation to find new clients or share the sales outlets by the lender and the

tenant, both can expand their own businesses, which is the essence of under-the-eaves business. Everything starts from here.

	Business forms of unused space leasing s		
	Case 1: A Thailand-based manufacturer rents out as part of technical cooperation.	Case 2: A Thailand-based manufacturer rents out for a fee as part of their business.	Case 3: A Japanese non-manufacturer in Thailand rents out for a fee as part of their business.
Issues and points to remember	●The lender basically satisfies all the requirements as unused space leasing is part of relocation of factories. ●The above applies if the lender is a Thai company. (The Thai capital ratio is 51% or more.) If the lender is a Japanese company, how to comply with regulations imposed by the BOI and the FBA should be discussed. ●How ”license fees” and “technical assistance fees” incurred through technical cooperation are treated remains a little ambiguous since the perception of intellectual properties is still indefinite in Thailand. ●If the lender sends Japanese officers to work in Thailand, requirements for obtaining a work permit should be satisfied.	●The lender needs to be approved as a service business and its Thai capital ratio should be 51% or more since unused space leasing is classified as a leasing business. Whether charged or free, it is regarded as a service business. ●It is necessary to check the information in the application that has been submitted to BOI, etc. If unused space leasing largely changes the lender's main business, it will probably be a problem, though it depends on the decision of the administrative officer. ●On the other hand, smaller businesses, the tenants, will be able to satisfy requirements by applying for approval of a manufacturer specified in the FBA. However, issues relating to obtaining a work permit should be discussed.	●The lender being a service business lowers the barriers in this regard. However, “a machinery trading function” and “a unused space leasing = leasing” fall into different business categories although they are in the same service industry. Some sort of application would be required. ●As in Case 2, it does not matter whether it is free of charge or not. ●Same as Case 2, the tenant should resolve issues relating to compliance with the FBA and obtaining a work permit.

Figure 10-6: Different cases of unused space leasing and issues to be discussed
(Prepared by Nikkei BP)
※ Information listed above is merely an example based on assumptions. Practical advice from a lawyer must be sought in individual cases.

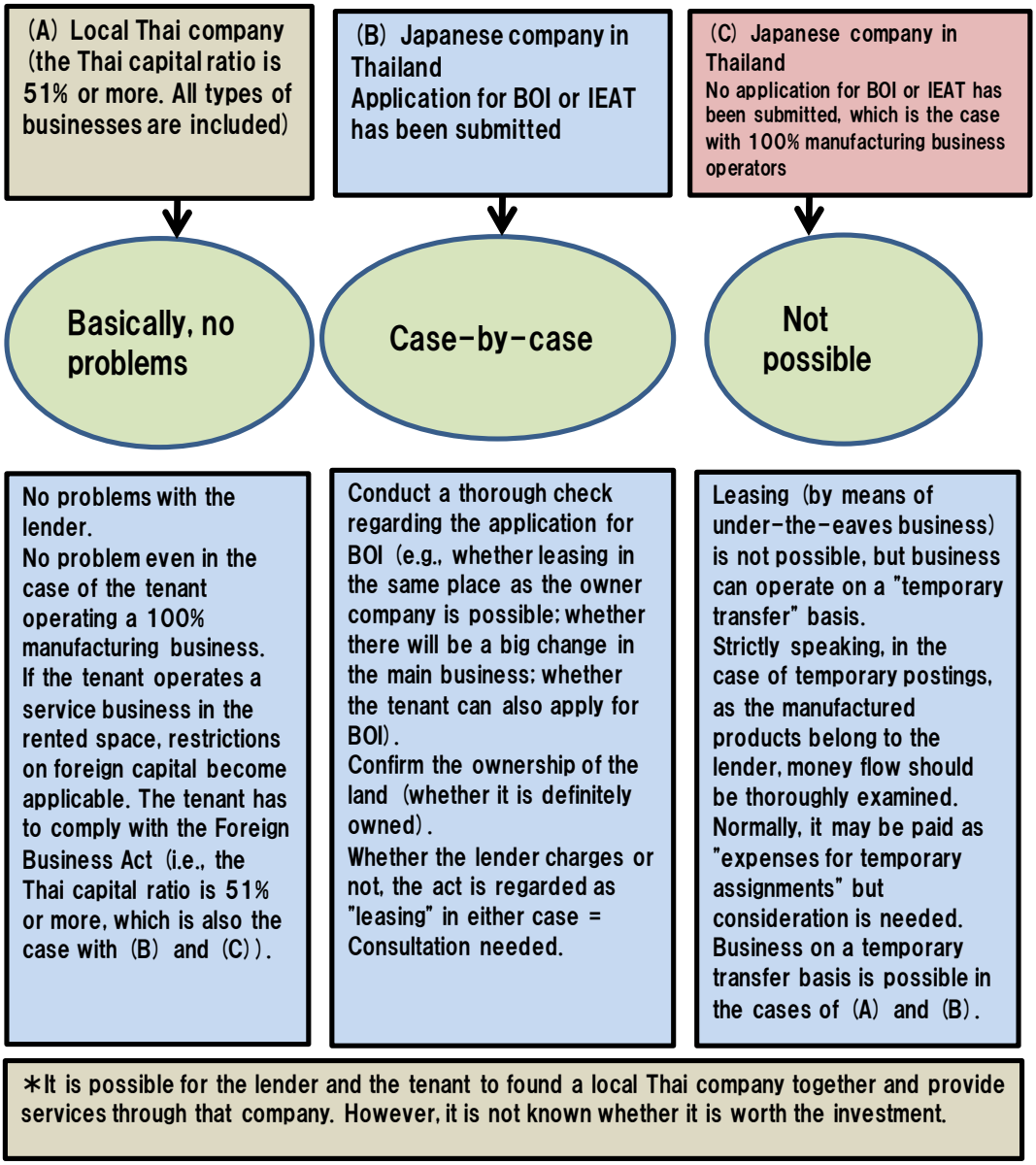


Figure 10-7: Points to remember regarding unused space leasing according to the status of the lender (Prepared by Nikkei BP)

Chapter 11:
Securing and Development of Coordinator and High-level Personnel

11.1 Importance of Coordinator and High-level Personnel

In the previous research interviewing local government officials in Japan who have promoted business embarkation in Thailand and the Mekong region, it was found out that it is very important to develop human resource as a key measures in order to construct a platform for the business expansion of SMEs. In particular, there are two types of human resource in need to develop and retain; coordinator and high level personnel (Thai candidates for top management and factory manager in the future). In this chapter, we will enhance an understanding of the state of coordinator and high level personnel in Thailand and seek effective measures to steadily retain and develop these two human resources.

11.2 Securing and Development of Coordinator (Task 3-2)

11.2.1 Introduction

It is important that coordinators externally support Japanese SMEs who develop business in Thailand. Management support here means a broad and various functions which includes law, accounting, HRM and Marketing. In particular, setup of company, search of local partner, search of land to build up a factory, accounting service (bookkeeping and tax claim etc.), personnel management, and support of sales force are included.

Management support is usually done by not only legally qualified person such as lawyer and CPA but also veteran who used to work in Shosha (Japanese trading company) as sales manager or admin manager and manufacturing company as factory manager or engineer because of each expertise. It is not same quality and single fee among coordinators. As there are few studies and guidelines published that thoroughly explain the state of coordinators, it is unclear for Japanese SMEs to understand how to use management support services in Thailand.

In this research, coordinator is defined as a person who can support Japanese SMEs entering Thai market. This research uncovers the state of coordinators. The outcome of this research will be used for decision making of Japanese SMEs that considers entering Thai market.

The approach of this research put an emphasis on interview with the forefront coordinators rather than just a literature review of second hand materials. Semi-structured interview method will be employed as we roughly design our questionnaire in advance and cultivate our questions in collaboration with interviewees.

11.2.2 Purpose of and Objective of this research

(1) Purpose of this research

In this research, we will explore definition of coordinator, size of the industry, its trend, and the way how to identify good coordinators.

(2) Definition of Coordinator

Firstly, we will define coordinator of Otagai project. According to Oxford Dictionary, ‘coordinate’ means that ‘to organize the different parts of an activity and the people involved in it so that it works well.’ And, Coordinator can be described ‘a person who can organize different parts.’ In this sense, this research defines that coordinator is an expert who can consul, advise and supervise Japanese SMEs from the establishment to the liquidation of a company in Thailand. It seems to be a broader concept of coordinator than that of business consultant who is normally acknowledged to be an expert in a specialized area. Because the coverage of coordinator is wide and deep, it is normally addressed management challenges by forming a team consisted of CPAs and lawyers rather than one alone doing. In Otagai project, one of the most important roles of coordinator is to bridge among SMEs, Thai and Japanese governments, Japanese companies and experts (see the figure below).

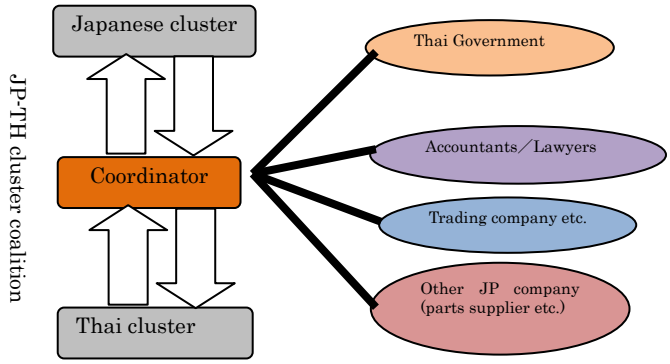


Figure11-1: Role of Coordinator（Prepared by Otagai Study Team）

(3) Objective of this research

We visited 12 places to interview including ten coordinator, a trading company who provide coordinating service and an academic institute. The way of selecting interviewees is based on our own study by investigating local paper and reputation as well as introduction of financial institutes such as Shinkin Chuo, local banks, and JETRO. All interviewees were conducted in the Bangkok Metropolitan Region. Top management of each place responded to our interview requests. All interview sessions were conducted in the period between the mid of May and the mid of June 2013.（See the table below）.

Table11-1: Interviewee list

	Company（business）	Interviewee	Date & time	Interviewer
A	Datamax (company setup and credibility research etc.）	Mr. Ariga, President（Ex Teikoku Data Bank officer）	May 16 2013, 10.00-11.00 AM	Mr. Matsushima (NESDB) and Mr. Seko (SJC)
B	AI Network (Thailand) (company setup and accounting etc.)	Mr. Inoue, CPA, President	May 22 2013, 10.00-11.30 AM	Mr. Matsushima (NESDB) and Mr Seko (SJC)
C	SME Multiconsultants (Japan) (company setup and accounting etc.）	Mr. Motoda, Advisor（Ex-JETRO officer）	May 22 2013, 2.30-4.00 PM	Ms. Ikenaga (HIDA)
D	M&A Group (company setup and accounting etc.)	Mr. Tsujimoto, Manager and his Thai colleague	27 May 2013, 1.00-2.30 PM	Mr. Miyazaki and Mr. Mori (Nikkei BP), Ms Ikenaga (HIDA), and Mr. Seko (SJC)
E	Sasin Graduate Institute of Business Administration of Chulalongkorn University, (research and consulting)	Dr. Takamasa Fujioka, Executive Director-Head of MBA Program	27 May 2013, 3.30-4.30 PM	Mr. Hanahara (CTI), Mr. Uehara (Pacific Consultants) and Ms. Ikenaga (HIDA)
F	SME Multiconsultant (Japan) (company setup and accounting etc.）	Mr. Kawashima, President	May 22 2013, 2.30-4.00 PM	Ms. Ikenaga (HIDA)
G	Nippon Consulting (company setup and BOI licensing etc.)	Mr. Inouchi, President	28 May 2013, 12.00-1.00 PM	Ms. Ikenaga (HIDA) and Mr. Seko (SJC)
H	Asahi Business Solutions (company setup, BOI licensing, accounting etc.）	Mr. Nasu (President) and his 4 colleagues	28 May 2013, 4.00-5.00 PM	Ms. Ikenaga (HIDA) and Mr. Seko (SJC)

I	Bangkok Shuho (company setup, BOI licensing etc.)	Mr. Usui, President	29 May 2013, 9.30-10.30 AM	Ms. Ikenaga (HIDA) and Mr. Seko (SJC)
J	FDI International (company setup and accounting)	Ms. Hitomi Ohmae, Consultant	30 May 2013, 4.00-5.00 PM	Ms. (HIDA) and Mr. Seko (SJC)
K	Yamazen (Thailand) (company setup and BOI licensing)	Mr. Kobayashi (President) and his colleague	31 May 2013, 9.30-11.00 AM	Mr. Miyazaki and Mr. Mori (Nikkei BP), Ms. Ikenaga (HIDA) and Mr. Seko (SJC)
L	Toyo Business Service (company setup and BOI licensing)	Mr. Umeki (President) and his 5 colleagues	18 June 2013, 9.30-10.30 AM	Ms. Ikenaga (HIDA) and Mr. Seko (SJC)

*NESDB stands for National Economic and Social Development Board. SJC stands for Sasin Japan Center. HIDA stands for Overseas Human Resource and Industry Development Association.
（Prepared by Otagai Study Team）

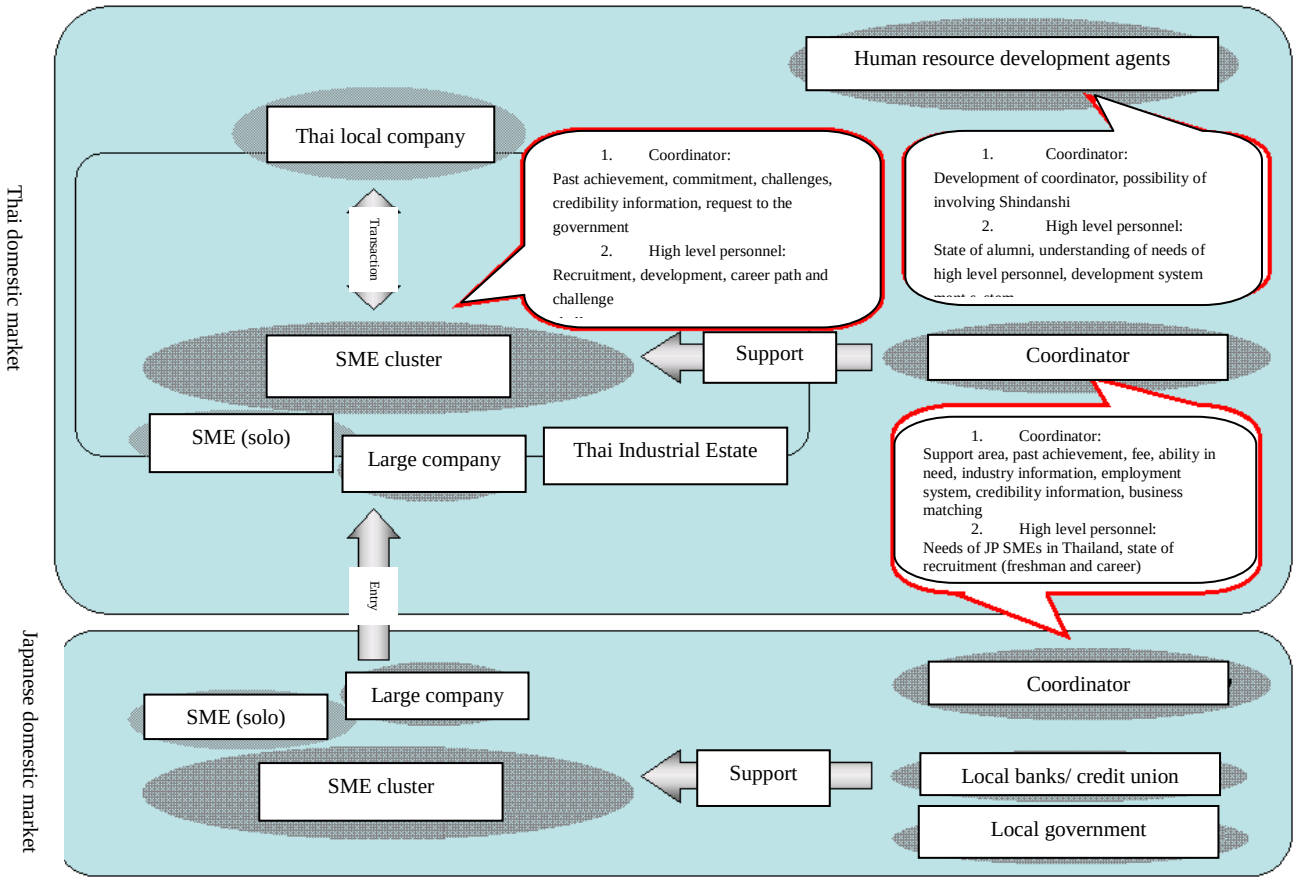


Figure11-2: “Otagai”Project Research Image of Retaining and Developing Coordinator and Highly Skilled Person for Supporting Japanese SME entering Thai Market（highlighted by red box related with coordinator, highlighted by blue box related to highly skilled person）

11.2.3 Understanding the State of Coordinator

(1) Role of Coordinator

The role of coordinator is varied from establishing company to supporting sales force. However, through the research we found out that their roles tend to be concentrated in the stage of company setup. As the process of company setup is shown in the figure below, starting with reserving company name and it will be finished with obtaining factory license. In general, in Japan, these roles are outsourced to coordinators.

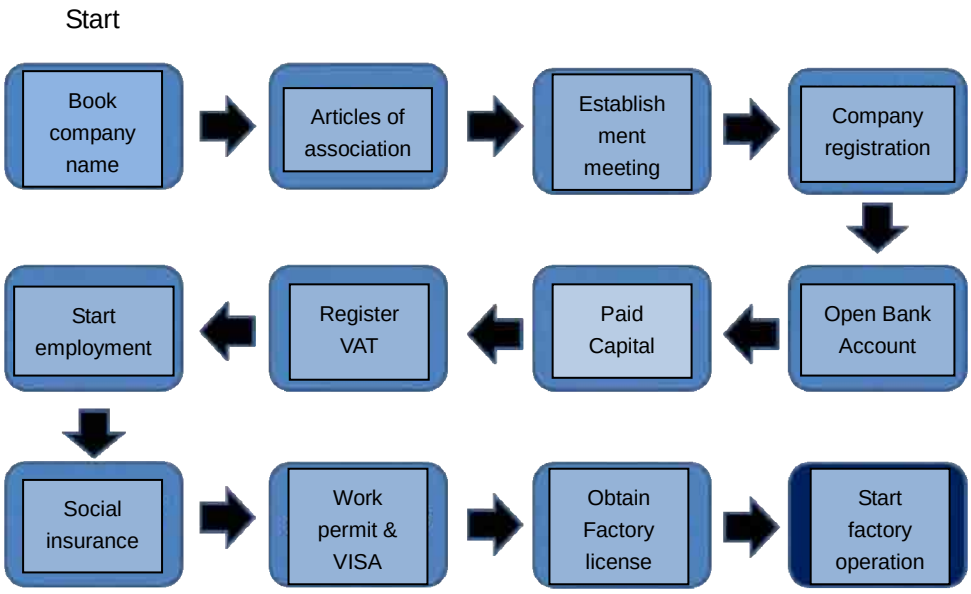


Figure11-3: Flow of Company Establishment（Source：AIN）

(2) Structure of Coordinator Industry

It is said that there are around 200 coordinators practicing in Thailand. It is uncovered in this study there should be only 10% of coordinators who operate as a company. The rest of them are rather individuals. The earliest establishment of Japanese coordinator in Thailand was in the mid of 90s and the latest case was in the mid-00s. Before Japanese coordinator existed, it was common that Japanese companies helped each other. For instance, seniors who came in earlier took care of juniors who came in later. Coordinators have many clients and most clients are Japanese. The larger coordinators have more than 100 clients. By contrast, smaller ones have a few clients only[1].

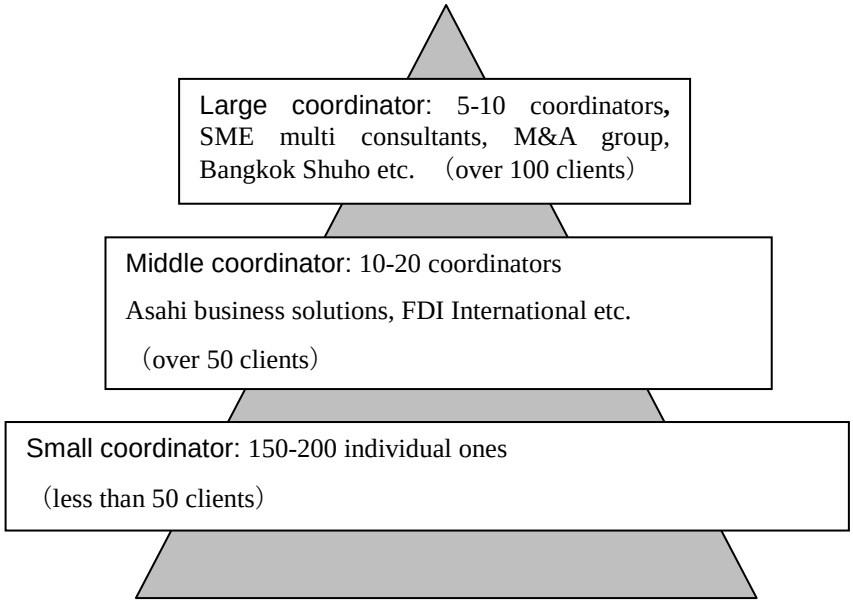


Figure11-4: Industry Structure of Coordinator（Illustrative）（Prepared by Otagai Study Team）

[1] In this report, 'client' means SMEs. Most large companies use coordinators for 6 month or 12 month. According to Mr. Kawashima (SME multiconsultants) as large companies internally have a capable legal department, what coordinators have done is completely taken by the department in the end. By contrast, SMEs have little knowledge about doing business abroad without foreign languages ability (Thai and English). It suddenly started broader tasks, therefore they need coordinator who are expected to bridge with head office in Japan. They tend to have longer relationship with coordinators.

(3) Service Quality of Coordinator and its background

Coordinators can be divided, based on their background, into four groups : 1）public organizations, 2）accounting firms, 3）trading company and manufacturers, 4）others including recruitment agency.1） includes veterans who used to work in public organizations such as JETRO and JTECS[2]. 2）includes accountants doing additional service for company registration while providing accounting service as a core business, 3）includes veterans who used to work in trading company as sales executives or HR managers with rich experience in setting up companies and clearance of company, and trading sales or factory manager who is good at production manager. 4）includes human resource recruitment, real estate agent and local bank that do additional work while doing their core business.

The quality of coordinators varies widely. There is no standardized measurement to evaluate coordinator as an industry. People tend to rely on intangible assets such as reputation and mouth of words in terms of identifying good coordinators[3].

Table11-2: Background of Coordinators

Public organizations such as JETRO and JTECS	SME multi consultant etc.
Accounting firms	AIN etc.
Trading company and manufacturing	M&A group and FDI International etc.
Human resource recruitments, real estate, and local banks and etc.	Bangkok shuho etc.

（Prepared by Otagai Study Team）

(4) Type of Support and Duration

Establishment of a company needs various tasks such as company registration and obtaining a factory license which needs different length of duration. Here are basic types of service and their necessary duration.

Table11-3: Support type and its duration

Service		Duration
(A)	Company registration	Two weeks to one month
(B)	Company registration and BOI application	One to three months
(C)	Company registration, BOI and Rental factory	Six month to one year
(D)	Company registration, BOI and New factory construction	One year to one and a half year

（Prepared by Otagai Study Team）

(5) Coordinator fee

Coordinator fee was different by type of service. Some coordinators have price lists, others don't but give invoices on request.

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[2] The organization contributes to promote economic and technological cooperation between Thailand and neighbor countries as well as contributing to the development of friendship between Japan and those countries（head office in Tokyo）。See details in this website (http://www.jtecs.or.jp/index.htm）。

[3] There are some coordinators who have no advertisement and no website, but very popular. They got clients by introduction only, word of mouth. They focus on publishing books or guidelines about Thai regulation and legal structure as they know this is the best way of marketing.

