Chapter 9 Operational Plan (Services) and Cost

9.1 Considered Services

The lack of sufficient services provided for operating environments has been pointed out as a factor that makes it difficult for Japanese SMEs to expand into Vietnam. Similar studies revealed a definite desire for services, particularly from companies that have recently expanded into Vietnam.

To meet these needs, the following services were considered.

9.1.1 Expansion Assistance Services (services for permits, approvals and procedures)

The biggest obstacles against Japanese SMEs expanding into Vietnam are systems unique to Vietnam and the Vietnamese language. Many SMEs find it difficult enough to communicate in English let alone Vietnamese, and this is a major reason why SMEs in particular are hesitant to expand into Vietnam.

To overcome these obstacles, expansion assistance services will be provided in Japanese to SMEs seeking to expand into Vietnam. These services range from consulting services for expanding into foreign countries to assistance with acquiring investment development permission, building permits and fire permits, and with EIA documents and operation.

(1) Specific Details, Sales Points and Other Information about Services

The table below is the envisioned main menu of expansion assistance services, provided so that Japanese SMEs can receive all services in Japanese in one place.

Table 9-1: Main Menu of Expansion Assistance Services

Service menu	Details	Executing agency	Estimated cost
1 Overseas expansion consulting services	・Preliminary consultation in Japan ・Assistance with creating project plans ・Local inspection services ・Business matching	・SPC ・Expansion assistance consulting companies	・Vinh Phuc Province offers incentives for preliminary consultations.
2 Investment development permission acquisition services	・Investment certificate acquisition ・Company seal/tax code acquisition ・Land-use rights certificate acquisition	・SPC ・Expansion assistance consulting companies	・500,000 to 800,000 JPY per case ・Vinh Phuc Province offers incentives for fee assistance.
3 Building permit acquisition services	・Construction applications, building permits * Includes utility permits	・Specialized consulting companies ・Construction companies	・10,000,0000 VND per case (approx. 473 USD per case)
4 Fire permit acquisition services	・Fire applications, fire permits	・Specialized consulting companies ・Construction companies	・20,000,000 VND per case (approx. 946 USD per case)

Service menu	Details	Executing agency	Estimated cost
5 EIA document assistance services	・EIA report creation assistance ・Environmental applications, environmental permits	・Specialized consulting companies ・Construction companies	・120,000,000 VND per case (approx. 5,676 USD per case)
6 Moving preparation assistance services	・Activity announcements ・Work permit acquisition ・Temporary visa/working visa acquisition ・Wage schedule registration ・Compulsory insurance declaration/payment ・Employment regulation registration ・Introduction to workers ・Vocational training assistance ・EPE acquisition	・SPC ・Expansion assistance consulting companies ・Accounting offices, etc. ・Vocational schools	・Work permit acquisition assistance is about 100,000 JPY per person ・Vinh Phuc Province offers incentives for vocational training assistance.

(Prepared by the study team)

The table below shows the results of a comparison of prices for providing expansion assistance services. The market price for each acquisition of an investment certificate, including the acquisition of a company seal, tax code, etc., is thought to be approximately 5,000 USD. The market price for the acquisition of a work permit for each person is thought to be approximately 100,000 JPY. Thus, setting the price of providing investment development permission acquisition services within a range between 500,000 JPY and 800,000 JPY per company, and the acquisition of work permits at 100,000 JPY per person as well as having SPC or expansion assistance consulting companies provide the services are considered appropriate for the Project. However, services for acquisitions of investment certificates and work permits are highly required by SMEs. Therefore, in this Project, it is thought to be appropriate that SPC should provide these services to companies at no charge or for a fee close to actual costs as basic services.

For the acquisition of building permits and fire permits and for assistance with EIA documents, associations will be formed with specialized consulting companies, construction companies, etc. to provide services according to Vinh Phuc Province's base prices for providing services.

Table 9-2：Comparison of Prices for Providing Expansion Assistance Services

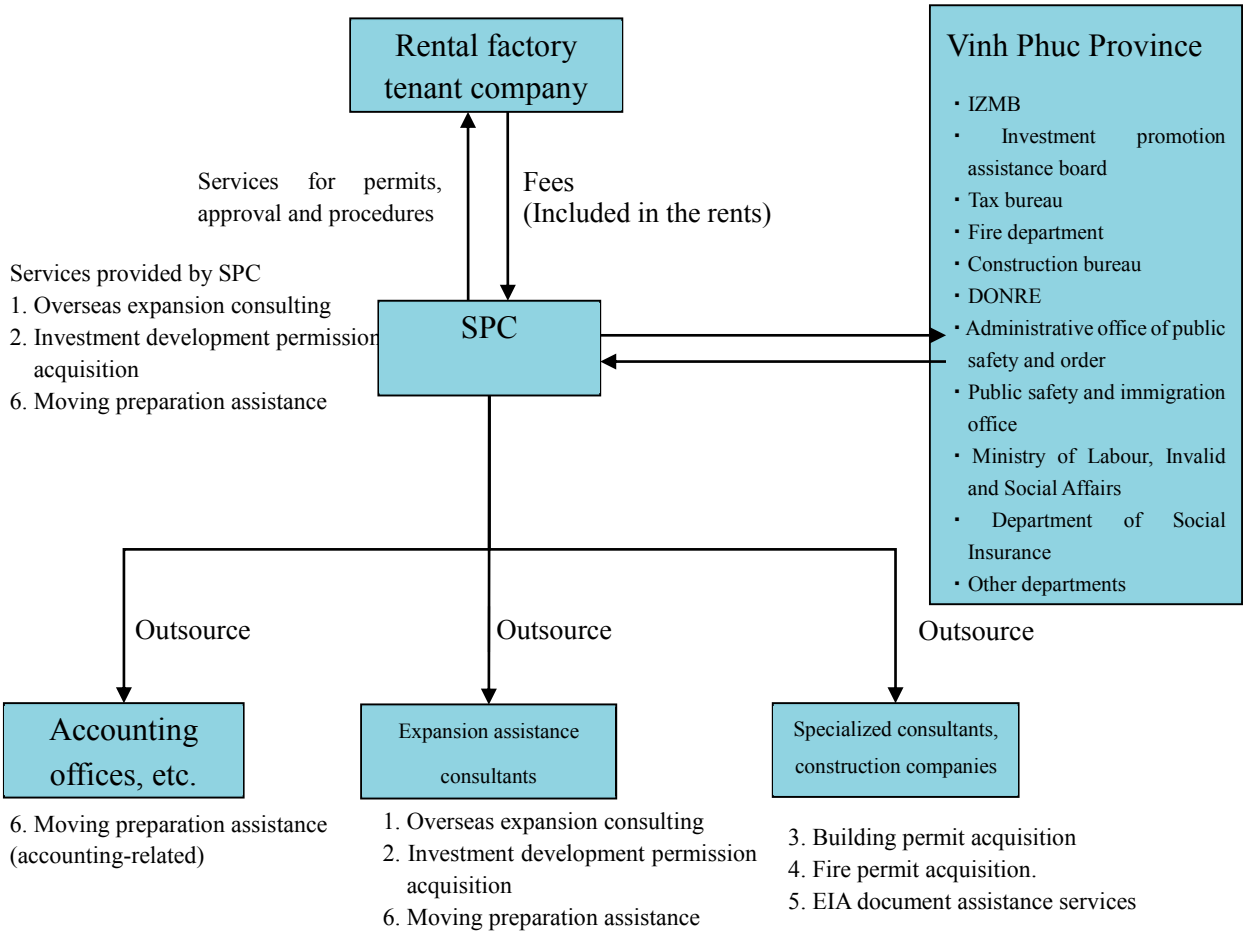
Case study/information source	Included services	Price of provided services
Interview with Company B (Vietnam market prices)	1) Permit, approval and procedure document creation	1) Approx. 5,000 USD per case
Interview with Company V	1) Investment certificate acquisition, company seal/tax code acquisition, company establishment announcement, bank account opening 2) Work permit acquisition	1) Approx. 500,000 to 800,000 JPY per case 2) Approx. 100,000 JPY per person
Company G documents	1) Investment certificate acquisition, company seal/tax code acquisition 2) Work permit acquisition	1) Approx. 4,720 USD per case 2) Approx. 944 USD per case
Vina CPK offer price	1) Permit and approval acquisition assistance	1) Approx. 5,000 USD per case
Vinh Phuc Province Base price for providing services	1) Investment certificate acquisition (investment certificate issuance, company seal/tax code, company establishment announcement 2) Building permit acquisition 3) Fire permit acquisition 4) EIA document creation 5) Work permit acquisition	1) 4,999 USD per case 2) 473 USD per case 3) 946 USD per case 4) 5,676 USD per case 5) 71 USD per case
The Project	1) Investment development permission acquisition 2) Work permit acquisition	1) Approx. 500,000 to 800,000 JPY per case 2) Approx. 100,000 JPY per person

(Prepared by the study team based on interviews, documents obtained in the local area, various pamphlets, etc.)

(2) Implementation System

Expansion assistance services are integrated with industrial park operation, thus SPC itself will provide them during the Project. However, outsourcing the part of operations that requires advanced expertise reduces the risk of SPC.

The current vision for providing these services to tenant companies is for the accounting part of moving preparation assistance to be outsourced to experienced accounting offices, and for overseas expansion consulting and investment development permission acquisition to be outsourced to Operation Company V, which is to invest in SPC, and Vina CPK.