The table below summarizes all price data collected in this research. It is difficult for a coordinator to cover whole process. It tends that larger coordinators have wider coverage of service and more expensive prices.
Based on what we have collected date through interviews, we tried to summarize coordinator fee starting with 300,000 Baht until 1,500,000 Baht. It includes company registration and factory licensing and so on. Initial payment should be for 20-50% of total fee done by check. The rest of payment is done after the project successfully completed.

Table11-4: Comparison of coordinator fee

Service	Price (Baht)
Advance consultation	0-100,000
Company registration	50,000-100,000
BOI application	100,000-200,000
Business license	100,000-200,000
VISA/ work permit	30,000-50,000
Office regulation etc.	50,000-70,000
Tax consultation/ bookkeeping	10,000-30,000

（Prepared by Otagai Study Team）

11.2.4 Challenge of Securing and Developing of Coordinators

(1) Company setup under BOI scheme

There are 5 components of the company establishment procedure in Thailand:1）to register in Ministry of Commerce, 2）to obtain a factory license from Ministry of Industry, 3）to get a permit of land usage from local authorities, 4）to register tax ID in the Tax authority, 5）to acquire VISA and work permit from the office of immigration. These steps are controlled by different authorities.
If your business is related to an industry that Thai government is eager to invite and develop, you can get BOI benefits and application to set up a company is completely done at a one place (Case A). On the other hand, service sector or a manufacturer planning with second-hand production machines in Thailand can't get BOI benefits. All process explained above are controlled by different authorities which takes long time.（Case B）[4]。
Most coordinators are good at Case A but they wouldn't like to do with Case B as it require coordinators to deal with lots of negotiations[5] with different local offices.

(2) Credibility study

It is common in Japan to do credibility study before new transaction. There are some companies in Japan good at this such as Teikoku Databank. In Thailand it is not popular that much to use this kind of service comparing to Japan. Some do their own study by utilizing their knowledge. Multidimensional evaluation must be needed with both financial and non-financial information[6]. Thai companies grasp flows of human, capital and information.
In Thailand, all companies must submit their financial statements to Ministry of Commerce every year. Everyone can check financial statements of all registered companies in Thailand by paying some service charge. In this sense of transparency, Thailand is better than Japan[7]. But many people criticize that many Thai companies do window-dressing settlement. And it is hard for us to trust them. In selecting Thai partners, large Japanese companies face little troubles because they have enough resource to carefully evaluate potential partners and they are introduced to partners by

[4] See the website linked below about BOI scheme（http://www.jetro.go.jp/world/asia/th/business/regulations/boi/）.

[5] For example, it has not fixed time in general to get electricity to your factory. All depends on the local authority. If you have good relationship with them, you can get electricity earlier than others.

[6] According to Mr. Kawashima (SME multi-consultants), Thai credibility study is similar to feasibility study.

[7] In Thailand, Corpus Co., Ltd. is the only company that can provide electrical data of company financial statements in collaboration with Ministry of Commerce, Thailand. The fee starts from 46,750 THB for 25 hours to 550,000THB for unlimited usage.

credible companies or person. However, SMEs who has no experience in doing business outside Japan sometimes face serious problems[8]。

(3) Matching with local partners

If you aim to do business matching, it is common to go to company websites, enquiry to JCC, participate in exhibition. It is rare for coordinators to take this responsibility. People say that a representative office of local banks might be suitable to do so according to Mr. Tsujimoto (M&A Group).

Finding best partners is very difficult job and almost all coordinators wouldn't do this as they see there are some risk to create troubles. Major reasons are（1）to be neutral as an advisor and（2）to keep a moral.

Sasin Japan Center (SJC) is one of a few institutes who can provide business matching services in Thailand[9]. SJC is a part of Sasin Graduate Institute of Business Administration of Chulalongkorn University. It mainly focuses on research, education and consulting for both large companies and SME. Since 2012 SJC started to collaborate with some Japanese SMEs associations, SJC organizes matching seminar and do sales/marketing support based on client's needs. In 2013, SJC held a business matching event at Sasin by inviting 25 Japanese SME from Japan while 60 Thai SME. Thailand Subcontracting Promotion Association and DIP network (a Thai SME association) collaborate with SJC.

(4) Sales support

Most SMEs are subcontractors and they have not developed sales and marketing functions because they have enjoyed having orders from assemblers or parent company.

Coordinators are afraid that technical terms used in the meeting as it is difficult to understand. It is insisted that clients should do sales and marketing activities by themselves. There are only a few institutes who can do this kind of sales support. Sasin Japan Center (SJC) is one of them. What SJC has done so far is to start list-up of potential customers and key players in the industry. SJC do doing sales activity together. It is the service totally different from other firms

Thai-Japanese SME association information exchange session

SJC, working together with Nikkei BP project team, has contributed to the development of Otagai project in Thailand. One of key roles here is to bridge between Thai and Japanese SME organizations. In the past, business matching was based on relationships between individual companies. Since 2013, SJC is closely working with Thai Subcon and DIP networks. Organizational arrangement for business matching is promoted.

A part of Otagai Project（23 Sep, 2013）(Prepared by SJC)

Group photo

Mr. Matsushima's presentation

[8] Typical troubles SMEs might face are all about Thai language. Japanese MD tend to make a sign for unknown negative facts to the company.

[9] Sasin is located in the heart of Bangkok, Thailand and the best business school in Thailand. They aim to link between practice and theory. They have research and consulting teams. These institutes support the government decision making, plan a strategy of multinational companies, craft marketing strategy, and reviewing personal evaluation scheme.

(5) Tips to identify good Coordinators

It is common that financial institutes and JETRO introduce coordinator based on requirements of clients. There isn't no trouble in working with coordinators. For example, no good performance after paying expensive fee, illegally lending name to establish a company, no BOI procedure after payment, no receipt issued after payment are reported.

It is not sure if there are reliable white list and black list, we can to some extent identify good coordinator by asking the ability of Thai, the connection of politician, and police and military. It is dangerous to choose the man pushing his idea because it might narrow down client's potential.

Appropriate coordinator is to be able to read Thai language. Or Thai can read Japanese language. It is not enough to speak Thai only. Legal work is processed by documents. Using English is a minimum requirement. Coordinator should have legal mind. And they follow compliance.

(6) Securing and Developing of Coordinator

It is important to utilize existing resource to keep a certain number of coordinator with highly skillful knowledge. In the following section, it is discussed a potential of Thai *Shindanshi* and *Shosha*.

1) Collaboration with Thai *Shindanshi*

From the late 90s to the mid 2000s, there was a project as a part of ODA that tried to introduce Japanese *Shindanshi* (national consultant system for SMEs) based on the master plan of SME development in Thailand. There are over 450 people who had completed programs by spending from several hundreds to thousand hours. This project was unfortunately not able to obtain government's qualification and it failed to develop like Japanese one. At present, most of them name consultants rather than Shindanshi.

Japanese government has recently restarted organizing a house of Thai Shindanshi by placing TPA in the core of this project. In addition, DIP and OSMEP have just organized the 1st examination in Thailand in April.

Knowing both Japanese and Thai companies and their technology, Thai Shindanshi needs to get over some barriers such as language ability and knowhow of international management. With some system to compensate weakness of Thai Shindanshi, they can play a key role as Coordinator of Otagai Project.

2) Alliance with predominant *Shosha*

Some *Shosha* with strong sales network grasp a market structure in Thailand. They know what industry operates, where they are, and what business is running. For example, Yamazen (Thailand) has over 1,000 Japanese customer accounts and Misumi (Thailand) has over 8,000 accounts of both Thai and Japanese customers.

With this effective network, it is possible to support entering companies with sourcing and marketing. While we leave a question how we can give trading companies (Shosha) benefits, there are some potentials that we can involve them based on win-win principle in being a part of coordinator.

11.2.5 Utilization of the existing resource

(1) Current State

As a result of interview researches, we found out that there is few 'coordinators' which the project team expected before the project started. In order to develop and secure a certain number of quality coordinators, it is important to utilize existing resources, to network individual resources, and to set up a coordinating organization as a role model.

A relationship among resources is conceptually shown in Figure 11-5. It is obvious that each resource has limited access to others. For example, Japanese industry sector has no contact with Thai human resource development sector. Japanese industry sector sometimes complained of the low level of fundamental knowledge of Thai students majoring in natural science. However, Japanese industry sector has never shared their idea of what ability in need in Japanese companies in Thailand with Thai side. And they have never sat down at a same table to have a discussion.

Core of coordination is how much quality knowledge you have and the way how you create new knowledge by utilizing existing knowledge.

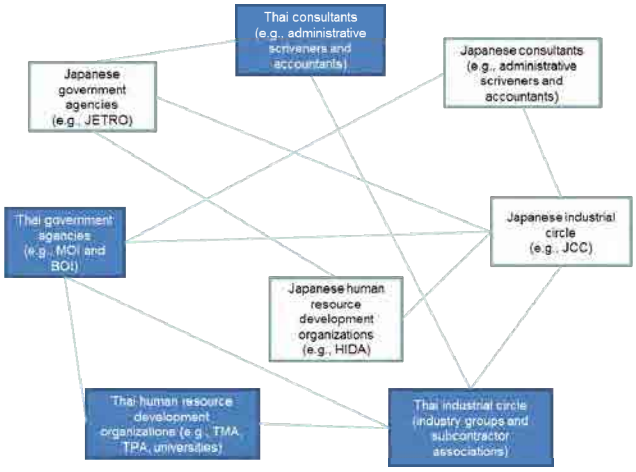

Figure11-5: The current situation（Image）（Prepared by Otagai Study Team）

(2) Networking of existing resources

It is shown a re-networking of existing resources in Figure 11-6. There is a key point that Otagai office has connection with all resources and play a vital role as hub of the network. Otagai office is expected to update the latest news and to contribute to the development of the network as a whole.

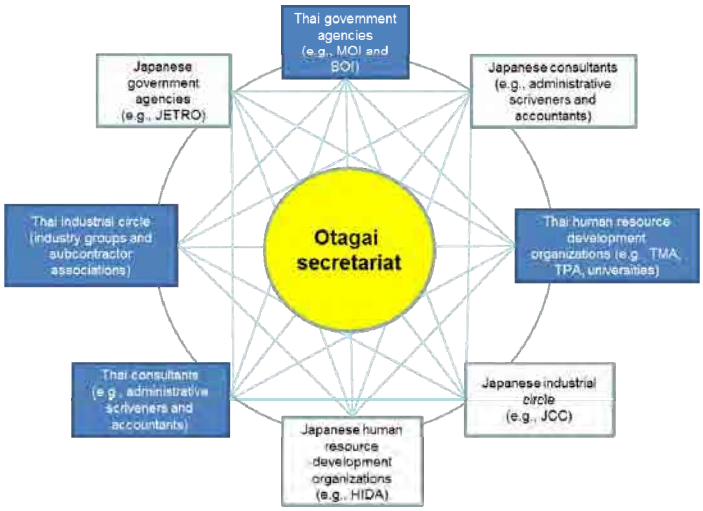

Figure11-6: Otagai Network with Otagai secretariat as a hub（Image）

（Prepared by Otagai Study Team）

(3) Role of Otagai Secretariat

It is important to allocate a fulltime staff at the office. Staff, including interns, at Otagai Secretariat can be sent by various organizations.

1) Guide

Since Otagai Secretariat is expected to be a gatekeeper of various resources, it provides Japanese investors and others with information at a right timing from Thai governments, industries and human development organizations and shows some recommendations.

2) Business matching

Otagai Secretariat is expected to offer stakeholders with various opportunities of knowledge sharing and business matching. Those knowledge sharing sessions should include informal session such as dinner to enhance trust based relationship.

3) Information tank

Otagai Secretariat should setup database (such as business seeds and technology) which people can access information with. Creating an attractive website of Otagai project is also in need.

4) Knowledge salon

Everyone who is interested in Otagai project can gather and meet new people in order to promote knowledge creation at a one place where Otagai Secretariat sets up.

5) Development of coordinators

Staff at Otagai office should be consisted of people from various backgrounds. Existing internship scheme such as METI-JETRO-HIDA international internship can be utilized. People from an organization works at Otagai Secretariat in a certain period of time and learning about coordination.

11.2.6 Conclusion

In this research, we found out that there are little ‘coordinator’ who can support Japanese companies. As a potential direction, we should have a rich discussion that Otagai office should be established to be a hub of the whole network in Thailand and play roles in guide, information tank, and business matching. It provides knowledge creation, developing coordinators as well as business coordination.

11.3 Securing and Development of High-level Personnel (Task 3-1)

11.3.1 Definitions and Research Targets of High-level Personnel

In this section, a basic understanding of the term “local personnel” are someone required for Japanese manufacturing SMEs’ business expansion in Thailand. Hence, the definition of the word “high-level personnel” is managers capable of managing local personnel, highly skilled professionals taking responsibility in quality and production control, or administrative staff, engineers, and skilled workers who have the potential to satisfy said qualifications. This section also examines various attempts to secure and develop high-level personnel.

The research method combines literature survey and local interviews. The interviews were conducted with five Japanese-affiliated manufacturers and one local service company to grasp needs, and with four prominent staffing agencies (three local and one Japanese), two local training service agencies, the Japan Student Services Organization (JASSO), the Technology Promotion Association [Thailand-Japan] (TPA), the Thai-Nichi Institute of Technology (TNI), and the Thai-German Institute (TGI) to grasp both needs and seeds. Opinions of such different entities on the current status of the securing and development of high-level personnel in Thailand were collected for multi-faceted observations.

Table11-5: Research Targets (Japanese-affiliated manufacturing companies)

Company	Business	Establishment year
A	Die manufacturing	1995
B	Plastic injection molding	1995
C	Machining tools manufacturing	2010
D	Manufacturing and subcontracting of electronic parts	1987
E	Die manufacturing	1991

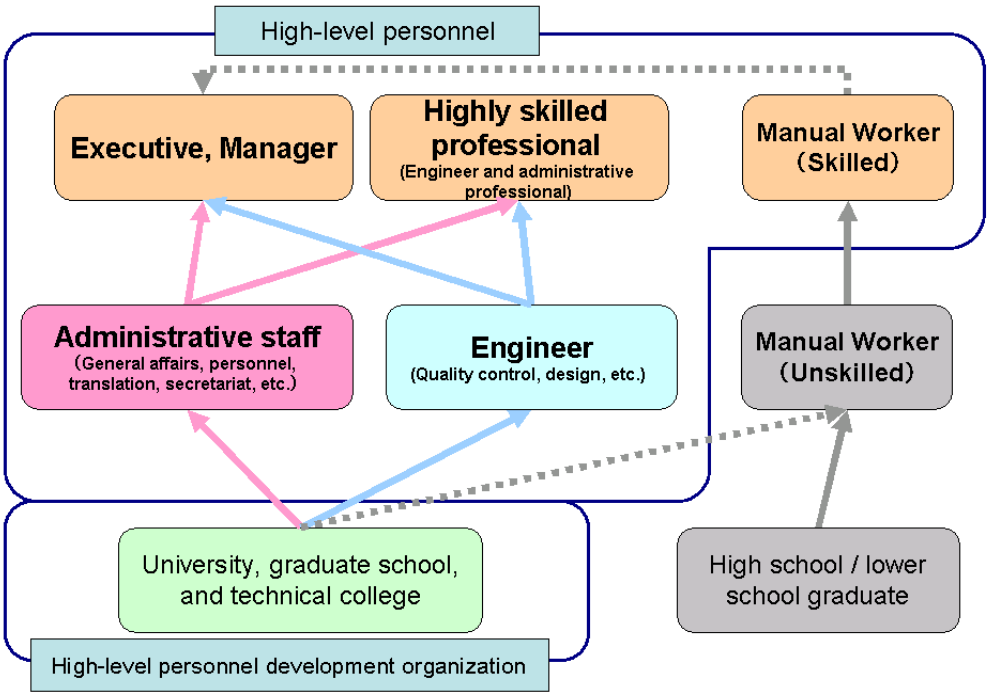

Figure 11-7: Definition of “High-level Personnel” in this Survey

(Prepared based on the on-site research results)

While the profiles of the five manufacturing companies are described by **Table 11-5**, interview topics are provided in **Figure 11-2**. Information incidentally collected through "The Study on the Sustainability Criteria for Mekong Industrial Parks in Thailand (THAICOBAN)," which started ahead of this study, was re-arranged and partially reflected.

As a basis for defining "high-level personnel," the types of jobs that are recruited by a Japanese manufacturer freshly setting up its operations in Thailand were surveyed through interviews with the aforementioned five companies. There is a common recruitment practice in terms of job types, though they are called by different names. The general categories are (1) administrative staff (general affairs, personnel, translation, secretariat, etc.), (2) engineers (production and quality control, design, etc.) and (3) manual workers (including machine operators, etc.). In many cases, administrative staff and engineers with university degrees or higher education are generally regarded as candidates for executive and highly skilled professional positions. However, at three of the five visited companies (A to E), former manual workers had been promoted as managers and board members (**Figure 11-7**). Some companies considered that individuals who had received higher education (university graduates or above) to be difficult to deal with, and excluded them from recruitment while taking in graduates from technical colleges for engineering jobs. In this section, as shown in the figure, administrative staff, engineers, current executives/managers and highly skilled professionals are defined as "high-level personnel." Universities, graduate schools, technical colleges, etc., are collectively defined as high-level HRD institutions, being in a higher category than high schools, which are under the jurisdiction of the Ministry of Education's Office of Higher Education. As manual workers may be promoted to executive positions at small- and medium-sized manufacturers, highly skilled experienced workers are also included in the category of "high-level personnel" in this discussion.

11.3.2 Size and Trend of High-level Personnel Market

Next is a statistical observation on the size of high-level manufacturing personnel in the Thai manufacturing industry. According to the National Statistical Office of Thailand (TNSO), regular and irregular employees totaled 38.52 million (including 5.64 million in the manufacturing sector) in the first quarter of 2013. Of these, highly educated individuals (who have advanced beyond high school) number 930,000, accounting for approx. 16.5%[10]. Knowing the percentage of high-level personnel out of the overall labor force is one indicator. It has been noted that the higher education enrollment rate has been rapidly increasing in Thailand (**Figure 11-8**). Therefore the percentage of high-level personnel in the industry is expected to continue to increase.

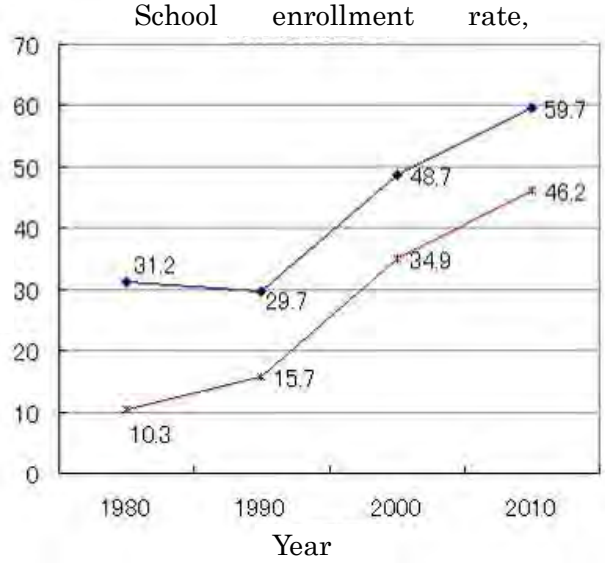

Figure 11-8: Higher Education Enrollment Rate (Prepared based on the World Bank "School enrollment, tertiary (% gross)")[11]

Next, we examine the relative proportion of those employed by Japanese affiliates to the total population engaged in Thailand's manufacturing sector. According to the 2012 data (**Figure 11-9**) by the Japanese Chamber of Commerce Bangkok (JCC), which boasts a membership of 1,371 companies,

[10]National Statistical Office (Thailand), The Labor Force Survey Whole Kingdom Quarter 1, January – March 2013 http://web.nso.go.th/en/survey/lfs/data_lfs/2013_lf_Q1_Whole%20Kingdom.pdf (Table 5)

[11]The World Bank, "School enrollment, tertiary (%gross)" http://data.worldbank.org/indicator/SE.TER.ENRR?page=6

529,720 employees were hired by a total of 656 member companies in the manufacturing sector. According to the Embassy of Japan in Thailand, as of October 1, 2012, Thailand was home to 55,634 Japanese nationals, of which approx. 41,242[12] are employed by or otherwise related to private companies and families associated with such companies. Twenty thousand Japanese, almost half of this number, are assumed to be engaged in the manufacturing sector. Acknowledging the existence of these Japanese employees, we can assume JCC member companies have created almost half a million jobs for the Thai people in the manufacturing sector alone. (Among these, approx. 80,000 people[13] are assumed to have completed higher education.) This corresponds to nearly 10% of the overall population engaged in the manufacturing sector. Several thousand Japanese affiliates have reportedly expanded their business operations in Thailand. The number of Thai nationals enrolled at Japanese affiliates grows to even greater size if those employed by non-JCC member companies and irregular employees are additionally considered.

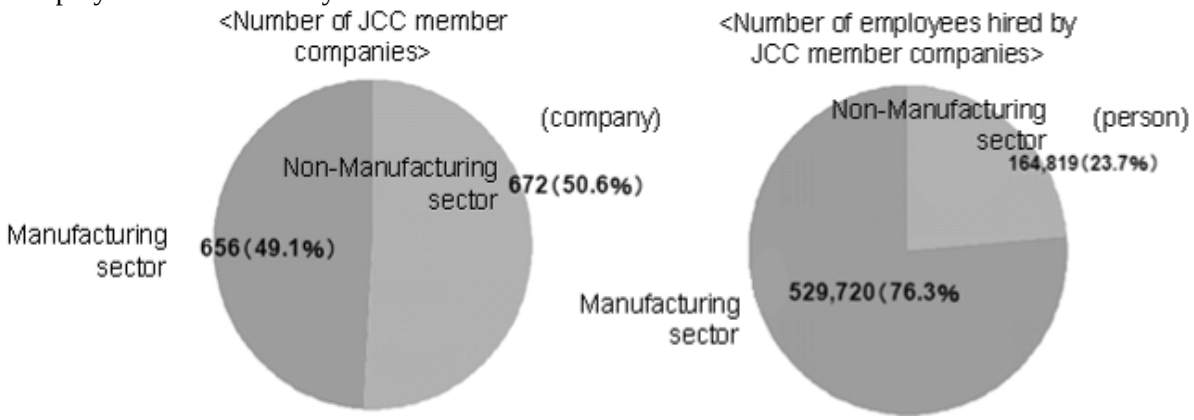

Figure 11-9: Numbers of JCC Member Companies and Employees Hired by JCC Member Companies by Industry Category (March 2012, "Japanese investment in Thailand")

Japanese speaking personnel are in high demand among freshly established Japanese affiliates, let alone in the manufacturing sector. As of 2012, according to a survey by the Japan Foundation, 129,616 students of the Japanese language existed in Thailand. Since 1998, the statistics compiled every few years have exhibited a steady increase in number. This is primarily attributable to the recent growth in the number of students of foreign languages accompanied by obligatory study of a second foreign language at high schools—an embodiment of the Ministry of Education's globalization policy[14], which has contributed to the expansion in the base of people studying Japanese. The above findings represent a total number of those who studying Japanese at elementary, secondary, and advanced educational institutions; and students enrolled at Japanese language schools, excluding the cases of in-house training and self-studies.

11.3.3 Needs of Japanese Affiliates that Have Entered into Thailand

An overview of the types of jobs available at freshly established Japanese-affiliated manufacturing companies was given earlier (cf. **11.3.1**). This section describes the results of a survey on the trends in recruitment needs, recruitment method and flow and trends in job-seekers applying to Japanese affiliates in Thailand. First, the table below shows the results of hearings on recruitment methods for Thai employees conducted with five Japanese-affiliated manufacturers.

[12] Survey statistics by the Japanese Embassy in Thailand, http://www.th.emb-japan.go.jp/jp/consular/zairyu12.htm

[13] 16.5%, the ratio of personnel having completed higher education in the manufacturing sector released by the National Statistical Office (Thailand), is used (16.5% of 500,000 people).

[14] Based on Japan Student Services Organization (JASSO) hearings

Table 11-6: Job Types and Recruitment Methods

Job types	Recruitment methods
Workers	➢ Put up a recruitment poster at the company for requesting the employees to introduce their family members or friends (Company A) ➢ Put up a recruitment poster at the entrance to the factory (B and D) ➢ Put up a recruitment poster in the industrial estate and the public employment service office (metal pressing: *cf.* THAICOBAN study) ➢ Organize a company information session at a local labor authority's office (chemical: *cf.* THAICOBAN study)
・Administrative staff (general affairs, personnel, translation, secretariat) ・Engineers (quality and production control, design, etc.) and management	➢ Use an Internet recruitment website: JOB Thai (C) ➢ Use the company's own website (C) ➢ Seek help from a staffing agency (B) ➢ Referral from the employees (C and E) ➢ Recruit from a local university (metal pressing, THAICOBAN) ➢ Head-hunt managers from the competitors (metal pressing, THAICOBAN)

Note) Attributes of the surveyed companies (A-E) are described by Table 11-5.

Several companies replied that they usually recruited manual workers by putting up a recruitment poster on the bulletin board at the company and public employment service office, and in the local industrial estate; and emphasized that recruitment of local residents is a sure way to improve employee retention rates. Their HRD efforts would be wasted if high potential individuals recruited from distant places quitted their jobs and returned home for family reasons. On the other hand, recruiting methods for high-level personnel consisting of administrative staff, engineers and managers were diversely observed (e.g. the Internet, staffing agency, university, and head-hunting). A common way observed in both cases was an employee referral system. Two companies commented that credible employees introduced a good candidate to the company; and it led to a virtuous cycle.
Next is the result of interviews with three major local staffing agencies (F, G and H), which are frequently used for recruiting high-level personnel, on trends in Japanese affiliates.

Table 11-7: Local Interviewees (staffing)

Agency	Business	Year of Thai Market Entry
F	Staffing	1994
G	Staffing	2004
H	Staffing	1989

They all pointed out Japanese-affiliated manufacturing companies' recent tendency to downsize. Staffing agency F commented that they had received more enquires from micro businesses than from SMEs. The interviews commonly revealed that most of freshly established affiliates recruited Japanese-speaking personnel (translator-secretary, or administrative staff) at first. Another common explanation was that most of Japanese affiliates recruited administrative staff (personnel and accounting) at the beginning, and took in quality and production engineers next; despite that their recruitment pattern varies among themselves. There were some cases that initial focus was placed on securing of engineers; and administrative staff is recruited after sending the engineers to Japan for training. However, even in such case, Japanese-speaking and administrative personnel would be needed at an initial stage of their local operations. It is the same as the cases observed in the majority.

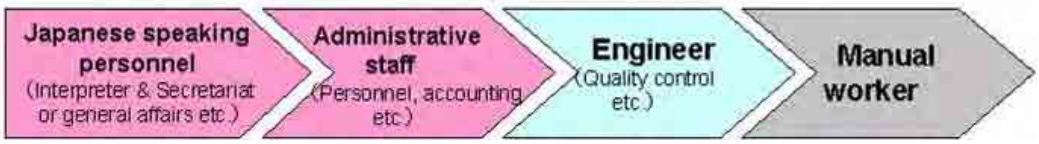

Figure 11-10: Sequential Changes in the Types of Jobs Recruited by Japanese-affiliated Manufacturing Companies According to their Business Development (Sources: Hearing from research targets)

The Thai unemployment rate has been hovering at a low level of less than 1 %[15], leading to a continuing seller's market. Staffing agencies G and H reported that many of their client companies have been successful in securing the personnel they need by increasing the salaries they offered initially during the recruitment process. Staffing agency F pointed out the difficulty in recruiting in the eastern region of Rayong, as it has become a magnet for Japanese affiliates; salaries in areas away from Bangkok tended to be higher than the rest. That being said, the agency added that the tendency had not been observed in provincial cities outside a 300 km radius from Bangkok. SMEs have not much bothered by recruitment in provincial cities of north-east and north Thailand. The region's top universities, technological institutes, and technical colleges have produced a certain number of high potential individuals, maintaining the balance between supply and demand.

Table 11-8: Tendencies of Job Seekers

Attributes	Tendencies
Salaries	➢ Salaries have gained particular attention from new graduates and individuals in their early 20s. (Staffing agency F, G and H) ➢ The farer from Bangkok, the higher the salaries-within a 300 km radius from Bangkok only. (F) ➢ Higher salaries are offered by little known Japanese SMEs to succeed in securing personnel required. (G and H) ➢ Salaries are hardly the only reason for career changes among highly educated individuals. (F)
Job hunting among undergraduates	➢ Good scheduling practices have enabled top 10 university students to start job hunting early enough for them to join companies immediately after graduation. Distinguished from the rests who begin to seek for jobs after graduation. (F)
Popularity of Japanese affiliates	➢ Popularity of Japanese affiliates has become slightly less because of the advancement of Thai companies. (F) ➢ Thai business conglomerates occupy the top spot; followed by western companies, who are on a par with extremely famous Japanese companies. (G)
Fringe benefits	➢ Fringe benefits are provided in the forms of meal and commutation allowances, medical insurances, retirement reserves, etc. No common feature has been observed among Japanese affiliates. (H) ➢ Training in Japan has enabled Japanese affiliates to gain attention from a number of job seekers. (G)

[15]National Statistical Office (Thailand), Summary of the labor force survey in Thailand

Brand power	➢ Higher salaries are the only mean to secure personnel at little know companies dispossessing brand power. (H) ➢ Lower influences of company names and brands have been observed. Because of their dislike of being subordinated, Thais create their own businesses after leaving large companies. (F)
Business culture	➢ Job rotations are much less common than in Japan, even connoting a bad image that the person is clumsy at work. Professional expertise development is highly valued. (H)
Corporate culture (comfortableness at work)	➢ Comfortableness is defined by human relations, work situations and money matters; the relative importance of the three particulars is in descending order. (F) ➢ Since Thais are less accustomed to separating their personal life from their work than Japanese, harsh criticism they receive at work is misinterpreted as personal dislikes. It often leads to their resignation. (G)

The results of the interviews with staffing agencies F, G and H are described by **Table 11-8**. The noticeable characteristics common to all three agencies' comments are that job seekers in their early 20s tend to focus on salaries. Another comment given by two agencies is that Japanese affiliates have become less popular because of the emergence of Thai companies.
A comment excluded from the table goes that most of Japanese affiliates recruit Thais and Japanese only; falling far behind western competitors who have taken advantage of globalization by utilizing personnel regardless of their country of origin—Japanese nationals even. It is often said that Thai employees change jobs more often compared to Japanese. Another noteworthy comment from several staffing agencies interviewed other than the aforementioned three was that Japanese staff members' language ability, communication styles, and behaviors may contribute to Thai workers' job-hopping tendencies. They also referred to the necessity of training Japanese employees before dispatching them overseas as well as changing their ways of thinking.

11.3.4 Attempts at Securing of High-level Personnel and Issues to be Addressed

In response to the recruitment needs of Japanese affiliates operating in Thailand described in the previous section, this section describes their attempts to secure and develop high-level personnel as well as the support activities of the Japanese and Thai governments and relevant agencies, in addition to extracting current issues.

(1) Examples of Japanese-affiliated Manufacturers in Thailand

To begin with examples of attempts by private companies, we conducted interviews with the five Japanese-affiliated manufacturing companies described in **Table 11-5** to ask about their development methods for high-level personnel. They replied that they used OJT, in-house training (for welding and other technical skills as well as the Japanese language), training in Japan, and technological guidance by specialists dispatched from Japan, etc. As for career paths, at three of the five companies, individuals who originally joined the companies as manual workers were selected as executive candidates. In addition, there were companies that previously did not recruit any university graduates that have recently started recruiting them as executive candidates.
Information obtained through interviews with companies other than the aforementioned five and the literature survey showed that many other business-led approaches have been made for high-level personnel development: sending employees to universities or graduate schools (at night or on weekends), using private training service providers as well as industrial human resource development (HRD) organizations and vocational schools such as TPA—to name only a few. Some companies have organized their own training organizations that provide training for their group companies and sub-contractors. As a typical example, let us present the case of Denso International Asia Co., Ltd. (Thailand).
The company aimed to provide training for all of its 5,000 group employees at its seven manufacturing subsidiaries in Thailand, with the hope that it would improve the skill levels of the

entire workforce to the extent that manual workers would turn themselves into intellectual technicians. In 2005, the Denso Training Academy (Thailand) was established to develop skilled workers at Denso's group headquarters in Asia and Thai sub-contractors, as well as trainers for instructing them, based on the Japanese training system. Since 2007, the academy has participated in the World Skills Competition. The company's Thai representatives have won the gold medal for CNC lathes for three consecutive years since 2009.

Figure 11-11: Award Certificates and Medals from the World Skills Competition

In addition to the development of skilled workers, the academy has been providing training on engineering, safety, the Japanese language, and management by inviting external lecturers. A future issue for the academy is how to develop all HRD courses such that they can be taught by internal resources alone[16]. The courses provided by Denso International Asia for their suppliers are basically related to quality and safety control[17]. It is interesting to learn of Japanese manufacturers' needs for their suppliers through Denso's case.

(2) Examples of Japanese Government and HRD Organizations

Next, we will introduce attempts to secure and develop high-level personnel in Thailand made by the Japanese government and related organizations.

1) Project for Supporting Japanese SMEs to Secure High-level Personnel Overseas

In FY 2009, the Japanese Ministry of Economy, Trade and Industry (METI) started to employ two government-led approaches: the Project for Strengthening Recruitment Platform by Arousing Interest in Japan among Job Seekers, and the Training Project for Improving the Business Environment related to Trade and Investment. Both projects had enabled nine universities in Thailand to receive Japanese specialists, and organize Japanese corporate culture seminars, OJT, Japanese lessons, job fairs, etc. In addition, an initiative allowing the students of the universities to receive training in Japan started in FY 2010. As an outcome of the aforementioned two projects implemented over four years in total, over 300 individuals who participated in such programs have been recruited by Japanese affiliates. In FY2013, the two projects evolved[18] into the Project for Supporting Japanese SMEs to Secure High-level Personnel Overseas, which has a more specific focus on SMEs. A job fair (free admission) is scheduled to be held in Bangkok in January 2014, which will provide an opportunity for Japanese SMEs and Thai students to meet.

2) Study Abroad in Japan and Job Fairs

Another example is a series of "Study Abroad in Japan and Job Fairs" jointly organized by the Embassy of Japan in Thailand, JCC and the Japan Student Services Organization (JASSO), the Japan Foundation, and JEducation. This series has been held annually since 2012. The fairs provide a platform for meeting of Japanese affiliates, job seekers, and students. It also draws attention to the benefits of studying in Japan from individuals who may have a keen interest in Japan (e.g. employees at Japanese-affiliated companies, high school and university students).

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[16]Chubu Bureau of Economy, Trade and Industry, "Research on recruiting international students and Japanese-affiliated companies overseas" report from a visit to Thailand (October 1–7, 2009)
http://www.nitech.ac.jp/int/kiroku/21/files/1001ind_tai.pdf

[17]Response to a hearing with DTAT

[18]Based on research by Nomura Research Institute, commissioned by METI (2013) "Report on the basic survey for effectively implementing measures for SMEs to secure high-level personnel overseas—FY2012 Project for Strengthening Industrial Infrastructure in Asia"

3) Introduction of the Asian Standard

Moreover, under the Training Project for Improving the Business Environment related to Trade and Investment by METI, described in 1) above, the qualification systems, which have supported the industrial development of Japan and are thought to be able to contribute to the development of other Asian countries as well, have been selected as the Asian Standard. Accordingly, support has been provided for the establishment of similar systems in Thailand and other Asian countries. Such initiatives cover various areas[19], including Information Processing Technicians, Qualified Persons for Energy Management and the Energy Conservation Standard, the Pollution Control Manager System, and SME Management Consultants; the initiatives aim to enhance awareness among the parties concerned and produce qualified people through the implementation of certification systems. Unlike training for employees at Japanese affiliates, such initiatives have attempted to indirectly support the business activities of Japanese affiliates by contributing to the "visualization" of skill levels of local human resources and improvement of the software infrastructure for developing technical human resources in Thailand.

4) Project for Supporting HRD Capable of Exploring Emerging Markets

In terms of direct support for high-level personnel for companies operating overseas, the Overseas Human Resources and Industry Development Association (HIDA) has carried out a government-funded project, the Project for Supporting HRD Capable of Exploring Emerging Markets (formerly known as the Project for Supporting HRD in Economies and Industry). The program of this METI-funded project consists of technical and management training courses held in Japan, training courses held overseas, and specialist dispatches. SMEs using the program are given a higher rate of government subsidy.

5) Technical Intern Training Program

Under this program, foreigners may stay in Japan with technical trainee status for a maximum of three years to acquire technical skills. This program is supported by the Japan International Training Cooperation Organization (JITCO), which facilitates its operation. The program is divided into two categories depending on the type of accepting organization: individual enterprises and supervising organizations, which include non-profit organizations such as chambers of commerce and industry as well as SME cooperative business associations. Once trainees complete the one-year program and pass the required level of the national trade skills test[20] in the designated occupational category, they receive a status change and continue training in the second year. Though the maximum length of stay under the program is limited to three years, the program is expected to be utilized as one method for developing skilled workers in the future.

[19]METI, "Discussions on establishing the Asian Standard (continued)"
http://www.meti.go.jp/committee/materials/downloadfiles/g70508a04j.pdf

[20] National trade skill test in Japan. Test questions are prepared by JAVADA and the test is carried out by each prefecture. Upon passing the test, successful applicants are granted a certificate by the Minister of Health, Labour and Welfare or the prefectural governor.

Table 11-9: Examples of Initiatives by the Japanese Government and Related Organizations and their Target Scopes

Category / Project		Management		Administrative		Engineering		Technical	
		Recruitment	Development	Recruitment	Development	Recruitment	Development	Recruitment	Development
1)	Project for Supporting Japanese SMEs to Secure High-level Personnel Overseas			○		○			
2)	Study Abroad in Japan and Job Fairs	○		○		○			
3)	Introduction of the Asian Standard						○		
4)	Project for Supporting HRD Capable of Exploring Emerging Markets		○		○		○		
5)	Technical Intern Training Program								○

(3) Initiatives for Industrial Human Resource Development by the Thai Government and HRD Organizations

Next, we will introduce the initiatives of the Thai government and related organizations for industrial human resource development as well as examples thereof.

1) Policy concerning industrial human resource development

As a policy on industrial human resource development, the Thai government enacted the Skill Development Promotion Act in 2002 and established the Skill Development Fund for promoting vocational training. The 2009 notice issued by the Ministry of Labor stipulates that business establishments with at least 100 employers are obliged to contribute to the fund. Exceptions to this obligatory payment are given to employers who provide training to at least 50% of their employees. In addition, when using government-designated training facilities for employee training, up to twice the cost incurred may be reported as a loss.[21]

2) Technical evaluation standards/qualification system

Qualification systems designated as the Asian Standard (cf. (2)-3)) have been developed as qualification systems supporting industrial human resource development. Some issues remain regarding how to firmly maintain the system after the project has ended, such as those regarding the introduction of incentives and a legal framework that mandates production of a certain quantity of qualified people, etc.

3) Skill evaluation standards/qualification system

The Department of Skill Development of Thailand's Ministry of Labor has established the Skill Standard and Labor Standard Tests, which cover 92 categories in 6 fields. In principle, each category is divided into three levels. This test system has been supported by JAVADA as part of the ODA project by Japan's Ministry of Health, Labour and Welfare. The project aims to assist the Department of Skill Development in implementing evaluator development training for transfer of the evaluation system (not trade skill tests in and of themselves). The project has been implemented in Thailand since 2002, and the evaluation trial has been implemented in cooperation with the Department of Skill Development and Japanese private affiliates. The tests implemented thus far mainly concern those categories for which there are many applicants in Japan, such as die manufacturing, CNC lathe, CNC milling, etc. In 2013, tests for plant sheet

[21]Tokio Motoda, *Essential Handbook for Doing Business in Thailand 3rd edition* (Cf. p. 103–106)

metal processing, electric equipment assembly, and information wiring installation will be newly introduced[22]. Tests are conducted at 12 skill development centers, 65 provincial skill development centers, and other certification centers.[23] In addition, TGI and other vocational training schools have independently established qualification systems to evaluate skill levels.

4) Dual system/open system

In Thailand, the dual system and open system have been introduced; the dual system combines education at vocational schools or technical colleges with corporate internships, while the open system allows workers who have passed a qualification test to obtain credits at vocational schools. Initiatives for government-private alliances have been promoted.[24]

5) Initiatives by universities and HRD organizations

Unlike universities in Japan, there are few Thai universities that have divisions to support recruitment. Like Chulalongkorn University, Suranaree University of Technology, and TNI, some universities have organized their own job fairs in Thailand. Some Japanese affiliates have regularly recruited graduates from specific universities every year. Since TNI was established as a university embodying *Monozukuri* (Japanese-style manufacturing), it has provided extensive support as follows: confirmation of Japanese companies' needs by questionnaires, a matching service for approximately 200 companies and students through its own website (JOB TNI),[25] and allowing students to meet with recruiters from Japan. In addition to technical and skill training based on each category, TGI has been developing various initiatives to flexibly respond to industrial needs: employee training before entering the company on commission, acceptance of interns under the dual system, external consignment processing, consulting, and product exhibits at TGI's showroom, etc.[26]

(4) Extraction of the current problems

The interview results and cases above were examined to bring hidden problems into the light and extract the current problems. One has to point out that information on governmental measures, government-funded projects, and the Thai qualification system, etc. have not always been provided for SME manufacturers, which are most in need of such support. In interviews with manufacturers, some replied that they had no knowledge of Japan's support programs and showed interest in using them in the future.

Next, it is also noteworthy that high-level personnel at SME manufacturers are not necessarily graduates from advanced educational institutions. In particular, at some companies that entered Thailand within the last 15 years, there have been cases in which the first generation of manual workers were promoted to managers and executives. Such companies are reluctant to recruit university graduates because they had bitter experiences when university graduates quit soon after being hired in the past. However, with the rapid increases in the Thai university admissions rate and wages, some companies who had been promoting well-experienced skilled manual workers to management have just started to recruit university graduates as executive candidates. In order to meet changing conditions, manufacturing SMEs have come to a point where they need to review recruitment channels and HRD on their own, taking into consideration the country's future industrial advancement which has been incorporated as part of the Thai government's policies.

In addition, it is difficult for users to grasp the big picture of the various public programs and systems for HRD support in both Japan and Thailand because they are managed by different agencies and organizations. Therefore, it is necessary to re-organize the fields, personnel, and service content covered by each project and system as well as to consider how to best present them.

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[22]Response to the hearing from JAVADA

[23]Based on a response to the inquiry to the Department of Skill Development, Ministry of Labor (November 6, 2013)

[24]The Japan Institute for Labour Policy and Training, http://www.jil.go.jp/foreign/labor_system/2006_12/thailand_01.htm

[25]Recruitment website by Thai-Nichi Institute of Technology (TNI) "JOB TNI" http://www.jobtni.com/home?l=jp

[26]Based on interviews with TNI and TGI

The next section makes suggestions of the approaches to the aforesaid issues, and predicts the future directions of the development of personnel facilitating the promotion of collective FDI through the Otagai Project platform.

11.3.5 Aims at Securing and Developing High-level Personnel

The issues in the last section can be categorized into the following three groups.

(1) Enhancing accessibility to information regarding the assistance provided by the government and public agencies (common to securing and developing high-level personnel)
(2) Expanding channels for manufacturing SMEs to recruit high-level personnel (securing of high-level personnel)
(3) Streamlining and utilization of measures for developing managers, highly skilled professionals and skilled workers (development of high-level personnel)

This section shows suggestions of the approaches to the three issues and predicts the future directions of this report.

(1) Enhancing Accessibility to Information regarding the Assistance Provided by the Government and Public Agencies (Common to securing of HR and HRD)

There have been already various kinds of public assistance to secure and develop human resources that have been implemented and targeted at SMEs. Therefore, what is required is to strengthen access to such information and increase use of these assistance programs. In Japan, METI established"Conference on Supporting SMEs in Overseas Business" in 2010 and information regarding the assistance provided by the condference's member organizations is made easily accessible to the public by numerous documents. One example is the *User Guidebook for Small and Medium Enterprise Assistance Measures (FY 2013)*[27] posted on the website of the Japanese Small and Medium Enterprise Agency[28]. The Guidebook compiles the available assistance measures for SMEs and the contact information of relevant organizations. This publicly accessible information also mentions assistance for securing and developing high-level personnel essential for SMEs that are starting or expanding overseas operations. Nonetheless, it is more practical and advisable for SMEs to first consult with e.g., local municipalities, local industry groups, the Organization for Small & Medium Enterprises and Regional Innovation of Japan (SME Support Japan), local banks, credit unions, and companies among their business partners that have already expanded overseas, which are physically located nearby.

■ Recruiting and HR support

Outline	Project name	Page
Wish to strengthen overseas operation bases	Project for Supporting HRD Capable of Exploring Emerging Markets	142
Wish to develop global human resources	Project for Promoting Trade and Investment (METI Global Internship)	143
Wish to secure high-level personnel	Project for Supporting Japanese SMEs to Secure High-Level Personnel Overseas	144

Figure 11-12: Examples of Measures Related to Employment and Human Resources by SMEs Expanding Overseas (Excerpt from the Table of Index 5 in the *User Guidebook for Small and Medium Enterprise Assistance Measures (FY 2013)*)

Striving to establish a platform for boosting overseas advancement by Japanese SMEs, in addition to the launching of the official website, the *Otagai* project is currently forging the *Samurai* network of Japanese municipalities and local industry groups, as well as a network of supporting industries operating in Thailand, including Japanese banks. Once the existing resources are interconnected

[27] *The User Guidebook for Small and Medium Enterprise Assistance Measures (FY2013)* (The Small and Medium Enterprise Agency)
http://www.chusho.meti.go.jp/pamflet/g_book/h25/130521gbookall.pdf
[28] The Small and Medium Enterprise Agency website, http://www.chusho.meti.go.jp/

into a network (as mentioned in the previous section) and the secretariat with a permanent staff is put in place (see **Figure 11-6**), more information regarding the national and local governments' measures and public assistance for SMEs can reach SMEs. More specifically, information can be collected, consolidated, and shared on the platform and delivered online through the official website, e-newsletters, and so forth. Also, the information can be provided offline by stakeholders who are in close contact with SMEs' respective liaisons.

Close collaboration with Thai counterparts pressing the *Otagai* project forward, notably the Department of Industrial Promotion (DIP) of the Ministry of Industry (MOI) and National Economic and Social Development Board (NESDEB), will yield a "mutually" (the Japanese meaning of *Otagai*) beneficial system for both Thailand and Japan. The Otagai platform can potentially serve as a useful interface for exchanging information on- and off-line with relevant Thai agencies and companies. In so doing, it would promote local business and public relations and help business matching if we succeed in forging and utilizing a network of Thai and Japanese stakeholders, industrial complexes, and public corporations that are trying to attract Japanese SMEs, private management companies, and local companies interested in partnering with Japanese SMEs.

(2) Expanding Channels for Manufacturing SMEs to Recruit High-level Personnel

We interviewed Japanese affiliates about how to secure high-level personnel. The primary channels of recruiting are, in addition to posting of recruiting information on their own websites, staffing agencies, recruitment portal sites, and neighboring universities. In order to increase the use of these channels, possible support measures include consolidating staffing agency and advertisement media information and introducing the options for recruitment in the region surrounding Bangkok. This effort overlaps the networking with staffing agencies serving as the coordinator described in the previous section.

Regarding recruitment in the areas away from Bangkok, which are not covered by Japanese staffing agencies, it is considered necessary to find local staffing agencies and forge a network with HRD institutions in these areas. The existing research indicates that, in most cases, Japanese SMEs recruit few university graduates and have no network with any organizations that are developing high-level personnel in these areas, though under the assistance of METI, job fairs for Thai university students and training in Japan have been implemented. In order to follow up on such initiatives, we propose that local organizations develop high-level personnel (e.g., universities, vocational colleges, training institutes, technical high schools, and in some cases alumni associations of former students studying in Japan) to join the platform to forge a broader network to encourage recruitment of fresh graduates and to develop high-level personnel as shown in **Figure 11-6**.