(Prepared by the study team)

Figure 9-1: Implementation System for Expansion Assistance Services

(3) Scale of Implementation, Phased Plan (scale in the initial phase, etc.)

Expansion assistance services are absolutely necessary for some companies expanding into Vietnam and should be provided from the start of operations regardless of the profitability of the services themselves.

It is important for these companies to become very familiar with systems in Vinh Phuc Province and to build associations with relevant institutions there.

(4) Project Projections (revenue, costs, fees, etc.)

Services will be provided to companies expanding into Vietnam either at no charge or for a fee close to actual costs. However, fees will be charged for the content of services provided for building permits, fire permits, EIA documents, etc. that differ for each company. These fees will result in a reasonable profit for consultants' work based on estimates (personnel costs and indirect costs).

(5) Challenges for Implementation, etc.

Amassing know-how in Vinh Phuc Province by strengthening associations with the province IZMB and Department of Planning and Investment is a challenge.

9.1.2 Operational Assistance Services after Expansion into Vietnam

(1) Specific Details, Sales Points and Other Information about Services

The table below describes the employment, accounting, legal and other operational assistance services to be provided to tenant companies. SMEs have such a great need for these services that the services are a major factor in their decision of whether or not to expand into Vietnam. Therefore, operational assistance services absolutely must be provided and also promoted as a sales point of the Project.

Table 9-3: Main Menu of Operational Assistance Services After Expansion into Vietnam

Service	Major details	Notes
Employment	・Wage calculation, social insurance work ・Providing continuous education and training opportunities	
Accounting	・Accounting work ・Financial statement preparation (closing) ・Accounting audit assistance ・Assistance with tax affairs	The work does not include account auditing
Legal	・Assistance related to Vietnamese law	
Other	・Environmental assistance (environmental report creation, etc.)	Depending on the type of industry and wastewater situation, companies must regularly create environmental reports and submit them to the government.
	・Assistance with securing a workforce	(See 11.1)
	・Introduction of possible tie-up partner companies	Introduction of local affiliated companies
	・Business matching assistance	Finding and introducing companies to purchase from, sell to, etc.

(Prepared by the study team based on the results of field surveys)

The table below is a comparison of prices for providing operational assistance services after expansion into Vietnam. Prices depend heavily on which services are included, but the market price for accounting services is thought to be between 500 and 1,000 USD per month, thus 600 to 1,000 USD per month is a competitive price for the employment, accounting, legal and other services provided under the Project.

Table 9-4：Comparison of Prices for Providing Operational Assistance Services After Expansion into Vietnam

Case study/information source	Included services	Price of provided services
Interview with Company B (Vietnam market prices)	Accounting	500 to 1,000 USD/month
Interview with Company V (has experience providing services in Vietnam)	Accounting, employment, etc.	600 USD/month
Company G documents	1) Financial statement preparation 2) Chief accountant services 3) Ledger, tax declaration	1) Approx. 590 USD/month 2) Approx. 1,416 USD/month 3) 300 USD/month
Vie-Pan Techno Park (publicized documents)	Human resources/general administration, accounting, importing/exporting, etc.	5 USD/m^2/month *10 USD/m^2/month including rents *2,500 USD/month for 500 m^2
The Project	Employment, accounting, legal, etc. (See Table 9-2)	600 to 1,000/month

(Prepared by the study team based on interviews, various pamphlets, etc.)

(2) Implementation System

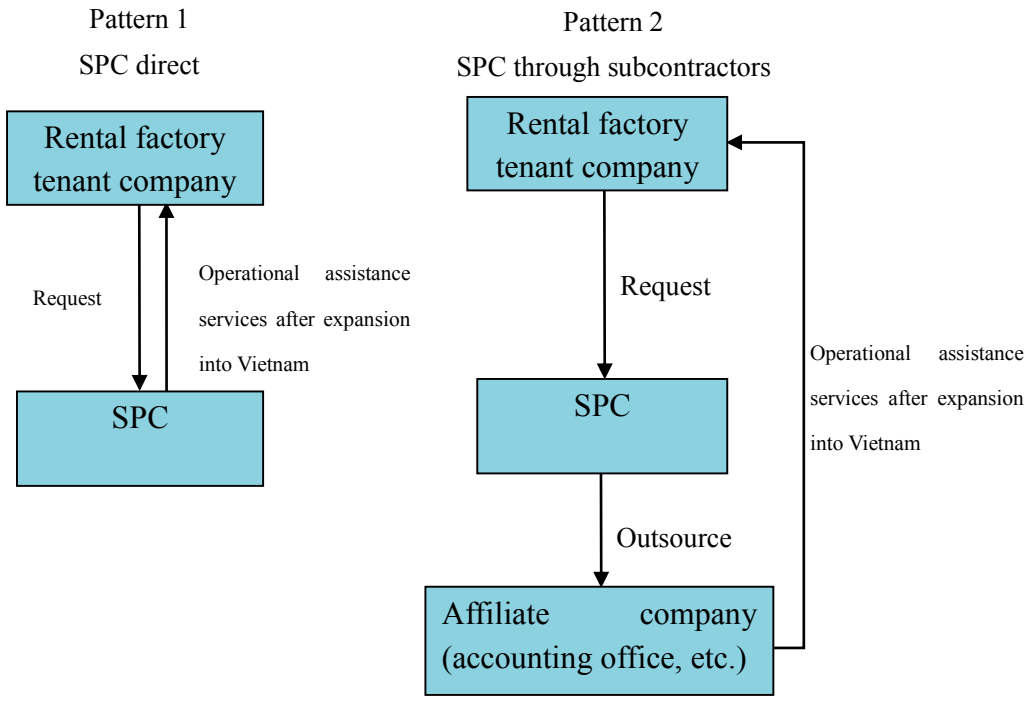
The implementation system for these services will fall into one of two patterns: either SPC provides services directly (Pattern 1) or through subcontractors (Pattern 2). Pattern 2 will be used because each operational assistance service requires advanced expertise, and permits and approval are required to provide services, and because a certain volume is required for SPC to provide services directly.

1) Pattern 1: SPC provides services directly

SPC receives requests from tenant companies and provide services to them.

2) Pattern 2: SPC provides services through subcontractors

SPC outsources service work to affiliate companies and provide services to tenant companies as a package. **Note that some staff members of affiliate companies are permanently stationed within SPC.**



(Prepared by the study team)

Figure 9-2: Pattern for Providing Operational Assistance Services after Expansion into Vietnam

(3) Scale of Implementation, Phased Plan (scale in the initial phase, etc.)

These services are additional services that should be provided from Phase 1 on.

(4) Project Projections (revenue, costs, fees, etc.)

Breaking away from the SPC's main project as to avoid impact on the main project, and SPC will generate revenue from part of the fees they collect as proxies.

Other services will be provided at the request of tenant companies. Each request will be answered with an estimate.

(5) Challenges for Implementation, etc.

If operational assistance services after expansion into Vietnam can achieve the projected profitability, they can provide numerous benefits to both SPC and tenant companies. Below are the advantages and disadvantages of operational assistance services.

1) Advantages

・Tenant companies can receive services promptly
・SPC can gain know-how to utilize for further development

2) Disadvantages

・SPC would lose money due to lack of volume
・SPC providing services directly will have difficulty handling demand fluctuation risk
・Tenant companies will not gain know-how in Vietnam

9.1.3 Meal Services

(1) Meal Service Situation in Vietnam

Factories in industrial parks in Vietnam generally feature cafeterias for providing meals to employees. Companies bear the entire cost of the food; employees do not pay for the food.

The meals have such a major impact on the employment of local people that they are next to wages in terms of their effect on hiring and turnover. Workers have transferred to companies with the best meals and even organized strikes over dissatisfaction with meals.

Behind these circumstances is the fact that the lunch a worker eats at the factory plays a critical role in his or her nutrition as the biggest meal he or she eats all day.

(2) Ways of Providing Meals

Large factories at which 500 or more people are employed generally feature an on-site employee cafeteria and kitchen that provides food cooked in the local style. Some small and medium-sized factories also employ this approach, but others have only a cafeteria and arrange for the delivery of lunches prepared offsite. Note that the Japanese approach of having central kitchens and meal preparation centers has not yet taken hold in Vietnam.

(3) Price of Providing Meals

The average price of providing meals is approximately 15,000 to 17,000 VND per meal in Southern Vietnam and 18,000 to 20,000 VND in Northern Vietnam, and is rising approximately 10% per year in conjunction with cost-of-living increases in Vietnam.

(4) Permits and Approval Required for Meal Services

Food safety and hygiene certification from the Vietnamese Food Safety Administration is required for providing meal services. Each cafeteria requires its own certification, and all companies to which meal preparation is outsourced must acquire the certification as well.

Note that the certification is the only permit or approval required for cafeteria operations.

In addition, a phytosanitary certificate issued by the Vietnamese Department of Phytosanitation is required when purchasing 50 or more kilograms of meat.

(5) Meal Service Industry in Vietnam

Some companies provide meals on their own, but most outsource the work to meal preparation companies. The Brother Plant in Hai Duong Province and Cholimex (acquired by Nichirei) near Ho Chi Minh City are examples of companies that do the work on their own. Cholimex provided meals to employees when it was a state-run company and has continued to do so since it were privatized. Brother outsourced the work to a private company until 2012 and switched to doing the work itself when private meal preparation companies could no longer met their meal service needs.