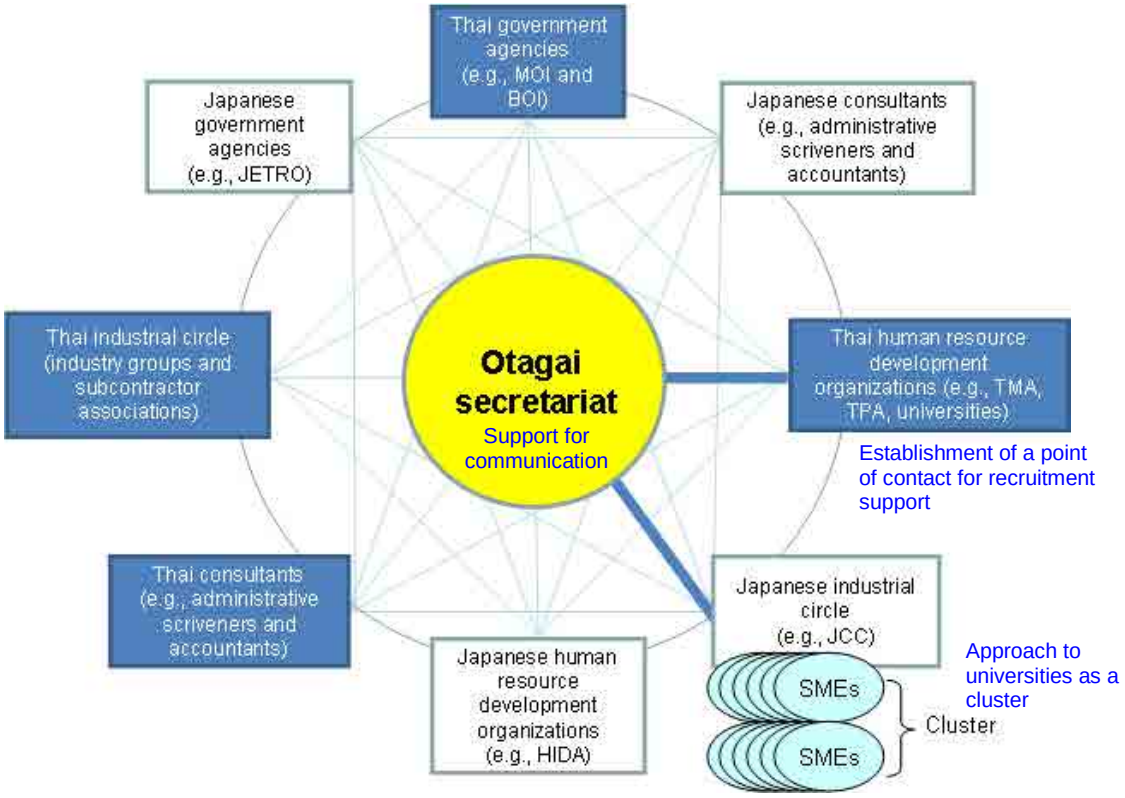


Figure 11-13: SMEs' Contacts to HRD Organizations Shown as a Cluster (Added to Figure 11-6)

Unlike large companies, no SMEs regularly recruit a large number of fresh graduates from universities. So individually, SMEs cannot create a strong connection with universities. However, if SMEs intending to advance overseas can collectively take action as a cluster to visit universities and participate or organize carrier fairs, combined with the support from the secretariat of the *Otagai* platform as the intermediary and organizer, they can offer a sizable number of jobs and demonstrate their presence to the universities (**Figure 11-13**).

It should be noted, however, that SMEs need to identify and focus on the universities, including the level of students, that are likely to be interested in Japanese SMEs. Another challenge Japanese SMEs face is to find the right point of contact in Thailand, given the fact that most Thai universities, except for TNI and some others, lack divisions responsible for providing support to students in job-hunting as is the case in Japanese universities[29]. Studies conducted in Vietnam under similar circumstances identified the importance of establishing a point of contact at each university as well as a system for exchanging information with companies in order to promote industry-academia partnerships[30].

(3) Streamlining of Development Methods for Management-level Personnel, Highly Specialized Personnel, and Skilled Workers as well as Sharing of Information

Lastly, we describe ways for manufacturing SMEs currently operating in Thailand to develop managers/executives, highly specialized personnel (administrative and technical), and skilled

[29]As of 2013, the unemployment rate continues to be as low as less than 1%, so the universities do not feel a need to support students' job hunting (Response in a hearing with the Sasin Graduate Institute of Business Administration of Chulalongkorn University)

[30]Junichi Mori, "Current State and Challenge of Industry-Academia Partnerships in Vietnam: Experiences Gained from the Project for Supporting the Development of Skilled Workers at Hanoi University of Industry," *Development of Japanese-style Manufacturing in Asia—Strategy and Recommendations Based on Case Studies in Vietnam*, Asia Pacific Institute of Research, 2013.

technical workers for each job category effectively and economically. In addition to having employees gain experience through OJT or in-house training, SMEs should use the subsidy system or other public assistance by the Japanese and Thai governments, if available, to the maximum possible extent. If they have additional resources, they should consider using private human resource development organizations. It should be noted that considerable expense and effort are required to correctly grasp which measures are available depending on the target (management, administrative, engineering, technical, etc.), job category, and region as well as to choose the optimal service. In order to alleviate such burdens on SMEs, the government and organizations such as the *Otagai* project secretariat must present SMEs with information on the assistance programs available in Thailand in an easy-to-understand manner. For example, it is desirable to include a staff member in charge of HR who can introduce HRD programs or service companies to the SMEs. In order to make the framework beneficial to the user companies, one possible idea is to register HRD service companies at each event. If such companies are registered under several categories, it allows them to be searched using various keywords, such as those related to targets, fields, levels, regions, etc. Establishing a framework to review and approve registered companies and events by the *Otagai* project secretariat can give assurance to companies using the service. As a reference, image of this framework are shown in Figure 11-14, Figure 11-15, and services for securing and supporting human resources provided by the interviewed companies and organizations in this research are listed in Table 11-10.

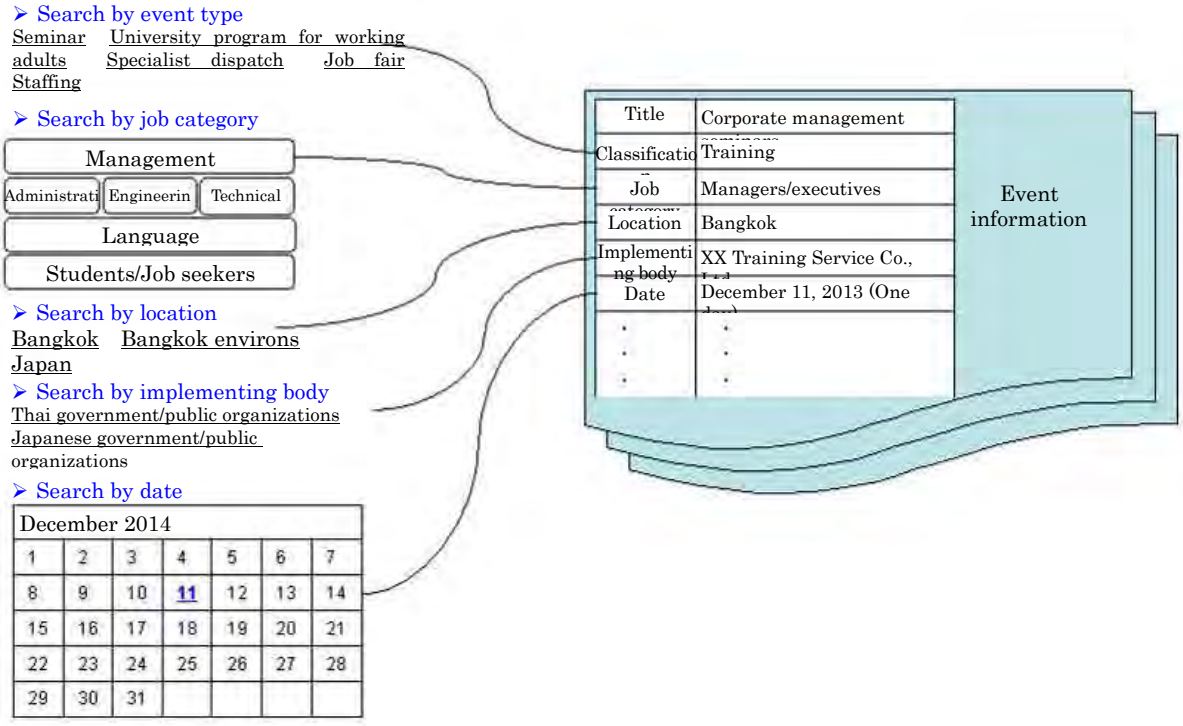
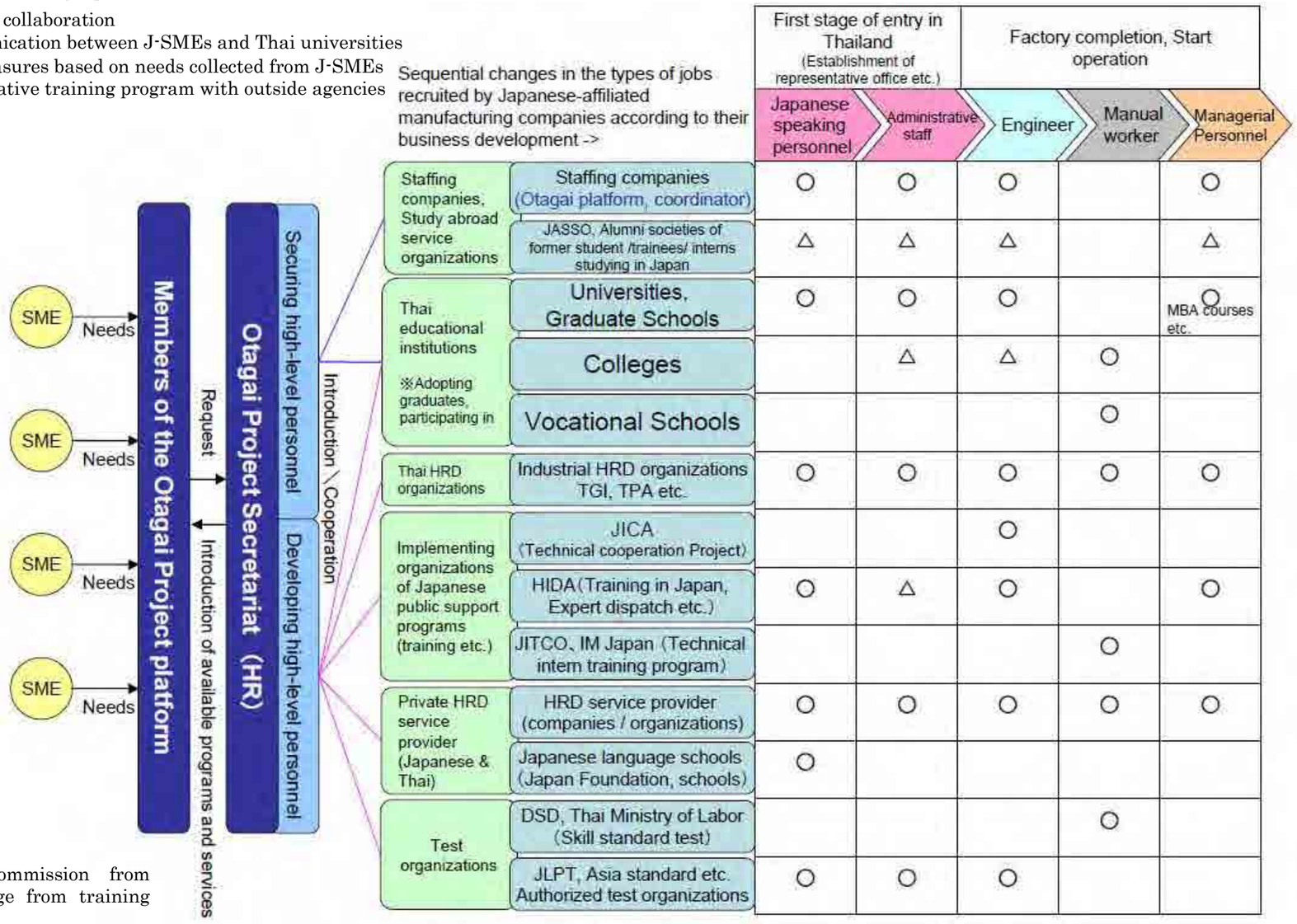


Figure 11-14: Registering for HRD Services and Searching by Category

(For illustrative purposes only, prepared by the research team)

Functions of Otagai Secretariat (HRD section)

- Collect needs from Japanese affiliated SMEs (J-SMEs) related securing and developing high-level personnels and organize information
- Screen & Provide information on public support and service related securing and developing high-level personnels
- Transmit HR information from Otagai platform (both online and off-line)
- Promote industry-academia collaboration
  Example) - Support communication between J-SMEs and Thai universities
  - Suggest state measures based on needs collected from J-SMEs
  - Implement c-operative training program with outside agencies



*Expected revenue:
Membership fees and commission from J-SMEs, advertisement cherge from training service companies

Figure 11-15: Organization for securing and developing high-level personnels – Function of Otagai secretariat（HRD section）and cooperation with outside agencies （Thailand version）
（Preopared by Otagai Study team）

Table 11-10: Services for Securing and Developing High-level Personnel Implemented by Interviewed Companies and Organizations

No.	Organization name	Country	Service (in Thailand)	Description of the service	Target (group)
1	Sasin Graduate Institute of Business Administration of Chulalongkorn University	Thailand	Graduate school	EMBA (Executive MBA), HRI (Human Resource Management), executive training, business English, etc. *MBA (full-time 2 year program)	Management
2	Thai-Ichi Institute of Technology (TNI)	Thailand	University, graduate school	Graduate school for working adults (classes are offered on weekends and weekday evenings to enable working people to study) Engineering technology, information technology, industrial management, executive enterprise management (all graduate programs)	Management, engineers
3	Technology Promotion Association (Thailand-Japan)	Thailand	Industrial HR development	Language courses (Japanese, Thai, English, and Chinese), cultural seminars, production technology/management training, etc. *Other services include calibration of industrial measuring tools, water quality inspection/analysis, enterprise diagnosis, consulting, book sales, and various events (QC competition, 5S competition, etc.)	Management, engineers. administrative staff
4	Thai German Institute (TGI)	Thailand	Vocational school	Training/technical seminars (automation, molds and dies, machines, maintenance, industrial service, R&D), skill tests (for engineers) *In addition, TGI offers consulting, machine rentals, quality assurance tests, rentals of classrooms and product exhibit spaces, support for entrepreneurship, and a production technology information center, etc.	Engineers, workers
5	Mitsubishi Electric Factory Automation Thailand Co., Ltd	Thailand	Support for users of group companies' products as well as HR development	Training (related to sequencers, displays, inverters, and servomechanisms), e-learning, FA glossary, individualized menus, on-demand training *Other services include those explaining how to use and maintain products, programming, etc.	Mainly engineers (and workers)
6	DENSO Training Academy Thailand（DTAT）	Thailand	Industrial HR development	Training and seminars for Denso group and supplier companies (instructor training, management training, language training (Business English), safety and engineering seminars)	Mainly workers (also management and engineers)
7	Japan Student Services Organization (JASSO) Thailand Office	Thailand	Provision of information on studying in Japan, holding of events	Promotion of studying in Japan by enticing Thai employees working at Japanese affiliates and supporting human resources such as high school and university students. A series of Study Abroad in Japan and Job Fair sessions are held in collaboration with the Japanese Embassy in Thailand.	(College students)
8	Japan Vocational Ability Development Association (JAVADA)	Japan	Promotion of transfer of the skill evaluation system	Implementation of evaluator development training with the aim of transferring not the trade skill test itself but the evaluation system. Since 2002, the evaluation trial has been implemented in cooperation with the Department of Skill Development, Ministry of Labor (Thailand), and Japanese private affiliates. Thus far, the test has been held primarily in fields which have many applicants in Japan (ex., die manufacturing, CNC lathe, CNC milling machine). Recently, categories related to construction are increasing. In FY2013, tests of factory metal sheet processing, electric equipment assembly, and information wiring installation are planned to be implemented.	Workers
9	Pacific Resource Exchange Center (PREX)	Japan	Middle manager development	Seminars in Japan that invite participants from ODA recipient countries, overseas seminars held in the respective countries, and follow-ups with alumni (Thailand is no longer covered by the project, but training for peripheral countries is still held.)　*The base assets consist of contributions from 97 private companies and 6 local governments in the Kansai region. The staff members include employees seconded from major companies. Seminar instructors and tours, etc. are handled in cooperation with industry, government, and academia in the Kansai region.	Management (including management training for workers), engineers, administrative staff
10	Overseas Human Resources and Industry Development Association (HIDA)	Japan	Industrial HR development	Upon METI's commission, implementation of the Project for Supporting HRD Capable of Exploring Emerging Markets, the Project for Supporting Japanese SMEs to Personnel Overseas, and the Project for Supporting Japanese SMEs to Secure High-level Personnel Overseas.	Management, engineers, administrative staff
11	JobStreet ASEAN Business Consulting Corporation	Japan	Staffing, training, consulting	Staffing service in Southeast Asia and India using a database covering 8 countries, staffing of overseas personnel for Japan, employer branding (transmission of corporate attractiveness), provision of the career recruitment website in English, etc.	Management, engineers, administrative staff
12	JAC Recruitment Thailand	Thailand	Staffing	Staffing primarily of executives for Japanese affiliates in Thailand (excluding new graduates). Consultation events for those interested in working in Thailand tailored to individuals are held bimonthly (six times a year) in Japan (Tokyo, Osaka, and other cities).	Management, engineers, administrative staff
13	Pasona HR Consulting Recruitment (Thailand) Co., Ltd.	Thailand	Staffing, personnel consulting and outsourcing (hiring, payroll calculation, etc.), and other services	Staffing service for Japanese affiliates in Thailand, including new graduates. Also offers outsourcing of the hiring process and payroll calculation.	Management, engineers, administrative staff
14	Personnel Consultant Manpower (Thailand) Co., Ltd.	Thailand	Staffing, training, consulting, translation	Staffing for Japanese affiliates in Thailand, including new graduates; temporary staffing of interpreters, accountants, and other staff; and translation services. Employee education (3-hour course: the employee mindset, *Ho-ren-so* (report, contact, seek advice), business manners, etc.) Free Japanese language lessons (every Saturday).	Management, engineers, administrative staff

It is difficult for SMEs to independently establish HR development systems and evaluation systems for each job layer like large companies as an HRD system that underpins the advance of clusters of Japanese SMEs overseas. In consideration of this fact, a possible way to provide more effective support is to provide a training service focused on specific fields or to subsidize part of the costs of participating in the existing external training program. To consolidate the "universal areas of skills that are necessary for manufacturing" across companies rather than relying on individual companies' specific technologies, common areas include, for example, product and quality controls essential for factory operation; safety, in which client companies are presumed to be interested; and operational management for corporate managers.

At the same time, employees can improve specific manufacturing skills and techniques through their experiences at each company. The qualification system that already exists can be used to check proficiency levels. For example, with reference to trade skills, there is the Skill Standard Test by Thailand's Ministry of Labor described in 11.3.4 (3). As previously mentioned, JAVADA's skill evaluation system has been implemented by its Thai counterpart, the Ministry of Labor's Department of Skill Development. In developing the system, priority was given to job categories with many applicants in Japan (die manufacturing, CNC lathe, and CNC milling machine)[31]. Therefore, the trade skill tests in these areas[32] have already been implemented based on the Japanese evaluation system, and are expected to be utilized going forward. Information on the tests is provided in the Thai language, and applicants must visit a Skill Development Center to submit their applications. Test information can be found on the website of the Department of Skill Development[33]. If a Japanese translation of an outline of the tests and explanations are made available, more Japanese affiliates will become aware of this system and find it easy to use.

11.4 Summary

The first half of this chapter described the coordinator by identifying the current status and issues needing to be addressed for consultants who help Japanese affiliates expand their businesses into Thailand. It is understood that the consultants currently active in supporting Japanese affiliates in Thailand have done little to perform business matching or to see the potentials of technological seeds, both of which are considered to be requirements for the coordinator in this study.

With reference to high-level personnel, the chapter also introduced recruitment trends, the lack of engineers, the current status of recruitment for and HRD at Japanese-affiliated manufacturing companies, and the initiatives by the Japanese and Thai governments and HRD organizations. Among the issues revealed, priority should be given to further promotions to the parties concerned, expansion and strengthening of the network, and streamlining of information exchange channels between HRD service providers and recipients. As is the case for the coordinator described in the previous section, the key to success is how the *Otagai* project secretariat can function as a place for sharing information on high-level personnel recruitment and development as well as for obtaining information on appropriate assistance programs and services.

[31]Response in the hearing with the JAVADA on October 1, 2013

[32]Refer to the JAVADA's service content in Table 11-11 in 11.3.4.

[33]Department of Skill Development, Ministry of Labor Thailand, www.dsd.go.th (Thai)

Chapter 12: Infrastructure and Services Contributing to Upgrading of Industrial Area（Task6）

12.1 Outline of Industrial Area

12.1.1 Industrial Areas in Thailand

(1) Introduction

When reviewing the trends in investment volume and figures of the Thailand Board of Investment (BOI) between the three years from 2009 to 2011, it is clear that a steady recovery has followed the slump occasioned by the global economic downturn that was sparked by the 2009 Lehman shock.

If the investment instances and amounts released by the Thailand Board of Investment (BOI) (approved) are examined by zone, investment is concentrated in zone two, although the large number of industrial areas in zone two is a contributing factor in this. Placing the zone two investment for 2011 in the context of investment in the three zones (zones one through three), there were 718 instances of investment (both foreign and domestic), and this comprised 43.5% of the investment across all three zones. Of this, 491 were instances of foreign investment, of which investment in zone two comprised 54.3%, indicating that over half of foreign investments were made in zone two. Moreover, this ratio was one step higher for Japanese investment, with 318 investments giving a ratio of 65.7% in zone two. From the perspective of investment amounts, Japanese companies invested a total of 129.8 Billion Baht in 2011, and 81.6% of this was concentrated in zone two (Refer to **Table 12-1**, **12-2**).

Rayong Province, in the eastern part of Bangkok is the recipient of a large volume of zone two investment, namely 23.5% of investment in zone two (or 169 of 718 instances), and 39.7 percent of investment amounts (103.8 Billion of 261.7 Billion Baht). While the Rayong Province is

Table 12-1: No. of Investments by Zone (Approved) Unit: No. of Investments

	2009			2010			2011		
	Overall	Foreign	Japanese	Overall	Foreign	Japanese	Overall	Foreign	Japanese
Zone 1	336	204	70	496	250	93	480	241	109
Zone 2	383	289	144	605	429	205	718	491	318
Zone 3	284	121	29	465	177	44	454	172	57
	1,033	614	243	1,566	856	342	1,652	904	484

Table 12-2: Investment Amounts by Zone (Approved) Unit: Billion Baht

	2009			2010			2011		
	Overall	Foreign	Japanese	Overall	Foreign	Japanese	Overall	Foreign	Japanese
Zone 1	49.7	31.3	9.6	69.8	47.4	21.2	46.4	21.1	8.1
Zone 2	180.8	95.4	44.1	244.1	147.7	63.4	261.7	196.9	129.8
Zone 3	50.9	15.4	5.2	177.3	84.1	15.7	141.1	60.4	21.1
	281.4	142.1	58.9	491.2	279.2	100.3	449.2	278.4	159.0

(Source of the above Tables: BOI Statistics)

designated as zone two, the industrial areas and industrial regions of Rayong Province are granted the same privileges as zone three. Likewise the Laem Chabang Industrial Estate (Chonburi Province) is granted zone three privileges and part of zone two in the east of Bangkok is entitled to privileges similar to those of zone three (until December 31, 2014). The privilege granted to these regions is one of the factors that attract companies.