Hoa Mai is the largest meal preparation company in Vietnam, and it provides meals under a brand called Kizuna. Hoa Mai operates in Southern Vietnam and provides about 200,000 meals per day, far and away above any other company. Though their brand is called Kizuna, they are not owned by any Japanese entity.

As for involvement by Japanese companies, major Japanese meal preparation company Shidax owns 35% of Galaxy Shidax, and Green House, another major Japanese meal preparation company, owns 50% of Green Goco. Galaxy Shidax earned permission to invest in March 2013 and is currently operating with headquarters in Ho Chi Minh, Hanoi and Hai Phong. The company provides about 54,000 meals per day as well as services in association with industrial parks to be explained later, mechanized cooking using steam convection, which is a rarity in Vietnam, and other advanced services befitting a Japanese company.

Green Goco is another meal preparation company partly owned by a Japanese company. Green House, a major Japanese meal preparation company, and Goco Vina, a medium-sized Vietnamese meal preparation company, each own a 50% stake in Green Goco. The joint-venture company received a business permit in July 2013, and its headquarters is located in Northern Bac Ninh Province. It started actual meal preparation operations in April 2014.

Increasing expansion into Northern Vietnam by South Korean companies, namely Samsung Electronics, has increased the power of South Korean companies Foseca and CJ Fresh way.

Other companies with foreign investment include Dussmann (German) and ADEN (French), both of which were operating in Vietnam prior to that country joining WTO. Dussmann began as a laundry cleaning company while ADEN was originally an office cleaning company, and now both receive a lot of outsourced business in addition to meal preparation work.

There are many medium-sized meal preparation companies in Vietnam whose areas are limited to approximately 20,000 to 30,000 meals per day. Major meal preparation companies will probably take over more and more of the market as competition becomes fiercer and modernization progresses.

(6) Envisioned Meal Service Support at Project Rental Factories

The standard for rental factories in this industrial park is eight 300-m^2 buildings per lot, and many small factories are expected as tenants. It costs a lot for each small tenant company to have its own kitchen and provide meals. One solution is to build a meal preparation center on-site and send meals from the center to each tenant company.

Models of this solution exist in Vietnam. Thang Long 2 Industrial Park in Hung Yen Province in Northern Vietnam delivers meals from the cafeteria in the administrative building to factories that want them. An employee cafeteria was built at the rear of the administrative building at Long Duc Industrial

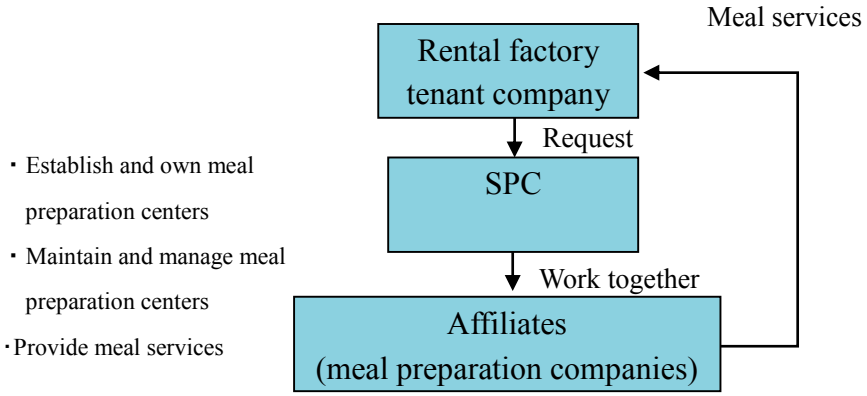
Park in Dong Nai Province on the outskirts of Ho Chi Minh City, and that cafeteria serves meals to employees in the administrative building but also delivers meals to nearby factories. Long Duc Industrial Park also works with Galaxy Shidax to provide meals all at once to tenant companies in an effort to reduce the cost to the general affairs departments of each company.

One way to build and operate a meal preparation center is to establish an SPC for providing meal services. For the Project, the BOO method of putting an SPC in charge of everything from meal preparation center design, construction, maintenance and management to taking responsibility of each company's meals and delivering them to each company can also result in improved profitability for the SPC as well. Establishing SPC to operate meal preparation centers is a well-known practice in Japan.

However, it will be difficult to make a profit due to the small scale of the Project, which targets 20 hectares and approximately 100 SMEs. The target would likely have to be expanded to include all of Ba Thien 2 Industrial Park and nearby industrial parks within 30 minutes, which is close enough to maintain food safety.

(7) Implementation System

An implementation system in which SPC works together with meal preparation companies that are affiliates is envisioned. The meal preparation companies will establish, own and maintain meal preparation centers and provide meal services to tenant companies.



(Prepared by the study team)

Figure 9-3: Implementation System for Food Services

(8) Project Prospects (revenue, costs, fees, etc.)

A project simulation was implemented in order to fully understand project prospects if meal services are provided.

1) Service Fees

Set at the maximum price for small-scale factories in Northern Vietnam of 150 JPY per meal multiplied by the number of meals (the approximate number of employees).

2) Service Conditions

Service conditions are as follows.

・Establish a meal preparation center and deliver the meals made there to each company
・Delivery only; no arrangement, heating or processing at each company

3) Demand and Sales with the Cook Service Method (only at room temperature; no refrigerating or freezing)

As shown on the table below, the number of factory operating days was set at 26 per month, the number of companies at 140 and the number of employees per company at 15. Using these figures, the cost of meal services was estimated to be about 820,000 JPY per month.

Table 9-5: Monthly Food Service Sales

Factory operation days	26/month
Meal price	150 JPY
Number of companies	140
Employees per company	15
Monthly sales	8,190,000 JPY

(Prepared by the study team)

4) Project Income and Expenditures

The project simulation run based on these prerequisites revealed that the Project would lose a significant amount of money. Thus, it is likely difficult to include meal services in the Project under these conditions, and measures must be taken to improve them so that they can be included in Project implementation.

(9) Challenges for Implementation

1) Expanding Delivery Area

For this simulation, the number of employees per SME was set at 15 and the number of companies at 140, resulting in meal services for a total of 2,100 people. However, this total is probably too small if a meal preparation center is to be used. Since Ba Thien 1 Industrial Park and Ba Thien 2 Industrial Park are located nearby, one way to increase the total is to target a delivery area larger than the rental factories alone – an area of up to 30 minutes from the center, which is close enough to maintain food safety. Profitability of the project should improve if the center is able to secure orders for approximately 12,000 to 14,000 meals per day.

2) Optimizing the Implementation System

The Project will post significant losses, but if depreciation and maintenance costs are excluded, it comes approximately the break-even point of meal preparation companies. Thus, it could be practical to provide meal services if the industrial park management company covers the building and maintenance of the meal preparation center and affiliated meal preparation companies cover the operation of the center. In addition, it is conceivable that local companies provide meal services to tenant companies, and SPC supervises and instructs the local companies as necessary as a way to reach the total of approximately 12,000 to 14,000 meals per day described above.

9.1.4 Vehicle Services

(1) Envisioned Vehicle Services

The table below shows the envisioned vehicles service to be provided to rental factories.

Table 9-6：Envisioned Vehicle Services

Service	Overview
(1) Courtesy cars for company presidents and other directors	Resident directors of non-Vietnamese companies and Vietnamese directors of Vietnamese companies will use these cars. There is a major gap between rich and poor in Vietnam; many Vietnamese companies own cars and many people employ drivers. These cars will be used for commuting to work as well as for family or personal matters such as shopping or transporting children.
(2) Courtesy cars for resident employees	It is common for even general-level resident employees to be transported by drivers in courtesy cars. This is because many companies are reluctant to bear the risk of accidents if they make resident employees drive themselves. In many cases, multiple employees ride in the same car together. There is no distinction between these cars or those for company presidents and other directors; many companies transport general-level resident employees in the same cars they use for Vietnamese company presidents.
(3) Courtesy buses for local staff	Securing a workforce is a common challenge at industrial parks because companies within the parks are competing for the same people. Some companies send buses to communities far removed from industrial parks. SMEs that are the target of the Project would incur significant costs to provide their own company's bus for transporting employees to and from work. By sharing a bus with other companies from the same industrial park, SMEs can hire the best people from remote communities.
(4) Buses and	Hosting business travelers from Japanese headquarters and customer audits is the duty

Service	Overview
passenger cars for business travelers and inspection parties	of resident employees. SMEs have few employees and are busy with the actual audits and other reasons for those visits, and they often do not have time to arrange transportation for visitors. Subcontracting this spot work can reduce the workload on companies that expand into Vietnam. While a single company may have several of these visits per year, combining all companies in an industrial park is advantageous to companies expanding into Vietnam since it can improve cost performance by boosting the frequency and efficiency of the use of these vehicles.

(Prepared by the study team)

(2) Differences between Japanese and Vietnamese Vehicle Services

The table below shows differences between Japanese and Vietnamese vehicle services. Risks to companies expanding into Vietnam are low because, unlike in Japan, vehicle service companies in Vietnam own the vehicles.