2010 marked a sudden recovery in the sale of land for industrial area use, and we are currently seeing a phenomenon where a portion of industrial areas are sold out and land price have been hiked. Following the 2011 floods, in particular, there are a large number of cases of expansion into the east where the flood risk is low. Because a number of manufacturers of assembled products in the vehicle industry are located in the eastern region, the entry of vehicle component related companies is particularly conspicuous. However, the lack of workers -- particularly in the eastern region -- is becoming apparent, and companies who dislike this are beginning to select places such as Korat in the northeast region where the work force is relatively plentiful. The increase in the number of investments in zone three is also attributable to this (**Table 12-1**). On the other hand, there is still room for industrial land in the industrial areas which were subject to flooding due to the fact that new locations are not keeping pace with the eastern industrial areas, and companies that suffered damage are tending to relocate.

(2) Characteristics of Industrial Areas

When operating in Thailand, there are three possible places in which to locate a place of business. One of these is an industrial estate managed by the Industrial Estate Authority of Thailand (IEAT), another is a park or zone developed and managed by the private sector external to IEAT management, and the final type is located outside industrial areas. If a company moves into an industrial estate, the land tends to be relatively expensive, however there are a variety of benefits, not only in terms of infrastructure, but also land purchase/possession, the percentage of foreign investment, import equipment/facilities, and benefits for foreign workers The industrial areas managed by IEAT are named "Industrial Estates" Industrial areas not managed by IEAT are given a variety of names including, "Industrial Park", "Industrial Land", and "Promotion Zone". It is therefore possible to identify the different types of industrial areas based on the names.

There are said to be approximately 60 different industrial areas in Thailand at present, and IEAT manages 44 of these. Of these, there are the industrial estates located in the North in places such as the outskirts of Chiang Mai, and directly operated by IEAT such as the Northern Region Industrial Estate (Lamphun), tenanted by a large number of Japanese companies, and the Leam Chabang Industrial Estate, located at the Leam Chabang port which has become a port for vehicle export. There are also the industrial estates run jointly by IEAT and private-sector companies such as the Amata Nakorn Industrial Estate and the Eastern Seaboard Industrial Estate. There is no distinction made between the above two with regard to the privileges granted by IEAT.

When the 44 areas in which the IEAT managed industrial estates are located are analyzed according to the BOI zones, ten of the zones on the outskirts of Bangkok are zone one, 28 are zone two, and six are zone three, giving a concentration of over 60% of industrial estates in zone two. Even within zone two there are areas of particular concentration such as the eight locations in Chonburi Province in the southeast of Bangkok, and the ten locations in Rayong Province. In these regions

there are industry clusters in the machinery, science and metal industries, with vehicle industries comprising the main part, and the industrial parks are structured to support the activities of these clusters among the industrial areas, there are places where industry clusters of specific industries such as printing, precious stones, science and the like are prominent.

In the Japan Bank for International Cooperation (JBIC) "FY2011 Survey Report on Overseas Business Operations of Japanese Manufacturing Companies", Thailand was considered the 3rd most promising country for business development, following China and India. Compared with the 2 more highly-ranked countries, the infrastructure in Thailand was given a higher rating. Industrial areas are viewed as a part of infrastructure by investors, and are a strength when compared with other countries.

12.1.2 The Status of Entry by Japanese Companies

With regard to Japanese companies entering Thailand recently, when reviewing the amount of direct Japanese investment in Thailand from the perspective of the balance of international payments (balance of payments base, net, flow, 2010) overseas investment amounts had reached 198.3 Billion JPY. The industry which received the greatest investment sum was transport machinery and equipment at 87.2 Billion JPY. Following on from this was the wholesaling and retail industry at 29 Billion JPY, and electromechanical equipment at 21.5 Billion JPY. Moreover in 2011, the figure for direct investment in Thailand was 2.8 times greater than the previous year at 557.5 Billion JPY. When viewed by type of industry, the investment amounts were largest for the finance and insurance industries at 309.9 Billion JPY, followed by transport machinery and equipment at 72.9 Billion JPY, iron/non-ferrous/metals were 35.3 Billion JPY, and electromechanical equipment was 28.5 Billion JPY.

Industry clusters in vehicle manufacturing in Thailand are well established, and Japan has been active in investment in this industry in Thailand for some time. However looking at the movements from 2010 onwards, Toyota Motor Thailand and Siam Toyota Manufacturing have been strengthening their production capacity in pickup trucks, and engine and propeller shafts, respectively. Additionally, vehicle manufacturers are making new investments such as the investment of approximately 10.8 billion in parts for pickup truck manufacturing made by Auto Alliance Thailand.

The Thai government has introduced a new preferential taxation system applicable to the manufacture of fuel efficient/environmentally friendly compact cars (eco-cars). Five Japanese companies -- Honda, Mitsubishi, Nissan, Suzuki, and Toyota -- have been accredited for eco-car manufacturing by the Thailand Board of Investment (BOI), and have begun manufacturing. Following the launch of the Nissan March in March 2010, a wave of eco-cars has been released on the market. These kind of new movements have been a contributing factor in increasing investment.

On the other hand, 2011 saw large sums in foreign direct investment in the finance/insurance industries. This appears to be a response to the widespread flooding in central Thailand from October 2011 onward. Of the 309.9 billion yen invested in this industry, 303. 7 billion yen (or 98%) was allocated between October and December. This is thought to be due to the capital increase made by the insurance companies, as a result of the large sums in disaster insurance payouts made to companies which suffered damage in the flooding.

12.2 Survey of Needs

12.2.1 An Estimation of the Infrastructure and Services Needs in Thailand

(1)Defining "Infrastructure and Services" for this Discussion

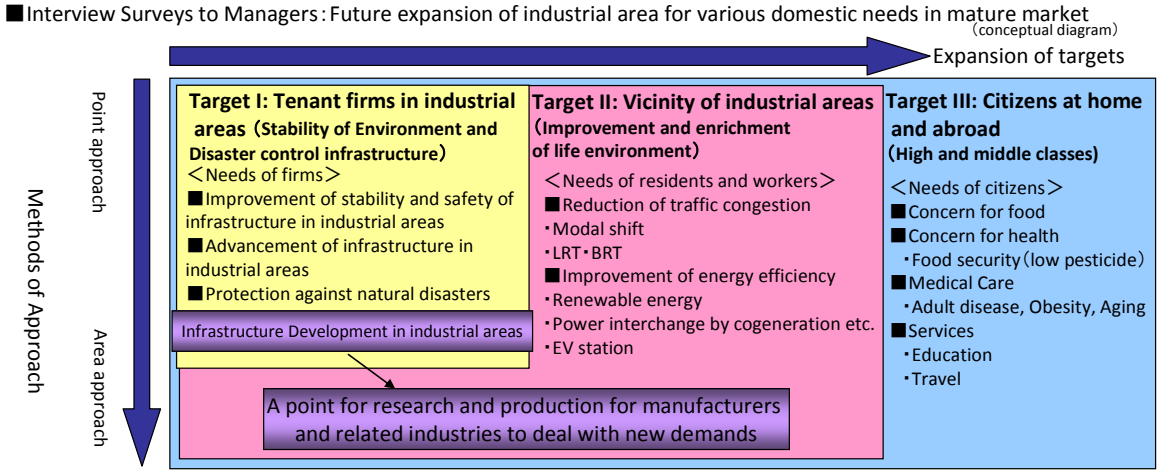
The "infrastructure and services" needs in Thailand are diverse, and the scale differs depending on what is perceived to be infrastructure. For example, the issue can be viewed based on a range of different scales: national, regional, industrial area, or individual company level.

The focus of this discussion shall be small and medium sized business clusters. For this reason, the "infrastructure and services" discussed here are not the large projects such as roads, rail, airports and ports that are handled for the most part by major construction companies; rather for the purpose of this discussion, "infrastructure and services" are defined as the environmental and disaster prevention measures and related fields that enable small and medium sized businesses to leverage the technology they possess.

(2) Refining the Targets for Interview Surveys

As the target differs according to the infrastructure scale, the envisaged needs and infrastructure functionality by scale for each infrastructure type have been organized into the diagram below.

As can be seen in the graph below, when envisaging the entry of industry clusters comprised by the small and medium sized businesses at the center of this discussion, the realistic option is development in industrial areas/industrial area business.



General Direction		Infrastructure and Functions Required for Industrial Areas		
		Advancement of services in industrial areas	Streamlining in the vicinity of industrial area	Maturation of preferences of Thai citizens
Envisaged line-up of infrastructure development	Environmental measure	■Electricity (clean energy, power interchange) ■Improvement of wastewater treatment ■Waste control (reduced generation)	■Green energy (solar power, wind power) ■Energy supply station for vehicles (bio-gas etc.)	
	Countermeasure against disasters	■Reinforcement of Flood protection wall (levee) ■Improvement of discharge function	■Logistics（reserved SCs） ■Communication（wireless system and SNS for disaster use）	
	Other (Education etc.)	■BCP in industrial area ■Joint disaster drill by company tenants	■DCP for Industrial area＋peripheral industry	■Education on disaster prevention and environment

Figure12-1 Future expansion of industrial area for various domestic needs in mature market

12.2.2 Implementing Interview Surveys

(1)The Interview Survey Perspective

Small and medium sized businesses with advanced and high-grade technologies must have a good grasp of what their needs will be when they enter Thailand.

We will target industrial areas and businesses within industrial areas, and will not include the whole of Thailand or other countries in the vicinity. It is necessary to grasp what the problems and challenges are with regard to technology.

We will therefore attempt to ascertain the challenges and needs presented by industrial areas and individual company tenants.

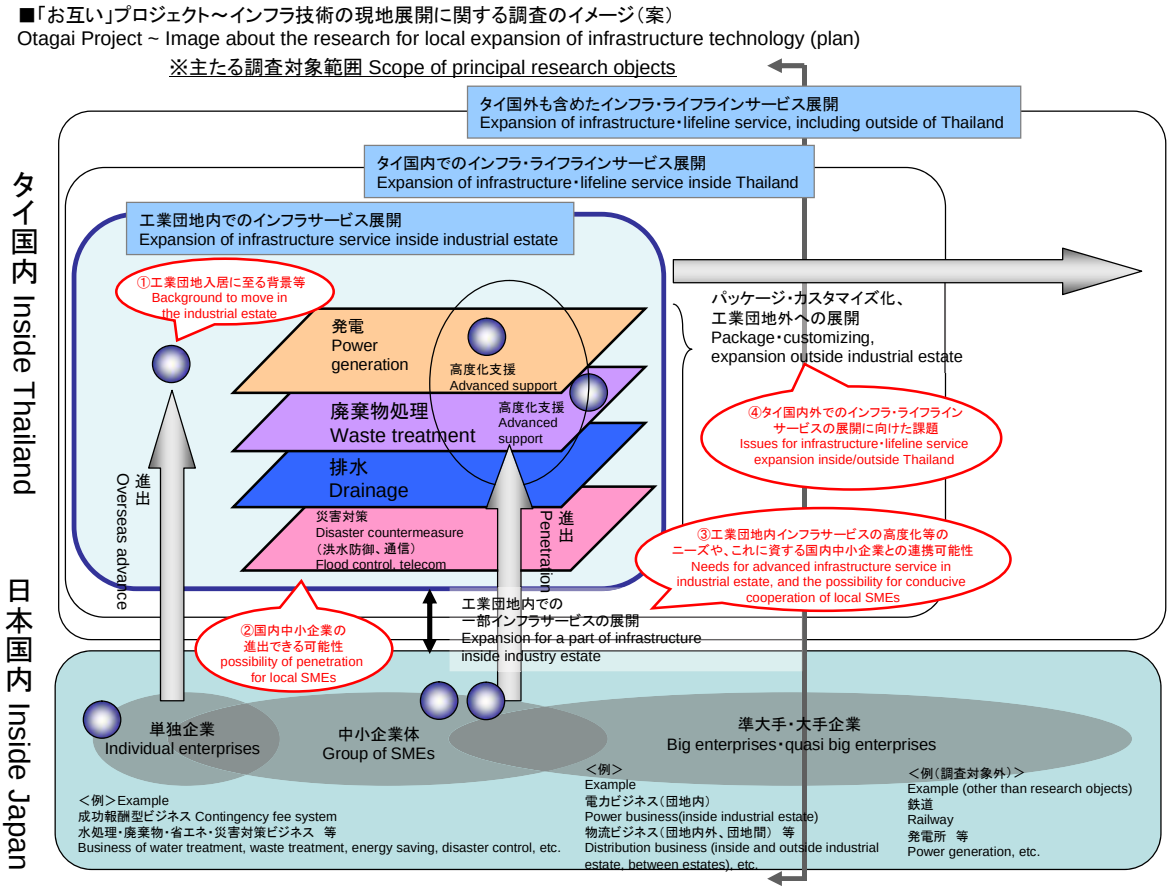


Figure 12-2: Conceptual diagram of introducing technical infrastructure

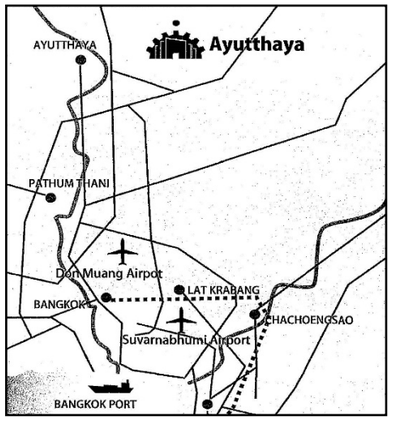
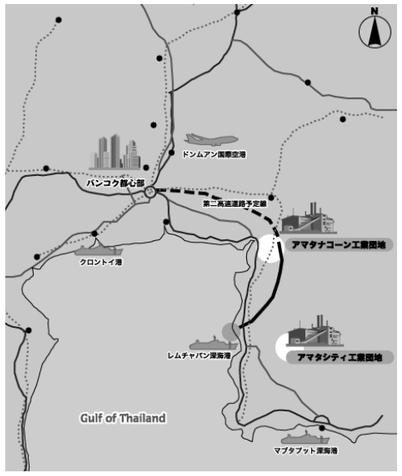
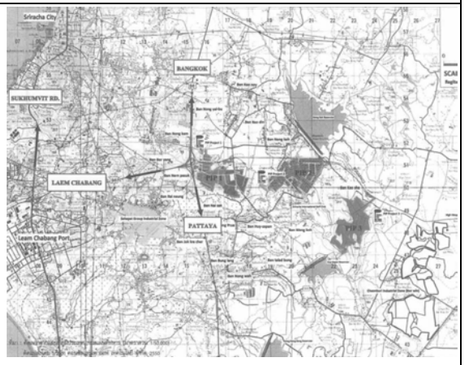
(2) Selecting the Industrial Areas for Survey

Attempting to survey all of the industrial areas in Thailand will be difficult. We have elected to carry out interviews in industrial areas where Japanese businesses are concentrated, and Japanese design proposals are easily accepted.

The Rojana, Amata Nakorn, and Pinthong industrial areas were selected as subjects for the interviews.

A summary of these industrial areas follows.

Table 12-3: Summary of Industrial Areas Applicable for Interviews

Name of park	Rojana	Amata Nakorn	Pinthong
Overview	・ Rojana Industrial Park is a joint venture between a Thai financial combine, Vinichbutr, and Sumitomo Bussan Corporation. With 115 companies and staff of 50,000 people in 2004, it is the largest private-investment industrial area. ・ One of the major selling points is the ease of access to Bangkok. Of the 218 companies, 147 are Japanese, and are involved in automotive, automotive parts, electrical & electronics, and foodstuffs, etc.	・ Within commuting distance from Bangkok ・ Located on the Eastern Seaboard, where manufacturing investments are most active. ・ It is within 60 km zone south-east of Bangkok, and the Laem Chabang Port is nearby. The estate also runs its own pipeline, and has a thermal power station fueled by natural gas. As at 2005, the park was home to approximately 300 companies, 70% of which were Japanese companies; and there were restaurants that offered Japanese food, as well as luxury apartments. Many of the companies in the estate are involved with automotive parts, electrical machineries, consumer products, and light industries.	・ Founded in 1995, Pinthong Industrial Estate was designed and developed for the purpose of rental factories, warehouses and land on which to build factories (run directly by the park) for manufacturing a variety of products. ・ Full of public facilities through cooperation by IEAT (Industrial Estate Authority of Thailand). ・ Pinnthong Industrial Estate is located in the Eastern Seaboard region, Chonburi Province. It is ideally located at the center of the Eastern Seaboard Industrial Estate, and is supported by good infrastructure. ・ Pinthong Industrial Estate is exempt from corporate tax for 7 years due to the BOI Zone 2 Investment Plan
Location	・ 7 km from Ayutthaya ・ 43 km from Don Mueang International Airport ・ 70 km from Bangkok (1 hour by car) ・ 90 km from Suvarnabhumi International Airport ・ 112 km from Laem Chabang Port 	・ 57 km from Bangkok via Bangna-Trad Highway (towards southeast Pattaya) ・ 46 km from Laem Chabang Deep-water Port ・ 85 km from Don Mueang (old) International Airport ・ 42km from Suvarnabhumi (new) International Airport 	1. It is in highlands and the possibility of flooding is extremely low. ・ Pinthong 1: approx. 25 m above sea level; Pinthong 2: approx. 50 m above sea level; Pinthong 3: 80 to 137 m above sea level. 2. Solid ground. 3. Very close to Laem Chabang Port: 9 km (approx. 10 minutes) ・ 12 km from Si Racha (approx. 20 minutes). ・ 65 km from Suvarnabhumi International Airport (approx. 45 minutes) ・ 94 km from Bangkok (approx. 1.5 hours in the morning, approx. 2 hours in the evening) 
Developers, groups	- Joint venture between a Thai financial combine, Vinichbutr, and Sumitomo Bussan Corporation: Rojana Industrial Park Public Co., Ltd.	・ Developed by Amata Corporation. ・ Nakhon means 'city' in Thai, but it is distinguished from another industrial area called Amata City Industrial Estate. Opened in 1989.	・ Pinthong group and IEAT (Industrial Estate Authority of Thailand). ・ The current chairman (owner) Mr. Pira Patamavorakulchai moved from Chaozhou Province of China to Thailand, and took over his father's iron & steel wholesale business in around 1970, which later became the Pinthong group. The majority of the business is related to processing and production of iron steel, common steel, special steel, and stainless steel. The company has many working relationships with Japanese companies.
Tenants	A variety of categories, from automotive, electronics, precision items, to foodstuffs	Metal products, machinery, transport machinery, electronics, electrics, chemical, foodstuffs, general consumer products	1. Sales of stainless steel plate, coil center, and special steel 2. Metal press processing plant 3. Aluminum die cast 4. Steel forge plant 5. Transport/warehousing
Year Commenced	1989	1989	1995
Development Status	Expansion up to Rojana 3	Progressively expanding	・ Preparation for development and sale of Pinthong 4 and Pinthong 5 is being carried out in order to meet the demand for factories in Thailand which is expected to continue in the future. ・ Rentals of small-scale factories are being prepared in order to meet the demand for small-sized factories in Thailand which is expected to continue in the future.
Development Land	Site area: Total 1,164 ha Rojana 1 (Phase 1-6 (west side of the industrial estate)) Rojana 2 (Phase 7), Rojana 3 (Phase 8)	Total development area: 15,000 Rai (1 Rai = 1,600 m^2), progressively expanding Including industrial/commercial/residential areas and green belt	Pinthong 1: 1,291 Rai, Pinthong 2: 1,028 Rai, Pinthong 3: 1,505 Rai Pinthong 4: 653 Rai, Pinthong 5: 1,472 Rai, Lotistic Land: 309 Rai

Number of Tenants	230 companies, 135 of which are Japanese	Over 500 companies (of which 60% are Japanese, including joint ventures)	183 companies (of which 75% are Japanese, including joint ventures)
Number of Workers	Approx. 120,000 people	Approx. 140,000 people	
Basic Infrastructure	Water: 2 water sources - water supply of 75,000 m^3/day from Pasak River Water supply of 32,000 m^3/day from ground water (deep well of 20 m) Electricity: 80 MW, 22 kV, and 115 kV supplied by Provincial Electricity Authority of Thailand (PEA), and 200 MW, 22 kV, and 115 kV supplied by Rojana Power. Gas: Supplied by Rojana Power Telecommunications: Wired from PTT. Waste water treatment: processing capability of 50,000 m^3/day from 5 locations. Roading: width of main roads is 36 m, width of side roads is 24 m. Flood prevention: Flood prevention walls within the industrial area, water discharge system completed Security/fire: fire hydrant every 150 m, fire trucks, 24-hour security	・ Water supply, waste water treatment, rainwater discharge, electricity supply, telecommunications lines ・ *Natural gas (in selected areas, available area gradually expanding) ・ Tap water: Supplied by Metropolitan Waterworks Authority, Amata Quality Water Co., Ltd. ・ Electricity: Supplied from Provincial Electricity Authority. 22 kV high voltage/high current ・ Waste water treatment : Activated sludge system with a capacity of 15,000 m^3/day ・ Roading: width of main roads is 48 m (6 lanes), width of local distribution roads is 32 m (4 lanes) ・ Fire prevention: fire hydrant every 250 m. ・ One Start One Stop Investment Center (OSOS): Located in Industrial Estate Authority of Thailand Headquarters and Amata Nakorn Industrial Estate Office.	Transformer: Supply capacity of 50 megawatts High-voltage: 3-phase, 4-line. 115 kilovolts, 22 kilovolts Power supply from Provincial Electricity Authority TOT Public Company Limited, TT&T, etc.
Pathways within the industrial area		Reinforced concrete pavement	Main road: width of 30 m (PIP 1), width 40 m (PIP 1) Reinforced asphalt, 4-lane road
Maintenance cost		900 baht/rai/month (GIZ) 1200 baht/rai/month (GIZ)	
Environmental management		ISO14001 obtained	Accredited with ISO 14001:2002, and over 10% of the area is green land to comply with IEAT regulations
Facilities		TMCA (sports facilities, day-care center)	
Natural gas, solar power business	・ Rojana Power is a group company jointly-invested by Rojana Industrial Park Public, Kansai Electric Power, Sumitomo Metal Industries, and Sumitomo Bussan; this group company generates power using natural gas. Electricity of 264,000 kW was being supplied as at 2011, but will be ramped up to 531,000 kW in the future. ・ In 2011, Rojana Energy, a joint venture company between Rojana Industrial Park Public and Sumitomo Bussan, planned a large solar power plant with a maximum output of 24,000 kW and an area of 770,000 m^2 within the Ayutthaya Industrial Park. It is scheduled to begin operation from the end of 2012, at a total cost of 7 billion yen. Electricity is scheduled to be sold to Provincial Electricity Authority of Thailand (PEA)	・ Cogeneration Business: Companies such as Toshiba Plant Systems & Services and Amata B Grimm Power 3 are expected to begin natural gas cogeneration business in two locations of the industrial area from the end of August, 2012. They will supply power to industrial areas while also selling the electricity to the Electricity Generating Authority of Thailand (EGAT). http://news.nna.jp/free/news/20100719thb002A.html	No power generation
Water service and waste water businesses	Water supply of 75,000 m^3/day from the Pasak River, and 32,000 m^3/day from ground water (deep well of 20 m) Waste water: treatment capability of 50,000 m^3/day, sewage charge: 5 baht/m^3	Water supply: Standard allocation of 7m^2/Rai/day 19.50 baht/m^2 Waste water volume: Calculated at 80% of supplied water	Water supply: Water supply quota is set to 7,500 m^2, 1,500 m^2, 13,200 m^2/day, or depending on the demand. Reservoir is 30,000 m^3, 350,000, 54,000 m^2 Always secures 7 days worth of water supply volume
Flooding	・ Heavy rain in northern part of Thailand since July 2011 caused flooding in Ayutthaya province. The water level of the river near the industrial area increased, and the 5 m embankment was reinforced to a height of 6.5 m on October 7. ・ Flooding occurred within the industrial park in October 8, and an evacuation order was put in place. Recovery work commenced on November 8 in Rojana 3.	No flood damage	No flood damage
Sources:	(1), (2), (7)	(3), (6), (7)	(4), (5), (7)

Waterworks	PIP 1	PIP 2
Reservoir	30,000 m^3	350,000 m^3
Untreated water	EastWater Group	
Consumption (hourly)	300 m^3	150 m^3
Waste water treatment	Activated sludge system with a daily treatment capacity of 2,400 m^3	Activated sludge system with a daily treatment capacity of 2,400 m^3

① http://ja.wikipedia.org/wiki/%E3%83%AD%E3%83%BC%E3%83%82%E3%83%A3%E3%83%8A%E3%83%BB%E3%82%A2%E3%83%A6%E3%82%BF%E3%83%A4%E5%B7%A5%E6%A5%AD%E5%9B%A3%E5%9C%B0http://www.jetro.go.jp/world/asia/th/flood/complex.html
② http://www.jetro.go.jp/world/asia/th/flood/complex.html
③ http://www.itochu-realty.com/solutions/industrial_park/amata_nakorn/
④ http://www.pipestate.com/jp/AboutUs.asp
⑤ Document 'Yokoso! Pinthong Kogyo Danchi e (Welcome to Pinthong Industrial Estate)', May 31, 2013.
⑥ http://ja.wikipedia.org/wiki/%E3%82%A2%E3%83%9E%E3%82%BF%E3%83%8A%E3%82%B3%E3%83%BC%E3%83%B3%E5%B7%A5%E6%A5%AD%E5%9B%A3%E5%9C%B0
⑦ Main industrial areas and rental factories/warehouses, 2012 edition
In addition, references from the interview survey have been made

(3)Interview Surveys

Interviews were conducted in two parts. The first part involved interviews principally with industrial area management in order to grasp an overall view. Based on the information gathered from the first part, the second part involved interviews with business occupants of the industrial area.