Table 9-7: Differences Between Japanese and Vietnamese Vehicles Services

	Vietnam	Japan
Vehicle ownership	Not owned by the requesting company Companies request cars from vehicle service companies *Among wealthy Vietnamese, some cars are owned by the requesting company or individually	Owned by the requesting company
Accident liability	Requesting company *Handled through insurance purchased in advance. Vehicle service companies act as intermediaries for insurance procedures, etc. *Clients are responsible for amounts not covered by insurance	Vehicle service companies

(Prepared by the study team)

(3) Price of Vehicle Services

As explained above the table, vehicle service companies own vehicles in a majority of cases, and in most cases requesting companies are billed a monthly amount that includes items such as the price of renting the vehicle and personnel costs for drivers. The main costs included in the monthly amounts are the price of renting the vehicle, fuel costs, insurance costs, labor expenses (drivers), management fees and vehicle service company profits. Invoices often include a separate charge for transportation fees.

As shown on the table below, Japanese vehicle services cost nearly twice what Vietnamese vehicle services cost. The monthly amount for these services for the Project is 150,000 JPY per month.

Table 9-8: Prices by Type of Company

Company		Monthly cost	Insurance	Notes
Japanese	Logitem Vietnam	About 200,000 JPY	Passenger insurance: about 23.25 million JPY/seat Other: Bodily injury and property insurance	・All drivers can speak simple English ・Maximum insurance coverage allowed under Vietnamese law is used
Local Vietnamese	Southern Company	About 132,000 JPY	Passenger insurance: about 810,000 JPY/seat	・All drivers can speak simple English

Company		Monthly cost	Insurance	Notes
Individual contract	Individual contract drivers	About 126,000 JPY	Passenger insurance: about 1.05 million JPY/seat	・Proficient in English Interview drivers who have set out on their own after working for Logitem Vietnam.

(Prepared by the study team)

(4) Vehicle Service Companies in Vietnam

Logitem Vietnam is the only Japanese company that has a license to charter vehicles (rental cars with drivers). The company's main business in Japan is logistics, but chartering vehicles in Vietnam is a major part of their business. Logitem Vietnam gives its employees language and etiquette training and touts its quality service to maintain a healthy share of the market for non-Vietnamese companies (namely Japanese companies) despite costing nearly twice the cost of local companies' services. The company operates throughout all of Vietnam and can serve Ba Thien 2 Industrial Park as well. The other vehicle service companies are local Vietnamese companies.

(5) Viability of Vehicle Services in Vietnam

Since there is already a Japanese company that touts language and etiquette training for drivers to capture demand from non-Vietnamese companies despite charging nearly twice the price of local companies, a vehicle service company that can provide comprehensive services at a high level including education, insurance and after-care services to Ba Thien 2 Industrial Park should be profitable.

9.1.5 IT Services

This study examined aspects of IT services needed for Internet connectivity, etc. by Japanese SMEs (tenants) in rental factories, including the potential to provide all services in Japanese in one place, service details, implementation systems and project prospects.

(1) Specific Details, Sales Points and Other Information about Provided Services

1) Investigation Targets

- This study investigated the IT services needed by tenants of rental factories for a basic Internet-connected environment (information systems).
- This study did not investigate unique information systems of specific tenants.
- Ba Thien 2 Industrial Park is connected to the Internet via a fiber-optic line owned by VNPT, a telecommunications company owned by the Vietnamese government. Because the line is available to tenants, the study did not investigate selection of a telecommunications provider or installation of a connection to rental factories from the outside.
- The figure below shows the IT services investigated by this study, as well as the configuration of components in the information system.