Thai engineers have also been interviewed as planning and design of infrastructure and services are carried out by construction consultants and engineers. The direction and the current situation regarding the environmental policies, environmental & firefighting technologies in Thailand were ascertained through these interviews.

Table 12-4: Infrastructure-related Interview Survey

Industrial Areas	First Interview Survey (5/27/2013 - 5/31)	Second Interview Survey (6/17/2013- 6/21)
Rojana	Management (Mr. Hayashi, Sumikin Bussan)	Rojana Power [Electricity] Water treatment engineer (adviser) [Water treatment] RDC [Logistics]
Amata Nakorn	Management (Mr. Sudo, Amata Nakorn)	Amata [Electricity] Amata Facility [Facility management]
Pinthong	Management (Mr. Tsuge, Pinthong)	
Others	Systena Thailand [Information/IT] PCBK [Construction consultant] Sasin Graduate Institute of Business Administration of Chulalongkorn University [Human resources]	TEAM [Construction consultant]

Rojana Industrial Park Management

Amata Facility

Amata Power

Rojana Water Treatment Engineers

12.2.3 Organization of Interview Materials

From the interviews, opinions that may be beneficial for grasping the current status, challenges and needs have been extracted and are organized in the following manner:

(1)First Interview (Industrial Area Management)

1）Current Undertakings

- Industrial areas provide infrastructure such as stable electricity, sufficient supply of water, and waste & waste water treatment. Sales of land occurs only at the initial stage, but profit is being made from maintenance of infrastructure (e.g. electricity and water). Companies are willing to pay a certain amount to use stable infrastructure. [Industrial area management A]
- The level of maturity of industrial areas is not high. Most companies who purchase the land are in the manufacturing industry, and our foundation is based on providing infrastructure required by manufacturers. In terms of 'eco', overall electricity can be reduced and stable supply can be provided instead of 'smart' applications. [Industrial area management A]
- Infrastructure is not reaching a sufficient level, and we are currently using traditional facilities. This is simply due to its simplicity, low-cost, and low maintenance. It is different if it is after an issue, but thought does not go to that level. Facilities that have no issues will not be further upgraded. [Industrial area management A]
- A fiber-optic telecommunications network has been installed throughout the industrial park, but because it is over its capacity, the actual communication speed is slow. Each company is taking independent measures as required. [Industrial area management B]
- There was nothing nearby when the industrial area opened. The industrial areas have been contributing to the community by preparing areas, buildings and facilities for fire and police departments. [Industrial area management C]

2）Management in the Future

- Because the area was designed 20 years ago, rainfall and rainwater drainage plans differ from today's requirements. Because there are climate changes, we must consider how it should be improved. [Industrial area management A]
- We would like to invite R&D by collaborative work with universities or by companies. Thailand as a country also hopes that the industrial area can cater for R&D work. [Industrial area management B]
- Thai companies attempt to solve issues by hiring a large number of people. Japanese people think about efficiency and productivity, while Thai people tend to think only about the job they have been given. [Industrial area management B]

3）Possibilities of Introducing New Business Models

- Because we ask our customers to bear some costs of infrastructure management within the industrial area, it will provide good motives for the companies if we are able to give returns. It is not convincing to ask for a sudden fee increase from tomorrow, even if it is for the sake of the future and for the environment. However, it is different if there is some assistance such as cheaper taxes. [Industrial area management A]
- The management would willingly make investments if it is good for the industrial area, customers and the environment. [Industrial Area A]

- It is probably possible to discuss a performance-based structure with companies. [Industrial area management B]
- Although there are many proposals, there are many that cannot be carried out in reality. Although we wish to execute them, it is often difficult as the scale of the industrial area is small. [Industrial area management C]
- In terms of a performance-based structure, it is probably important to let companies know about the existence of such technologies. Some companies are concerned about it. PR activities must first be carried out. [Industrial area management C]

(2) Second Interview (Individual Companies)

1）Company Undertakings, Current Issues

- Compared to Japan, the internet connectivity and communication speed is slow even in Bangkok. Thai people do not have a strong awareness regarding management of sensitive information, making the situation dangerous. [Company A]
- The water quality of the waterways that are linked to nearby regions are becoming worse. [Company B]
- We think that poor rainwater discharge within the industrial area is an issue. [Company B]
- As an energy-saving initiative, all of the streetlights within the industrial area have been replaced with LEDs. We knew of the ESCO initiatives, but the replacement costs were paid by us. [Company B]
- Roads and footpaths within the industrial area are being inspected by staff. However, there is no standards and procedures for inspection, and there are only records of repairs. [Company B]
- We think that facilities that are becoming old must be renewed. [Company B]
- We would like to reduce the effect of wire disconnection, for example by minimizing the effect of lightning. In addition, it would be good if there is any technology that prevents electrical leakage from the insulators on the power lines. [Company C]
- It is difficult to find new technologies (e.g. cost-reducing, environmentally-friendly) ourselves. We always like to have the latest technology. [Company C]
- Transport from warehouse is contracted with a local company. In order to improve the quality of transport, we have attempted to educate the drivers, but it was at times difficult to educate Thai people. [Company D]
- Water quality of each factory’s waste water is randomly checked every month. [Company E]
- Assessments such as Environmental Impact Assessment (EIA, ordered from the owner in case of industrial areas), Social Impact Assessment (SIA), and Health Impact Assessment (HIA) have been increasing. Environmental Impact Assessment in particular is expected to increase as there is an increasing public awareness. [Company F]
- There is no vision by the government about the environment, and legislation is not being established. [Company F]

2）Interest in Japanese Infrastructure Technology

- Although I respect the Japanese peoples' attitude towards work, but they also have a stubborn side to them. They do not change their stance on praising one technology over the other.

There must surely have been opportunities lost because of this stance. [Company B]

- Japanese people overspec products to above what Thai people wish for, so they lose out to Korea and China in terms of cost. [Company B]
- Although the quality of Japanese products are good, they lose out in pricing if the printed specification of the product is identical with products of other countries. The benefit of Japanese products can only be known after a long period of use. They must compete by selling method (i.e. promoting life cycle cost). [Company G]
- There is an impression that package technology of the Japanese water treatment is excellent. If it was simply about purchasing the product, it would have aligned with our needs. [Company E]
- There are around 30 consultant companies in Thailand that can carry out EIA, but their technical level and the scale of business they can handle vary greatly. We are interested in technical partnerships with Japanese engineers. [Company F]

3）Sufficiency of Infrastructure, Advancement of Services

- It is difficult to make determination when talking about performance-based structures unless there are no detailed examples and figures. For example, it costs 1 million baht per month to manage the vegetation within the industrial area. We will be very interested if we can discuss how much of these can be reduced. [Company B]
- There are not many companies that gave technical proposals. We welcome proposals at any time. We would like any technology that would make power generation more efficient, or any management technology for power transmission. [Company C]
- We would consider employing advanced technology if waste water treatment costs can be paid in long term. [Company C]
- Under the premise of significance, the first priority is the increased capacity, the second is reliability, and third is cost. [Company C]
- Making attempts ourselves can be wasteful and we no longer want to take this approach. We would like a feasibility study if it is paid by the company making the proposal. [Company C]
- The shape of the target will begin to change from industrial products that have been prominent so far to other categories such as the expansion of convenience stores and food logistics. Japanese fruit is also coming into Thailand. [Company D]
- Firefighting information systems are maintained independently at each station, and they are not functioning as an overall system (there is a market remaining in this area). [Company F]

12.3 Extraction of Challenges and Needs

12.3.1 Prior Examples

(1)Domestic Prior Examples - Initiatives of Team E-Kansai

1）Outline of Initiatives

Kansai-Asia Environmental and Energy Saving Business Promotion Forum (Team E-Kansai) is promoting initiatives aimed at building the 'Environmentally-Considerate Industrial Estate Model' (in particular, the establishment of waste management companies to promote effective utilization through improved waste management, recycling etc.) at the Amata Nakorn Industrial Estate, one of the largest industrial estates in Thailand.

2）History of Initiatives to Date

○ There were originally three industrial clusters in the Kansai, which include companies which planned to independently expand into Asia. We initially had approximately 100 responses from small and medium enterprises to our initiatives.

○ Among the ASEAN countries, only Thailand had environment-related needs regarding industrial advancement. We needed to propose solutions to their needs, and the 'eco-town' concept was born from that.

○ Within Thailand, there was a need to select industrial estates that had a certain degree of environmental awareness, and it was considered that Amata Nakorn was suitable. There are also many Japanese companies in the Amata Nakorn Industrial Estate, which made implementation easy.

○ A Memorandum of Understanding has been exchanged between the METI Kinki Bureau, team-e-kansai, and the Ministry of Industry of the Kingdom of Thailand, and it is in effect today.

3）Outline of Trials Conducted at the Amata Nakorn Industrial Estate

①Outline

○ Amata and TEAM E-KANSAI concluded the MOU on June 6, and during the 1 1/2 month trial period from June 1 to July 15, individually visited local businesses to conduct interview surveys about operational usability etc. (most of the survey subjects were Japanese companies in Amata Nakorn).

○ E-KANSAI's operations will be presented to Amata Nakorn in July, and if approved, application will be made to IEAT.

○ Gaining approval requires approximately three months. If approval is received, establishing an operational company is planned.

②Survey Contents

○ The TEAM E-KANSAI members dispatched from five companies based in the Kansai are currently working at the Amata Nakorn Industrial Estate.

○ The surveys conducted during the trial period involve firstly interview surveys concerning the types and volume of industrial waste from each factory, through which contractor that waste is disposed of and at what price, etc.

○ The surveys involve not only discussions about waste, but also hearing out issues in areas such as water processing, 3R-related points, and the companies' concerns etc., which were all recorded on the survey sheets.

○ The survey results data was shared among managers at the daily meetings.

③Future Tasks

○ Initiatives are currently conducted through proposals by individual companies. It is necessary to develop activities as a team.

○ It is necessary to station a coordinator on site who knows the technology (including liaison with on-site consultants). Situations may arise where rapid response is required.

○ When implementing Japanese technology in Thailand, there are times when simply arranging the technology is insufficient. TEAM E-KANSAI is also working with the Kinki METI to help the Thai government take initiatives to make technology easy for companies to adopt.
E.g. in the disposal of paint liquids, they cannot be disposed of in a liquid state, rather, they must be solidified first. However, in order to apply Japanese technology for recycling, the liquid state is sometimes desirable.

○ Proposing initiatives such as ESCO operation.

○ In order to match companies or promote projects, a thorough knowledge of Thai laws and regulatory systems is required. Even the government officials to be worked with may not always know all the laws. Being told after the project has proceeded that it is against the law is common.

(2)Trends Driving Performance-based Business

1）Performance-based Business

Performance-based business typically refers to 'an arrangement where a corporation recruits associates on the internet for promotional activities such as advertising or sales, and allocates payments based on the performance of those promotional activities'.

In the past, advertising costs were incurred regardless of its results, but in the performance-based business arrangement, without specific results such as successful sales, no advertising costs etc. need to be incurred.

a）The example of Amazon's Performance-based Model

The company which has used performance-based promotion on the internet the most effectively is Amazon.com, which debuted with the slogan 'the Earth's biggest bookstore'. Amazon.com uses performance-based promotion, called its 'affiliate program', as a promotional method.

A feature of the affiliate program is that any website owner can participate, be they an individual or a company, by only simple screening after displaying a banner ad.

It is an arrangement by which the affiliate program participants introduce books sold on Amazon.com on their website, and if visitors to their website decide they want the book, click through the banner to Amazon.com and purchase the book. Once the sale is finalized, the website owner receives 5-15% of the sale price as a performance payment.

b）Other Examples

Table 12-5: Another example of　Performance-based Model

NO	Example of Initiative	Genre Products Sold Performance Payment Commission	Notes
1	Internet shop with performance payments of 20% of sales	Genre: Retailing Products sold: Household goods Performance payment: 3% of sales	- An online shop that carries a wide range of household goods, from baby products to interior decorating products. - Sales partners sign a contract that pays them 3% of sales

2	A loan company which has reduced card-issuing costs by 80%	Genre: Loan companies Products sold: Card loan members Performance payment: 5,000 yen per new card loan member	- Result payment is set per card member captured - The market price for regular publicity and advertising costs to capture one new card member is 20,000 to 40,000 yen
3	A health food company which reduced its sample distribution costs to 1/7 of their previous level	Genre: Retailing (storeless) Products sold: Health food Performance payment: 100 yen per sample application	- A method of recruiting sample users and approaching sample requesters - Publicity and advertising costs, mainly in magazines, were restricting profitability - By switching to performance-based promotion on the internet, the cost of capturing one sample reduced from 700 yen to 100 yen.
4	An internet shop which increased its sales through prize campaigns	Genre: Retailing Products sold: Home appliances Performance payment: 100 yen per email magazine member registration	- A large number of customer applications were received by combining with the prize campaigns, and thus reduced the customer capturing cost - Sales partners were captured by setting up prize campaigns for digital cameras, DVD recorders etc., and offering payment of 100 yen on the prize information website etc. for each new email magazine member
5	A food retailer who added loyal customers by selling trial packs	Genre: Storeless retailing Products sold: Food Performance payment: 300 yen per trial pack sold	An approach which reduced marketing costs and increased the customer capture rate by providing consumers with a sense of value
6	Coupon strategy for an aesthetic salon which increased customer numbers	Genre: Services Products sold: Aesthetic salon Performance payment: 3,000 yen per customer that visited	- The target market was narrowed down to office ladies, and a trial service worth 10,000 yen and coupons for further discounts on that service were rolled out online. - This succeeded in reducing the advertising costs to almost half that of women's magazines and free newspapers etc.

2）Similar Examples of Performance-based Business in Maintenance and Operation of Infrastructure Facilities and Equipment

a）ESCO (Energy Service Company) Business

(1) Outline

○ Business which covers the costs of energy-saving repairs to government offices etc. through the amount of reduction in utility costs.

○ As well as providing all services relating to energy-saving diagnostics, design and construction, operation and maintenance management etc., private businesses (ESCO Business) guarantee the energy-saving effect.

b) Incentives Relating to Cost-reduction Proposals

(1) Incentive Provision System

As a trial to increase the effectiveness of cost reduction, the first performance-based incentives for public works projects in Japan were implemented at the Isawa Dam in Iwate Prefecture.

Under this system, when the ordering party accepts a cost-reduction proposal from the CM and that cost reduction is achieved, 10% of the cost reduction amount is paid to the CM as an incentive (refer to figure on right).

It is expected that this system will encourage more proactive management in relation to cost reduction. If the CM proposal is accepted, the work contractor receives no reduction amount payment (in a VE proposal from the work contractor, 50% of the reduction amount is paid). Because of this, technical tension between the three parties (including the ordering party's in-house VE discussion group) is promoted.

(2) Incentive Provision System Effects and Challenges

Similar to other ordering party-supported CM work, the CM costs for the Isawa Dam are based on the direct expenses (cost) (=direct personnel expenses + direct expenditures) + miscellaneous expenses (fees) (= general management expenses + profit) with the estimation standards for the design entrusting work applied. A cost reduction incentive was also provided for fees. However, because cost reduction proposals mostly (1) fall in the categories of design verification, construction plan verification etc., (2) are for work not yet ordered, or (3) are in-house VE discussion issues, they may not be subject to incentives.

12.3.2 Summarizing the Issues and Needs at Thai Industrial Areas

Based on the results of interviews with industrial area managers and business occupants of the industrial areas, we have summed up the issues and needs as well as the potential solutions.

Here we have organized the issues and needs by infrastructure field. In addition, we have summed up the performance-based fee structure, and the possibility of introducing this into Thailand and the industrial areas.

(1) Summarizing the Issues and Needs by Infrastructure Field

Based on the results of the interview, we can assume that for Thai industrial areas and businesses there are two stages with respect to issues and needs concerning infrastructure. In contrast to Japan, enterprise is still in the growth phase and scope for company and human resource maturation remains. For this reason the results have been divided into "(1) current challenges" and "(2) challenges for advancement"

"(1) Current challenges" sums up issues from the perspective of current problems, shortages, and areas requiring further development stemming from the fact that both companies and personnel are still in the growth phase.

"(2) Challenges for advancement" sums up issues from the perspective of areas that are not a problem for companies in terms of proceeding with manufacturing and business activities at the

present time, but which might conceivably become necessary in the future.

Table 12-6: Issues and Solutions by Infrastructure Field in Thai Companies

Areas of infrastructure	(1) Current challenges	(2) Challenges for advancement	Solutions
Transportation and roads (within industrial areas)	・Aging facilities ・Reducing cost for facility upgrades ・Streamlining daily maintenance management work such as inspections	・Asset management	・Introducing LEDs ・Introducing facility management databases
Power generation, gas	・Reducing the frequency of maintenance-based power outages ・Stabilizing the quality of water for power generation ・Gathering information on advanced technology	・More efficient power generation ・Improving the quality of water for power generation ・Increasing efficiency in electricity supply	・Introducing advanced technology for more efficient power generation ・Introducing water processing technology that is not affected by the quality of the water source
Energy saving	・The price of power is low, and companies are apathetic about energy-saving methods with the focus on cost reduction and expansion of production for company growth.	・Awareness about energy saving	・Making the effects of energy saving visible (energy, cost etc.)
Water supply	・Stable supply amount and quality ・Streamline power used in processing, reducing the amount of power used.	・Improving quality	・Advanced wastewater treatment such as ozone treatment ・Technology for more power efficient water treatment
Industrial effluent treatment	・Reducing effluent treatment costs ・Reducing industrial effluent monitoring cost	・Upgrading industrial effluent treatment ・Efficient monitoring of industrial effluent ・Monitoring and improvement of effluent quality	・Introducing a reclaimed wastewater reuse system ・Automated water quality monitoring
Domestic drainage treatment	・Understanding the current water quality status (researching wastewater information, and surveying river and waterway water quality) ・Maintenance and spread of sewerage systems	・Improving domestic drainage from housing and households ・Building consensus with local residents	・combined treatment septic tank for individual housing ・Create a national regulatory system for domestic drainage treatment and draft a construction plan ・A government or local government-based subsidy system for septic tank installment costs.
Waste treatment	・Improving sorting and recycle processing ・Improving collection and transport technology, and raising contractor awareness.	・Appropriate management of processing facilities (e.g. landfill)	・Recycling and resource recovery technology

Areas of infrastructure	(1) Current challenges	(2) Challenges for advancement	Solutions
Distribution	・Difficulty arriving on time due to heavy congestion ・Reducing fuel consumption costs associated with truck-based freight	・Automated customs system ・Optimization of vehicle dispatch (home delivery etc.) ・Raising the awareness of transport industry contractors	・Making distribution visible ・Vehicle movement management system
Communication	・Company-level measures suited to requirements	・Improvements to the Internet transmission speed	・Fitting an optical fiber network
Information, IT	・Improving awareness regarding information management	・Improving production and personnel management systems	・Introducing information management systems such as cloud computing
Disaster prevention	・Measures against flooding, submersion ・Reviewing rainwater drainage plans	・Take out a goods damage insurance policy against water damage ・Restructuring independently introduced disaster prevention systems into a consolidated system ・Impacts of climate change	・Drafting a rainwater drainage plan that is tailored to the current social and climatic conditions ・Disaster prevention system management
Other	・There are a lack of professional environmental engineers who can carry out an EIA (Environmental Impact Assessment)	・Technological tie-ups with Japanese engineers	・Technological exchange/posting of engineers

(2) Challenges Involved in Potentially Introducing a Performance-based Fee Structure

In order to upgrade the infrastructure and services within the industrial areas as outlined in the survey, it will be necessary to carry out the required procedures in collaboration with the industrial areas, Team Otagai (provisional name), and domestic infrastructure-related companies, following the process detailed in the diagram below:

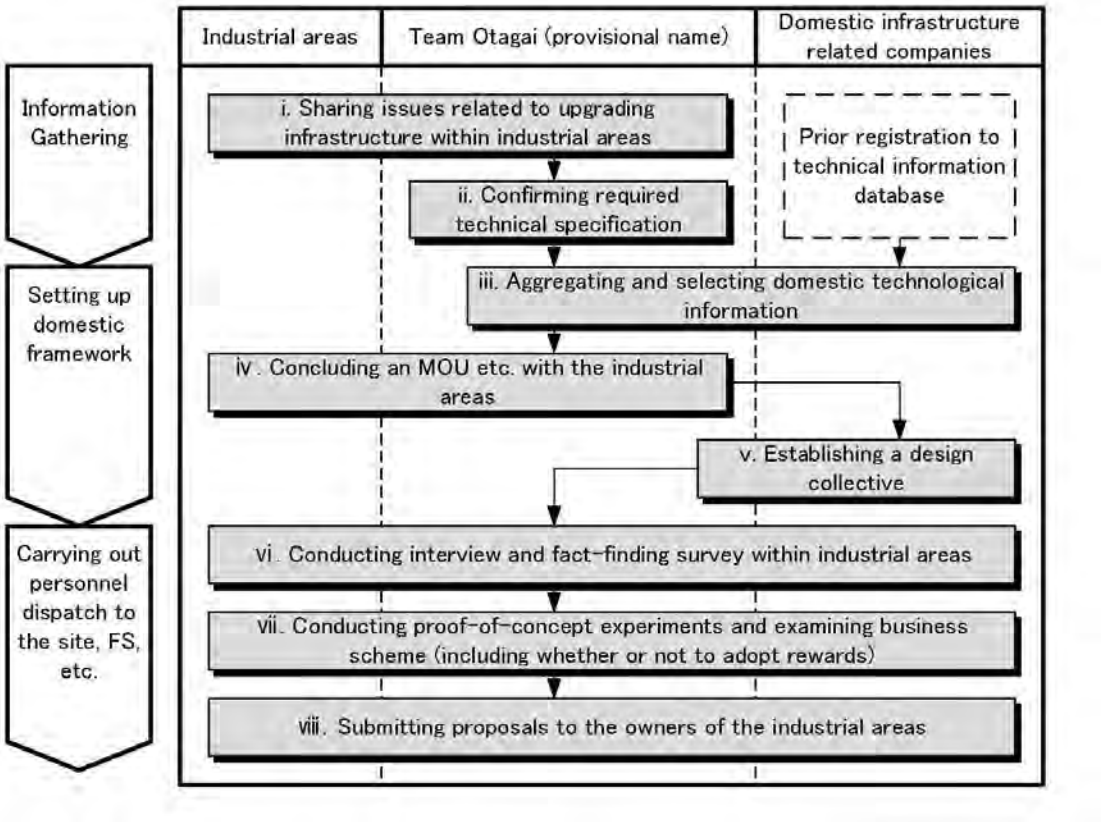


Figure 12-3: A basic flow diagram for introducing a completion bonus style model to the industrial areas (provisional)

The tasks at each stage are as shown in the table below:

Table 12-7: Tasks for upgrading the infrastructure and services within the industrial areas

Task and items for discussion		Entities			Challenges for implementation
Stages	Required procedures	Industrial areas	Team Otagai	Domestic infrastructure related	
Information gathering	(1) Share responsibility for challenges in upgrading infrastructure within the industrial areas	○	○		・Securing engineers who are experts in interdisciplinary areas
	(2) Confirming the required technical specifications		○		・Scrutiny of technological specifications
Setting up domestic framework	(3) Aggregating and selecting domestic technological information		○	○	・Means of working out domestic solutions (technology information databases for each field will be indispensable)
	(4) Conclude an MOU etc. with the industrial areas	○	○		・Participation by the government in order to heighten trust of industrial area management

Task and items for discussion		Entities			Challenges for implementation
Stages	Required procedures	Industrial areas	Team Otagai	Domestic infrastructure related	
	(5) Construct a design collective		○	○	・Adjustments relating to the establishment and running of the design collective (general conditions, term, allocation of roles) ・Founding a subsidy program for trialling entry into Thailand
Carrying out personnel dispatch to the site, FS, etc.	(6) Interview and fact-finding survey conducted within industrial areas	○	○	○	・Increasing the burden borne by companies if the survey runs into the long term.
	(7) Working on the implementation and business scheme for proof-of-concept	○	○	○	・Visualizing and digitizing effects ・Hedging against the risk of loss if the introduction fails to produce results.
	(8) Proposals to the owners of the industrial areas	○	○	○	Risk of loss if not adopted

12.3.3 Summary and Plan for the Future

Through collecting and organizing the results, we have been able to extract the technological challenges and needs of the Thai industrial areas and entry companies with regard to infrastructure and services, and have formulated possible solutions to these. With regard to these solutions, if the efficiency and cost aspects of technology owned by Japanese companies are favorable it seems likely that the possibility of these begin applied in Thailand will become high.

In the future we will carry out a survey of the technology-based solutions for each infrastructure area as possessed by Japanese domestic companies, and summarize the possibility of using Japanese technology to resolve the issues.

In addition we have grasped the fact that the technology and services requirements differ depending on the degree of maturity of the infrastructure within the industrial areas. Development must be aligned with the type of industrial area: industrial areas that are sufficiently mature must be viewed from the perspective of improvements to efficiency and upgrading, and those with scope for growth should be viewed from the perspective of providing cost cuts, and safety and peace of mind.

While on the one hand businesses and industrial areas feel that environmental initiatives are necessary, they also point out the lack of laws, regulatory systems and structures for environmental protection. For this reason, respondents have also mentioned the lack of engineers with environmental skills, and a difference in the levels of technology for drafting and executing the plans required for obtaining EIA (Environmental Impact Assessment) accreditation.

With regard to the introduction of a performance-based fee structure in the infrastructure and service fields, in the proposed flowchart this would require a two-sided approach: framework preparation in Japan, and preparation of framework by the Thai government and businesses. In particular we need to ask whether the Thai government is prepared to accept FS, whether such a regulatory system or structure is already in place, and what the challenges for instituting such a system or structure would be.

12.4 Seeds Survey regarding Infrastructure Packages

We have ascertained the broad issues and needs that are related to infrastructure services in industrial areas through the interview surveys and literature review, and extracted the measures envisaged to resolve them. If these resolution measures are more beneficial as compared to existing services in terms of introduction effectiveness, efficiency, and cost-performance through introduction of the technology and services that Japanese companies possess, it is considered that their applicability and expansion within ASEAN countries such as Thailand will rise.

Based on approaches such as the above, this chapter describes the status of the seeds of the technology and services that domestic Japanese companies possess, and considers the applicability of combinations of them.

12.4.1 Overview of Infrastructure Packages

When Japanese companies providing the services in the field of Infrastructure (particularly small and medium enterprises) look to expand into overseas markets such as Thailand, making proposals of elemental technologies at each of the stages of survey and design, construction, and operation has so far been typical, as in the figure shown below.

By comparison, as large companies have composite technologies (overall capabilities), they have a wider field in which they can make individual proposals by taking advantage of scale.

One of the points ascertained through the surveys of needs of the industrial areas is the importance of proposing a package that meets a wide range of needs. Therefore, it can be considered that it is important for small and medium enterprises to not only propose original technologies in specified phases, but to make arrangements that can propose technologies such as the below as a small and medium enterprise group.

(1) Being able to make provisions as services to the level of the overlapped field in one phase, such as survey and design.

(2) Being able to provide a complete range of services for the whole business all the way through to operation, being for survey and design, construction, and operation.

Although it is important that Japanese companies aiming to expand into Thailand sell their own original technologies as an individual company in one phase as previously, in future, Japanese companies could heighten distinctiveness and gain greater competitive edge over companies from other countries by developing businesses that provide services as infrastructure packages.

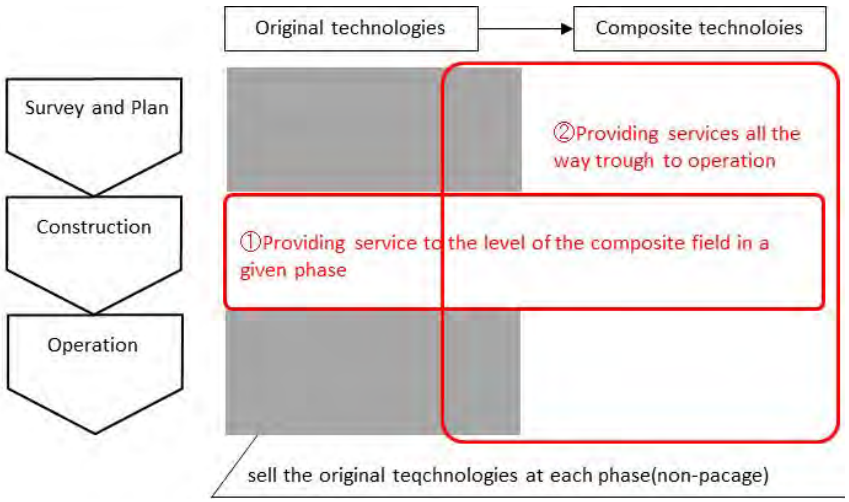


Figure 12-4: Important Future Diagram of Infrastructure Package

12.4.2 Summary of Examples of Infrastructure Packages

Based on the approach in 12.4.1 above, we summarized below conducted surveys of examples of currently-underway initiatives of seeds relating to infrastructure packages and infrastructure services in Japan.

The examples were summarized from the following two perspectives:

- Infrastructure seeds providing service to the level of the composite field
- Infrastructure seeds providing service all the way through to operation

(1) Infrastructure seeds provided with the previously-available individual order contract model

1) Business roll-out in enterprises that own cutting edge water processing technology

Japanese water processing technology is excellent when compared with the rest of the world, and Japan provides water processing technologies for a variety of purposes such as fresh water supply and industrial water (e.g. factories, offices, and power plants).

Major water processing businesses are (1) development, manufacturing and sales of devices (in other words, plants) to purify original water to the quality that meets the purpose, (2) maintenance and operation management of delivered devices, and (3) development of chemicals such as flocculants.

There is a variety of purposes for purifying the water as well as usages of purified water. Examples include purification for domestic water (fresh water), purification for cooling water or cleaning water in factories, purification for exceptionally high-quality water (e.g. ultrapure water) required for product manufacturing processes, and purification of domestic and industrial wastewater. Various purification technologies to meet these purposes are developed by water processing enterprises using their own technologies.

In terms of fresh water supply and wastewater businesses, orders are often placed by governments and public entities, and are large-scale business involving planning and construction to operation and maintenance. However, such businesses are of a high public nature involving price competition. Furthermore, the level of technology does not compare favorably with other countries including Japan. Therefore, these types of businesses are often not suited to what Japanese enterprises excel at, namely advanced technologies at high cost.

In addition, water processing systems for enterprises and factories are usually custom made for each enterprises/factories. For example, IC chip manufacturing demands water with a high level of purity, and therefore an advanced water-processing technology is required. On the other hand, cooling water for machinery does not need to have a high level of purity, yet a large and stable water quality is required.

Furthermore, in case of advanced water processing plants, not only do machines have to be installed, but technology to run and maintain the machines is also required. For water processing enterprises, therefore, long-term maintenance is an important business over and above the delivery of the water processing plants themselves. Business tends to develop through orders given to a single enterprise rather than a group of multiple enterprises.

(2) Infrastructure seeds providing service to the level of the composite field

1) A One-Stop service for water environmental technologies through collaboration between industry, government, and academia (Shimane Prefecture Water Environmental Business Research Group)

Shimane Prefecture has closed water bodies such as Lake Shinji and Nakaumi, and in 1988 they were designated as lakes under the Special Law on Wetlands Water Quality Preservation Measures Their water quality is being preserved through strict environmental management standards, such as their 2005 registration as lakes under the Ramsar Convention.

With such a natural and social environmental background there are many water environment-related companies located in Shimane Prefecture, who through joint development with the Shimane Institute for Industrial Technology and Shimane University or through receiving government support, are developing distinctive products featuring high-level technology.

These technologies are structured as in the above figure. It is composed of small and medium enterprises that have the elemental technologies for each of the processes involved in reducing the discharge burden from industrial effluent etc., effective treatment of waste water generated, and improvements in the water quality of public water. The building and proposing of arrangements that include companies that are capable of total consulting combining these technologies is a notable feature.

The technological fields and their overviews in each phase of water environmental technologies are as in the below table.

Table 12-8: Structure of Services (Original Technologies) (Source: Shimane Prefecture Water Environmental Technologies, Materials of the Commerce and Labor Department, Shimane Prefecture)

Phase	Technological Field	Overview	Examples of Implementation Etc.
Reduction in Discharge Burden	High-Speed Composting Equipment	■ Composting equipment that does not require turning over - Easy-Jet: Technology to compost livestock waste etc. at twice the speed of legacy methods. Significant reduction of the cost of producing fertilizer is also possible. (Significant reduction of the labor required is possible). - Can compost a variety of organic matter: Not only livestock waste, but also sewage sludge, and fruit & food waste treatment such as juice dregs and aquaculture waste treatment. ■ Merits - Significant reduction of composting time through using microorganisms - Labor saved by not requiring turning over - No odor release - No clogging through air discharge so no need for cleaning	Livestock farms, tomato farms, food waste composting facilities, beverage factories, agricultural village waste water facilities etc.
	Solid-Liquid	■ Equipment to continuously conduct separation of	Toyota Motor,

Phase	Technological Field	Overview	Examples of Implementation Etc.
	Separation Equipment	solids and liquids without clogging Legacy solid-liquid separation methods principally used a screen or mesh, but required large costs for rinsing or cleaning due to the solids clogging. Through continuous placement of oval-shaped plates, this equipment conducts solid-liquid separation of waste water etc . without clogging. ■ Merits The cost and time required for rinsing of a clogged regular screen is no longer required - Restricts the treatment cost increase when including large volumes of water - Solid-liquid separation and water removal is possible across a wide range of applications, such as food residue removal from factory waste water - Simple structure for easy maintenance - Simple, energy-saving operation	TOYOTA METAL, various school lunch centers, livestock waste treatment facilities, etc.
Waste Water Treatment	Multi-stage Soil Layer Treatment Equipment	■ Waste water treatment that greatly upgrades the function of the natural cleaning effect Water channel layers and soil layers are laid out alternately in a block shape on a flat plane, and are then built up vertically in multiple stages. The cleaning functions of the natural ecosystem are collected in a highly-dense format, with a compact and ideal internal structure. ■ Merits - Based on the original water quality and treatment water quality, removal of BOD, Nitrogen, and Phosphorus is possible. - Copes well with changes in load, and resists influences from inflow rate, seasonal changes, etc. - Does not use machinery or pharmaceuticals, making for easy maintenance and management - Grey water can be used in water treatment - The top of the equipment can be effectively utilized as a garden etc.	Waste Water Treatment: Shimane Prefectural Sambe Field Museum River cleaning: Onga River Office, Ministry of Land, Infrastructure, Transport and Tourism
	Phosphorus Absorbing Concrete	■ Environmental Preservation/Recyclable Concrete Selectively absorbs and removes phosphorus, a cause of water quality degradation in closed water bodies such as lakes and enclosed bays (dedicated phosphorus removal equipment is being developed through joint development with Shimane University etc.) ■ Merits - As well as functioning to improve water quality, it also has a superior appearance.	Implemented in various locations around Shimane Prefecture

Phase	Technological Field	Overview	Examples of Implementation Etc.
Water Quality Improvement	Gas-liquid dissolution equipment to supply water with high oxygen concentration	■ Improves water quality in lakes, dams, and farms etc. In many lakes and dams, breakdown of organic matter has caused consumption of oxygen in the water, leading to the deeper areas of the water becoming poor in oxygen. This leads to elution of nutrient salts and metals, a cause of water quality degradation. This system features the use of water pressure to increase the rate of dissolution of oxygen in the water, and furthermore by spreading water with high oxygen concentration horizontally, it does not generate air bubbles that stir up sediments. ■ Merits - The natural cleaning power increases by eliminating areas of water that are poor in oxygen, and through the recovery of the ecosystem. - Restricts the elution of nutrient salts and metals (arsenic, iron, etc.) from sediments, and improves eutrophication.	Various dam lakes around Japan, Tokyo Bay, Port of Chiba, etc. * A patent has also been obtained in China, and joint development with ITC Green & Water Corp. is progressing.

Consulting services for original technologies are as in the below table.

Table 12-9: Structure of Services (Consulting etc.)

Technological Field	Overview	Implementation Example Etc.
Treatment Equipment Installation and Management Consulting	■ Co-ordination between Waste Water Treatment Facilities Maintenance and Management, and Environmental Technologies Consulting regarding the most appropriate resolution measures for environmental issues, not only for facilities and equipment maintenance and management, but also for technological development by tie-up with companies with superior technology etc. ■ Main Area of Consulting - Industrial waste water, livestock waste and waste water, hot spring waste water, general waste water, waste water treatment facilities and equipment maintenance and management - Design and installation of each type of waste water equipment - Waste treatment - Manufacturing of sludge reduction and food waste treatment machinery utilizing bio technology - Component analysis of water, soil, etc. - Environmental consulting business	Management of waste water treatment facilities at major home appliance factories in Shimane Prefecture, food processing factories, large-scale farms, agricultural villages, hot springs including arsenic etc., and wineries etc.

2）Team E-Kansai

Approximately 220 companies based in the Kansai area are members of Team E-Kansai. As representatives of them, Team E-Kansai members dispatched from five companies are currently working at the Amata Nakorn Industrial Estate.

Approximately 70% of the constituent companies of Team E-Kansai are involved in water treatment-related businesses. Moreover, approximately 80 of the member companies are currently actively rolling out products in Asia in particular, and the technologies that they possess span multiple fields, such as water treatment, waste treatment and recycling, and energy (technology in the field of water treatment is the most highlighted). To that end, the member company makeup of Team E-Kansai is such that enables proposals to be made to the companies in the Amata Nakorn Industrial Estate, particularly regarding the optimization of industrial effluent treatment etc.

However, proposals have only been made to date on an individual company basis, and making initiatives as Team E-Kansai or not is an issue to be worked on in the future.

(2) Infrastructure seeds providing service all the way through to operation

1) LED technology: Performance-based service structure that does not incur initial costs

A service to install LED lighting in facilities etc. has begun, which requires no initial equipment investment costs. The companies who use this service are required to sign a contract in advance. After signing the contract, 70% to 90% of the reduction in electricity costs during the contract period due to the installation of LED lighting is collected every month. Through this arrangement, the initial equipment investment costs are recouped, and profitability is secured (see the below figure).

The company anticipates a contract period of 3 to 10 years. After the contract expires, the lights and fittings installed become the property of the user company. During the contract period, light and fitting breakages, malfunctions with the LED lamps etc. are repaired at no cost.

2) Solar energy technology: performance-based service structure that does not incur initial cost

This is an example of a solar power generating equipment installation service that does not incur initial investment costs. Solar power generating equipment is installed on the grounds of customers considering installation, and is owned by the company providing the service. In this way, the equipment cost, and installation, maintenance, and operating management costs are recouped at a flat monthly fee (energy service fee) over the contract period (10 - 20 years).

12.4.3 Summary of Development Methods (Patterns) for Infrastructure Packages

The table below presents a summary of Japanese infrastructure package development methods (patterns) for Thailand based on case studies.

Table 12-10: Example Classification

	Individual Order Handling	Cooperative Order Handling
Contract Model	Outline - The legacy model whereby small and medium businesses carry out independent promotion of their own products and services with the hope of obtaining a contract directly from the industrial area management or companies within the industrial area. Relevant Examples - Water filtration systems - Water processing devices - Data Center *...1) Individual order handling x contract-model business*	Outline - A model whereby multiple companies with technology in differing fields work cooperatively, attempting to secure orders by combining the technology held by each company to solve problems that cannot be solved by individual business or independent original technologies alone. Relevant Examples Shimane Prefecture Water Environmental Business Research Group - Team E-KANSAI (Industrial and general waste processing business) *...3) Cooperative order handling x contract- model business*
Performance-based structure	Outline - A model for business requiring long-term operation and maintenance management whereby no initial investment expenditure is required from the client when the company introduces the technology, but the company handles the maintenance management/operation, and recovers the initial investment expenditure by collecting a portion of the savings achieved through the technology introduction. Relevant Examples - LED lighting introduction service - Solar power generation - Cloud services *...2) Individual order handling x performance-based business*	Outline - The same model as that to the left, however in business where the technology of an individual business will not be sufficient, multiple companies cooperate, combining their technologies to work with the business. Relevant Examples None *...4) Cooperative order handling x performance-based business*

1) Independent order handling **x** contract model business (legacy model)

This is the legacy business model whereby individual businesses develop sales of the independent original technology that they possess. Because the business is an individual business, decision making processes regarding business opportunities is rapid when compared with multiple businesses working cooperatively. If the independent elemental technology is patented in that country, or is a unique technology where there is a high chance that the business will receive

orders; however from the angles of both cost and confidence, it is considered unlikely that the business will receive orders from small and medium business in foreign countries such as Thailand.

"Independent order handling x contract model business" has the following characteristics

■ Merits

- There is no need to carry out prior adjustments or responsibility assignment with domestic companies providing the services in the field of infrastructure (as the individual company bears all the risk)
- Advantageous for companies with a unique technology and consultants

■ Demerits

- Sporadic orders can be expected, but it is difficult to predict long-term profits
- It is difficult to stir up demand for high added-value products.
- Have not countermeasures when faced with a price war.
- Individual companies have difficulty qualifying for support from the government or local governments

2) Individual order handling **x** performance-based business (service model)

A business whereby the company collects a portion of the savings made by the client in reductions to the existing running costs through the introduction of technology possessed by the company. A large number of cases of performance-based business work with the Internet where start-up costs are relatively low. With regard to infrastructure related businesses, the ESCO business (energy saving) is well known.

If the independent original technologies possessed by individual companies meet the needs of the client, there is a high possibility that they will be successful in receiving orders. Because infrastructure related business such as energy and water processing span long periods, a business that receives an order can expect a stable profit over a long period. On the other hand, in general the amount of profit expected is small and takes a long time to collect, and because it is an individual company, there is a possibility that the business may fail before they become profitable.

"Individual order handling x performance-based business" has the following characteristics

■ Merits

- If an order is received, the company can expect stable (if minimal) profit over several years.
- If the company creates a successful track record, it is simple to roll out to another client as the company works alone.

■ Demerits

- There is a limit to the scope of the services that individual companies can provide. Additionally, the contract scope for each customer is not broad. For this reason, if the business wants to secure a profit they must secure a lot of customers (there is also the possibility that Japanese companies in industrial areas have already introduced high-level environmental technology such as LED due to energy-saving awareness).
- Because the initial investment is borne by solely by the individual company, it will take a fixed number of years to start turning a profit. Particularly for small and medium business, there is a possibility that business will fail before it or they becomes profitable.

3) Cooperative order handling **x** contract model business (crossover model)

As well as combining multiple technologies to respond to diverse needs, this business model involves working cooperatively to win greater trust from clients and increase opportunities to receive orders. Local business groups also have a better chance of receiving support from local and national government.

On the other hand, the involvement of multiple companies means that a coordinator is required to stand between the companies to coordinate and make adjustments. There is also a risk that the cooperative will become hindrance to business development if the cooperative is not structured with appropriate rules and responsibilities.

"Cooperative order handling x contract model business" has the following characteristics

■ Merits

- Capability to respond to diverse needs through combining multiple technologies.
- Ability to offer the client scale merits and credibility through being a cooperative.
- Smooth response to unexpected matters (increased orders, emergency handling) because multiple companies are involved in the handling. (It is necessary to include this kind of provision when structuring the cooperative.)
- If the business group is comprised of regional businesses, they are more likely to be eligible for support from local governments.

■ Demerits

- A process of advance comparison and adjustment between the small and medium businesses is required.
- There is a possibility that it will take time to come to a decision when decisions are necessary.
- It is necessary to arrange a coordinator or consultant who can combine multiple technologies appropriately to suit the needs.
- Because multiple companies are involved, the profit is divided, and the profit obtained by each company is reduced, multiple orders are necessary to ensure the survival of the business.
- There is a high possibility that the majority of risk related to business profitability is taken by the operating side (techniques for negotiation etc. with the owner side related to appropriate risk bearing remain an issue).
- Because there is no credibility when concluding an MOU etc., the support of Japanese local or central government is required.

4) Co-operative order handling x performance-based business (package model)

This model combines the merits of 2) Individual order handling x performance-based business (service model) and 3) Co-operative order handling x contract-model business (crossover model), as a business model providing technology as a package. It holds the most promise in terms of business scope and future potential, but there are not yet any successful examples.

The issues include the importance of the coordinator/consultant role to sufficiently bring out the merits of cooperation. As well as discovering on-site needs, producing the ideal combination of technologies for effectiveness and cost-efficiency is required.

'Co-operative order handling x performance-based business' has the following characteristics.

■ Merits

- From the point of view of current feasibility, a JV[34] or SPC[35]-style structure can be envisaged.
- Responding to diverse needs is possible by appropriately combining multiple technologies.
- Obtaining a stable income source over the long term is possible.
- Support is readily available from the local and national government.

■ Demerits

- There are currently no successful examples of this model. Therefore, the overview of the model is to convey its merits to the client, and the issue is in gaining trust.
- Allocation of risk in the event of business failure is an issue.

Table 12-11: Business Format (Style and Type)[36]

Method	Type	Overview
Joint Venture	Specified Construction Project Joint Venture (Specified JV)	In order to ensure the stable execution of large-scale and technically-challenging construction projects through assembling technological expertise etc., the scale and nature of the project is made clear, and when construction through a joint venture is considered necessary, a joint venture is formed for each project.
	Continuous Construction Joint Venture (Continuous JV)	A joint venture formed with the aim of improving the management or construction ability when small, medium, and backbone construction companies maintain a continued cooperative relationship,
	Regional Support Model Construction Joint Venture (Regional Support Model JV)	A joint venture formed with the aim of securing the stability of the operational structure when maintaining a continued cooperative relationship for operations essential to regional support and management.
Specific Purpose Company	―	A company established by financial institutions or operating companies with aim of utilizing asset liquidity or securitization.

(2) Survey of Infrastructure Package Roll Out Methods and the Potential for Roll Out to Thailand

1) Implementation of Interview Surveys

[34] Unlike the typical pattern where an individual construction company would handle orders and carry out construction, a JV (joint venture) is a work organization formed with the aim of multiple construction companies handling and carrying out one construction order.

[35] An SPC (Specific Purpose Company) is an operational company established with the aim of carrying out a special line of business. For example, in the PFI field, the joint venture companies making a tendering proposal would establish a new company to conduct preparation, operation, and management.

[36] http://www.mlit.go.jp/totikensangyo/const/1_6_bt_000101.html

Interviews were carried out with Thai companies and Japanese domestic companies in order to survey the issues and resolution methods concerning the actual roll out to Thailand of the infrastructure packages prepared to date.

Table 12-12: Summary of the Interview Survey Relating to Infrastructure Roll Out Methods
(Period for which Interviews were Conducted in Thailand: September 23 - 27, 2013)

Interview Date	Interviewee (Company etc.)
September 17 (Japan domestic)	DAIWA LEASE CO., LTD.
September 24	Krung Thai IBJ Leasing Co., Ltd. (Director and Vice President, Chairman of Asia Desk)
September 25	Waku ConsultingCo., Ltd. (Thai Branch Office Manager)
September 27	SCG Cement-Building Materials (Opportunity Management Manager, Product and Channel Portfolio Manager)
September 27	Azbil Corporation
October 3	Member of Team E-Kansai (REMATEC Corporation, Planning & Promotion Department Advisor)
October 18	ORGANO Corporation (Overseas Business Planning Office Head, Technology Department Manager, Sales Supervisor)

2) Summary of Interviews

From the interviews we have extracted opinions concerning infrastructure package (service) roll out methods and interest in investing in the implementation thereof, and summed these up as follows.

Roll Out of Performance-based Business

- LED introduction cost itself has been declining in recent years. (Company A)
- The depreciation period for LED is approximately 10 years. (Company A)
- Using LEDs, we can generally expect to recuperate the total cost within approximately 6 – 7 years. (Company A)
- We are working on LED leasing systems as a means of reducing cost at the introduction phase. (Company A)
- If LEDs are to be introduced into industrial areas on a lease system (generally introduced by general contractors or trading companies), it would be more efficient to manufacture, adjust and introduce these within the local industrial area, rather than bringing LEDs in from Japan. (Company A)
- ESCO business are already working with large companies. However, Panasonic Environmental Systems & Engineering Co., Ltd. are attempting to carry out Eco-diagnosis,

based on the idea that small -and -medium enterprise also have room for improvement to their production processes. The diagnosis itself is free of charge, but any suggestions for improvement after the diagnosis are for profit. (Company F)

Joint Venture Formation

- There are seven Japanese capital leasing companies in Thailand, but their financial resources are not large. If a company has insufficient financial resources to enable participation in a project, there is also potential to form a coalition of the individual lease companies. (Company B)
- Commercialization of waterworks requires a long period of time, and many participants to work on the project. Additionally, with waterworks it is necessary to supply to everyone, including low income residents, and it is difficult for businesses to make a profit as they do not have a large budget. We do not believe that small -and -medium enterprises have the personnel or financial resources to support this kind of project. (Company G)
- When aiming for co-operative order handling, a major issue is how to share the cost and risk burdens. (Company G)
- Perhaps it is the fact that each small -and -medium enterprise has different expectations for overseas development and different financial resources that makes for a lot of difficulty. (Company G)
- In terms of water processing, there are few instances of joint business development with other companies. If there is collaboration, it is when another party provides company G with something that we do not have. Examples include sales routes to local companies, procurement contacts for raw materials, personnel etc. (Company G)

Case Formation

- Discussion of power-saving has begun within Thailand as well from last summer. (Company C)
- We believe that the consortium proposing the infrastructure team may take it on board, depending on how it is pitched. (Company C)
- Depending on the industrial area, they can be expected to give their full cooperation to a proposal for the likes of a pilot operation. However, from experience, industrial areas other than Amata have not reacted favorably to such proposals, not showing much interest. (Company C)
- In terms of energy, the Thai government has also begun producing related policies. These would be expected to draw attention in future. We believe that other industrial areas will also change. (Company C)
- The client has made various requests for improvements. We understand the improvements in cement itself, but when looking at the overall construction process for buildings and structures, we cannot make any reference to points or proposals for improvement in buildings themselves. (Company D)
- We want to provide overall good results (buildings) to customers by making improvements to cement itself, and building a green supply chain in the manufacturing process. However, there are no specialists who can provide consulting that anticipates all the stages of construction.

(Company D)

- For example, we consider that there are three issues when constructing a building: (1) Reducing the manpower required (shortening the work period). (2) Reducing the environmental impact (reducing the amount of materials). (3) Making maintenance easier. We want engineers with wide-ranging skills that can solve these issues. (Company D)

Thai Regulatory Systems concerning Business Expansion

- In Japan, leasing receives preferential treatment and supplementary assistance in the tax system, and business expansion in conformance with those is easy, but as there are no such systems in Thailand, there are difficulties in expansion. We do need to do more research about whether there are such usable systems in Thailand. (Company B)
- There is a certain degree of need for semi-official qualifications in Thailand. It would be effective to adapt the Japanese qualification system and implement it in Thailand. (Company E)
- It would be easier for Japanese companies to branch out into Thailand if adapted Japanese qualifications were used. (Company E)
- In general, there is demand among Thai people for qualifications as official documents. Job hopping becomes easier by having qualifications. (Company E)
- The most effective approach to increasing Thai companies' motivation to acquiring qualifications would be legislative revision. (Company E)
- In Thailand, an increasing emphasis will be placed on workplace safety in future. As responsibility will be placed not on the individual worker but on the manufacturing contractor and company if accidents and injuries occur, the transition to arrangements similar to those in developed countries will be made. (Company E)
- The government will strengthen regulations such as waste water standards, meaning that implementing waste water processing arrangements will become necessary. (Company G)

Other Relevant Opinions

- Technology and funding is also necessary in overseas business expansion, but connections are very important. For small- and medium-sized enterprises, if the CEO does not go to that country and build connections and relationships of trust himself, the company is unlikely to succeed. (Company G)
- Compared to Japanese, the number of Koreans living overseas is much higher: three times more in Vietnam, and ten times more in Indonesia. Few are employees of large companies. Most are employees of small- and medium-sized enterprises, or sole traders. That is how much they are active overseas. (Company G)
- For overseas business expansion, relying on the government or relying on the parent company alone is not enough for survival. How much your people are in tune with what is going on locally and how active they are is important. (Company G)

Chapter 13: Basic Policies for Conducting “Otagai” Project (draft)

As already mentioned, the “Otagai” Project is merely the formulation of an action plan. The project comprises 1) support for SMEs’ cluster-type advance into the Thai Mekong region, 2) support for Japanese infrastructure technology’s package-type advance, and 3) recommendations to both Japanese and Thai governments to achieve these two above advances. The goal is to realize these advances and recommendations as reality, instead of just ‘desk’ theory, and formulate support measures that enable both Japan and Thailand to autonomously move.

Accordingly, this project has different aspects from the previous “measures to support overseas advances.”

To be more specific, the “Otagai” Project firstly pursues a new style of “supporting industrial cluster-type collective advance,” being aware that it is essential to incorporate the growth of emerging and developing countries to globalize the economy, improve the severe economic situation in Japan and for enterprises to survive at the same time.

By proactively promoting the union of enterprises, we believe the project separates itself from the conventional behavior, that is, acting like a flock of sheep, and inactive collective advance support.

Great innovation can be born simply by combining existing technologies and enterprises, rather than by the work of individual mid-tier enterprises and SMEs that possess superior technologies and expertise but are scattered across Japan. “Creative destruction” can naturally be accompanied in many cases, but innovative products and technologies frequently develop like mutations amid remarkable growth.

In other words, what we aim for is supporting the birth of something like the Apple iPad and iPhone, which can be described as an ultimate combination, rather than the “invention” of iPS cells. “Establishing a common platform among municipalities” and “introducing the projects carried out by different municipalities,” which was explained in detail earlier in 9.2., is not the only reason why we particularly focus on “regional meetings of key persons” in Japan. Another reason is that we are

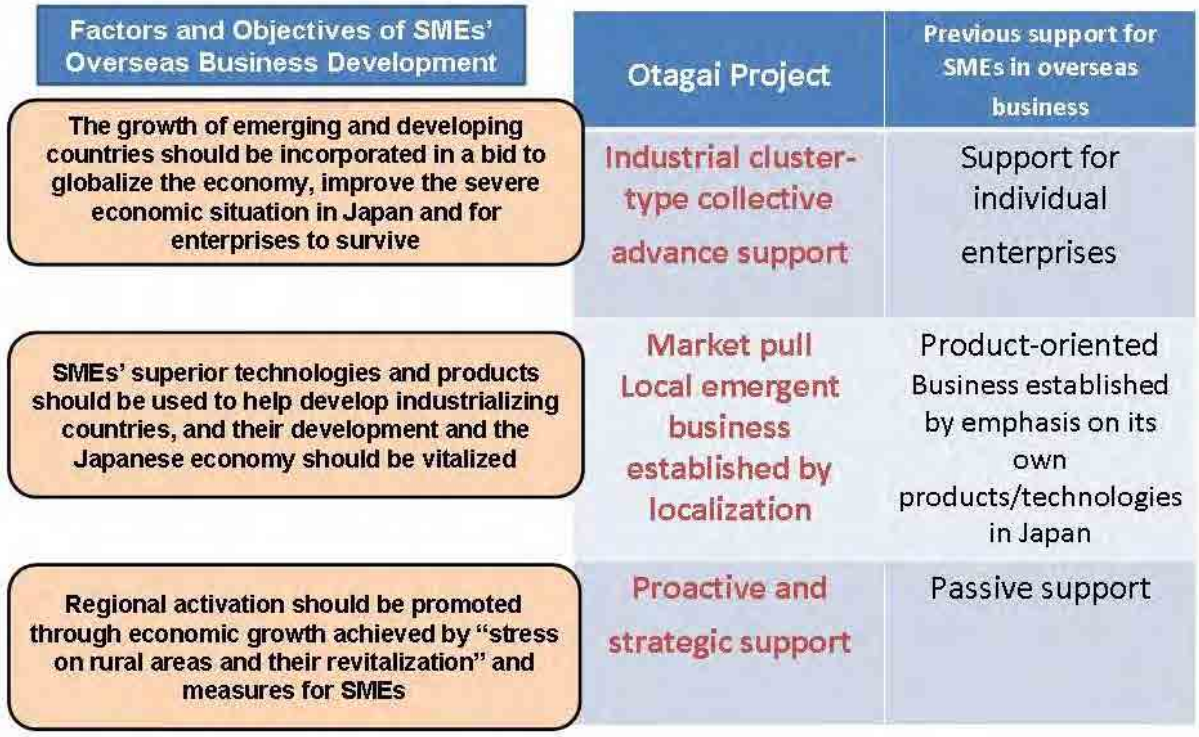


Figure 13-1: Objectives of Otagai Project

expecting unprecedented “realization” and “chemistry” to show by combining technologies and companies held by the enterprises affiliated with municipalities, sometimes even beyond the “borders of administrative districts.”

Secondly, the “Otagai” Project aims for upgrading the developing country and energizing the Japanese economy by applying SMEs’ excellent technologies and products to development. It is a Win-Win attempt to facilitate the “localization” of support organizations and services by networking local industrial cluster-related institutions and at the same time achieving industrial sophistication via both countries’ growth and structural reform.

For Japan, it is an attempt to select and concentrate its businesses even though their competitiveness is limited unless their operational scope goes beyond Japan, and commercialize their low-cost parts, which are now used for multi-purpose operations, in tandem with Thailand and other emerging Asian regions. On the other hand, amid the “middle income trap,” where labor costs rise and cheap labor is no longer good enough to rival others in international competition, the project will enable Thailand to sophisticate its industry by adopting cutting-edge technologies from mid-tier enterprises and SMEs of Japan. This meets the Thai government’s policy of industrial relocation to the extent of the Mekong, primarily Bangkok, ahead of the launch of the ASEAN Economic Community (AEC) in 2015.

If extended to the Mekong Economic Zone, including Thailand, the project can also be groundbreaking for Thailand, enabling the country to explore solution-type businesses that would lead to new businesses by leveraging the technologies and expertise of Japan’s mid-tier enterprises and SMEs. Amid the growing need of Japanese enterprises targeting new client creation and growing emerging Asian regions, Japanese mid-tier enterprises’ and SMEs’ overseas advance can never bring about significant achievement without the idea of market pull (market-led type), instead of a product-oriented (product-imposing type) concept.

Thirdly, the “Otagai” Project steers itself from the previous passive support to proactive support, as the economic growth through “placing stress on rural areas and their revitalization” and regional activation through measures for SMEs was included in the new government’s key policies.

There has been, thus far, some passive overseas advance support out of consideration for domestic industrial “hollowing-out”, but as evidenced by the revision of the Framework for Supporting SMEs Overseas Business, it is on the verge of becoming ubiquitous as a common view that the government’s proactive support is necessary for Japan’s mid-tier enterprises’ and SMEs’ overseas business development. It has already been recognized that it is important for industrial policies to recycle the surplus from overseas to Japan and support strategic overseas business development through the international division of labor with ASEAN. In addition, considering overseas enterprises are advancing into other countries led by their governments as described as new mercantilism, we believe the Japanese government needs to do something as well.

In particular, interregional cooperation achieved by facilitating cooperation among regional industry clusters will not only enable the gaining of new “realizations” but also generating new chemistries of inter-SME cooperation. We will promote Schumpeter-like innovation (new axis) and compile information among industrial clusters in the Mekong Economic Zone to support cross-sectional cooperation and new business formation. The “Otagai” Project is determined to offer the venue to be the base for these efforts.

Chapter 14: Action Plans for "Otagai" Project (draft)

Lastly, we will present plans on how to enter an action phase in the "Otagai" Project. The conclusion from past research results is that it is essential to establish a lasting organization that functions purposively in order to realize the two main goals of the project: (1) cluster-based business expansion of small and medicum-sized enterprises (SMEs) and (2) alliance-based business expansion of Japanese infrastructure companies.

Figure 14-1 shows how the new organization should function and the platforms to support it. Emerging Asian countries are especially characterized by the concept of "market-with, in which both aspects of product-out and market-in are seen and value is created through consumption or usage" (Dr. Takamasa Fujioka, Director of Sasin Japan Center of Chulalongkom University). As this value creation tendency is strong, it is crucial to "make a specific plan" for the region aimed at the cluster-based business expansion of SMEs. On the other hand, in municipalities, which work with their local SMEs for this purpose, personnel with a global perspective are required to understand whether the plan that has been made is viable or how it can be re-arranged or combined with other plans to make it possible to advance into emerging Asian countries.

In other words, the new organization should be capable of supporting "municipalities," "overseas business-expanding enterprises" and "infrastructure companies."

Continuous implementation of effective measures and establishment of an overseas representative office that works as a leader

Some examples of how to support "municipalities" and "overseas business-expanding (small and medium-sized) enterprises" will be described based on the figure. From the working experience with municipalities, what we strongly feel is the importance of local key person meetings (called Otagai Conclave) held locally across Japan every two months. Through the Otagai Conclave came the idea of "under-the-eaves business (unused space leasing/renting)." This idea has greatly influenced the following activities of the survey team.

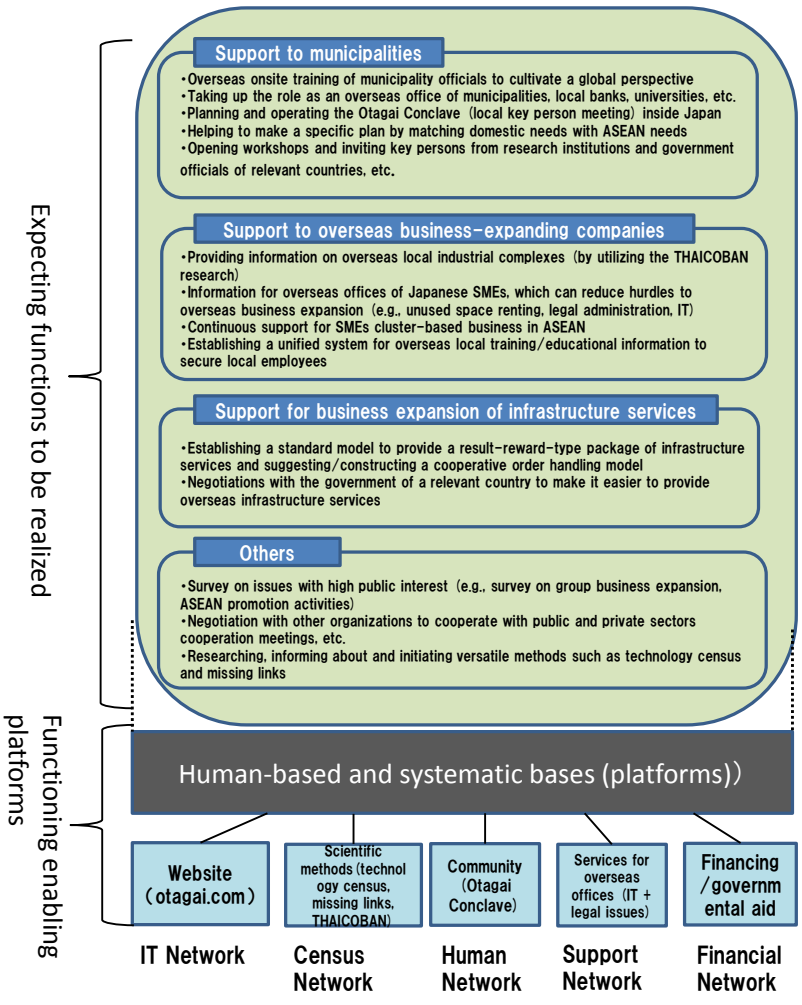


Figure 14-1: The new organization – a suggestion of the expected functions and the functioning enabling platforms

In the past few years, municipalities and local financial institutions have opened offices in Thailand one after another. However, they were confronted with problems such as difficulty in networking and business restrictions, causing an uncertain situation in which "it is unclear whether the cost is as worthwhile as the outcome" (according to several municipalities).

If the new organization establishes a local

"representative office" in these Asian countries that works on behalf of such enterprises in this regard, not only work efficiency but also the quality of work will be considerably improved. Naturally, those who are well acquainted with local situations in these Asian countries or have a strong connection to their governments should be appointed to the office.

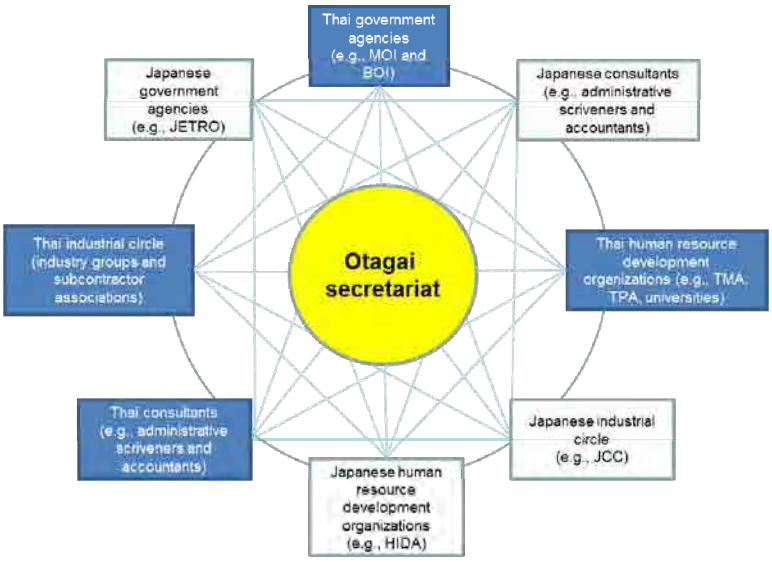


Figure 14-2: Necessity of a unified system for skill-learning, training and employment, involving the two countries

As "support for SMEs business expansion," in addition to the information on the aforementioned unused space renting, it is also useful to introduce IT or legal agencies that provide services to their overseas offices. Our impression is that current overseas support focuses too much on the "company foundation" and "application for fringe benefits to the Board of Investment (BOI)." Without agencies that provide full continuous support after the company's foundation, even small issues might cause difficulty in continuing business.

Support for securing a sufficient number of local employees in Thailand is also a very important issue. As described in Chapter 11, although there are many human resources development institutions in both Japan and Thailand, they have little relation to Japanese SMEs. It is almost unknown where to look for potential trained employees and what kind of training they have received. With an understanding of the categories shown in **Figure 11-5**, the coming new organization needs to function as an "information hub" and connect various Japanese/Thai institutions with the Japanese industrial sector (**Figure 14-2**), which is also important from the viewpoint of utilizing the existing resources. Fulfilling this role, the new organization should work as a coordinator (with a good sense of judgment) in an unprecedented way in Thailand.

Combination plans are the key to business expansion of infrastructure companies

For business expansion of infrastructure companies, which is the second main objective of the project, the combination of the "result reward type" and the "cooperative order handling" should be accentuated as described in the last half of Chapter 12. Competing only over "the product itself" is disadvantageous in terms of prices. Instead, it is necessary to start adopting the "solution type" package that includes suggestions for more profitable methods the relevant industrial complex is unaware of or has been trying to figure out.

In Japan, there are already actual case examples for both. As a result reward type, Osaka Prefecture regards the cost to be reduced in the future as capital, replacing the existing lighting equipment with LED illumination while paying the same amount of cost as in past years. Of many examples of cooperative order handling cases, especially interesting is a specialized metalwork cluster in Yasugi City, Shimane Prefecture, which was formed in 2013. Its original purpose was the handling of cooperative orders from Southeast Asian countries. Yasugi is known for its traditional iron-making called "Tatara." Such specialized metalworking techniques, which have been cultivated and sophisticated for hundreds of years, is the city's strength.

However, the survey on the infrastructure sector found none of the business models in which these two are integrated. Result-reward type business falls in the category of service industry. In Thailand,

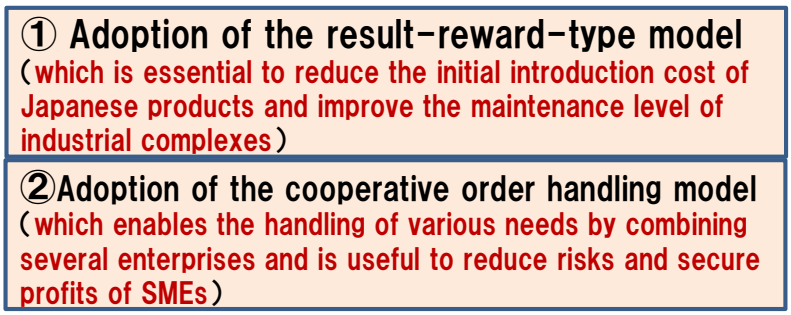


Figure 14-3: Required elements to facilitate the introduction of infrastructure

Authorization of the new organization	Semi-governmental organization that can allow more direct access to the authorities in Thailand and ASEAN
Leadership toward the realization of a human resources information hub	Governmental assistance is indispensable to a unified information system regarding various human resources development institutions, of which each has distinct characteristics
Exceptional measures for infrastructure services by Japanese companies	It is difficult for Japanese companies to provide result-reward-type services when restrictions on foreign capital interfere, producing no favourable effect for the introduction of Japanese products

Figure 14-4: Requests to the Japanese and Thai governments

because of the Foreign Business Act, there is some difficulty in developing business unless the proportion of Thai capital in a company exceeds half.

Considering the above-mentioned, including the new organization, our requests to both Japanese and Thai governments can be summarized as the following (**Figure 14-4**): (1) authorization of the new organization by both governments, (2) binational cooperation to promote the creation of a human resources information hub as shown in **Figure 14-2**, and (3) policies to facilitate the realization of "infrastructure management services" taking up result-reward type business.

The authorization mentioned by (1) is vital to establish more direct access to the local authorities in emerging Asian countries where people still have a predisposition to accept the authorities as their superiors. With regard to (2), it asks for governmental support to build a unified system for collection of information on individual and independent activities of many public and private institutions in Japan and Thailand. Lastly, (3) is a request for measures to allow Japanese companies to provide "infrastructure management services."

The Amata Nakorn Industrial Estate, Thailand's biggest industrial complex, is interested in these types of services. If they think that the introduction of infrastructure management services from Japanese companies can contribute to advancement in the Thai industrial sector, acceptance of this request is not so far-fetched.