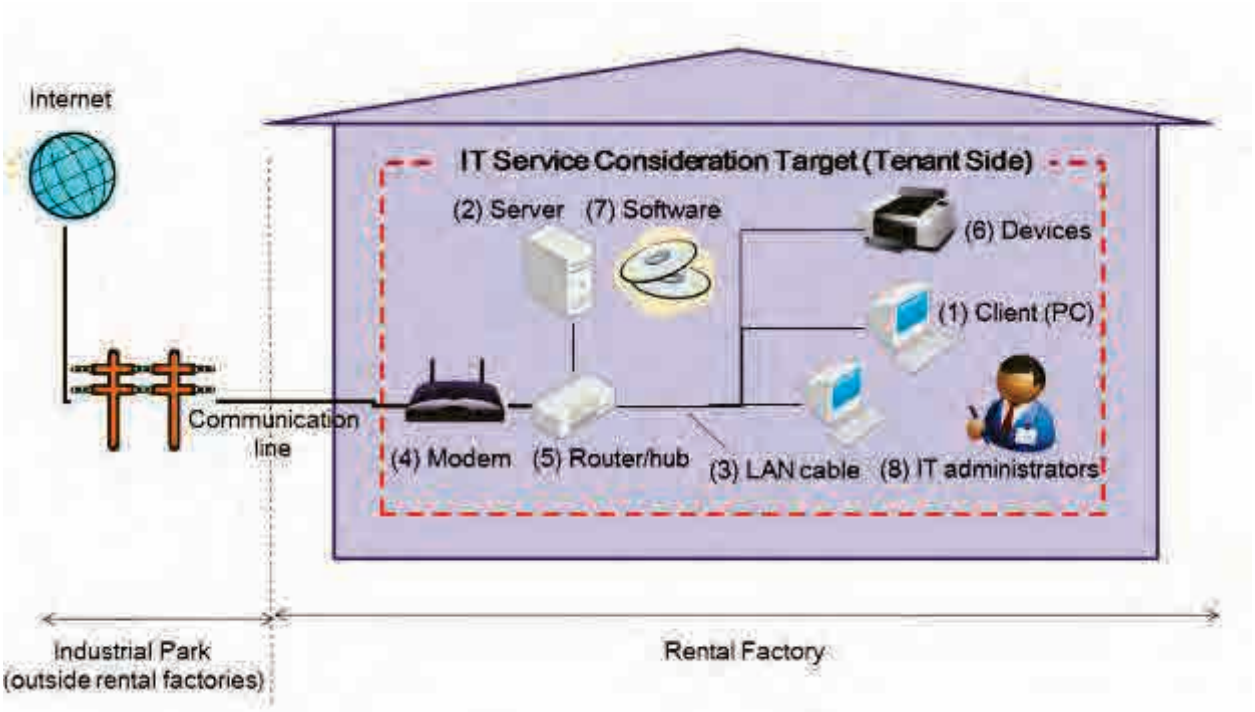


Figure 9-4: IT Services Investigated by the Study

Table 9-9：Information System Configuration

Component	Description
Client (PC)	Computers used by employees for work
Server	Computer that provides clients with various programs and data
LAN cable	Network cables that connect clients to a server and other devices. Sometimes a wireless LAN is used instead.
Modem	A device that formats data for transmission between a LAN and the Internet. A modem is used for ADSL connections, while a fiber-media converter is used for fiber-optic connections.
Router/hub	A device used to connect LANs to the Internet or each other. A router assigns unique private IP addresses to each client and server in a LAN.
Devices	Printers, photocopiers, and other networked devices
Software	Basic software like Windows and essential packaged enterprise software
IT administrators	Staff in charge of IT for tenants in rental factories

(Prepared by the study team)

2) IT Service Needs

A survey was conducted to determine the IT service needs of rental factory tenants. The survey was conducted via face-to-face interviews with representatives of Japanese companies that had already expanded into Vietnam. The table below shows needs described by each company as well as a summary of responses.

Table 9-10：IT Service Needs and Summary of Interview Responses

Needs	Summary of responses
IT operational support	As the industrial park management company provides no support for internal IT systems, tenants handle it themselves. Japanese-speaking Vietnamese staff members run the IT systems.
	Vietnamese staff members run the IT systems. High personnel costs make it difficult to employ Japanese IT personnel. Some maintenance is outsourced to local companies.
Faster connections and quicker response to downtimes	Some maintenance is outsourced to local companies, but slow connection speeds and frequent system failures are disappointing. A Japanese company would be preferable.
	Tenants need better Internet connectivity. The speeds are slow and the network often goes down. It sometimes takes more than half a day to restore the connection, affecting operations.
Support for physical maintenance of internal LAN	Tenants outsourced the re-installation of LAN cabling during factory renovation to a Japanese interior construction company.
Software	Tenants use payroll-management software, and although it has been proposed that they switch to a cloud-based service, they have not done so because current connection speeds would make it difficult to use.

(Prepared by the study team)

3) IT Service Menu and Details

The table below shows a menu of IT services that would fulfill the needs listed above. This menu is based on an interview with an IT vendor near Hanoi with relevant experience and the ability to provide support in Japanese.

Table 9-11：IT Service Menu and Details, and the Needs Fulfilled by Each Service

Service menu	Details	Needs fulfilled
(a) IT consulting service	・Consultation by phone or e-mail ・Application by proxy for Internet/phone lines ・Registration and management of domain names, etc.	Support for IT operations
(b) IT operation and maintenance service	・ Operational and maintenance support by IT personnel (IT personnel in rental factories around the clock)	
(c) Network quality control service	・ High-speed fiber-optic connections in rental factories	Improvements to connection speed, quick response to network problems
(d) IT environment setup service	・ Install in-factory LANs and telephone networks (including setting up computers, servers, routers, and other network devices, and photocopiers and fax machines) ・Phone/TV conferencing system ・Setup of security systems, etc.	Support for installation of a company LAN
(e) IT device rental service	・Provide IT devices used for (d) via renting, rather than sale	

Service menu	Details	Needs fulfilled
(f) Software sale/cloud service	Provide the services below via sale of software or on the cloud: ・Groupware ・Accounting, payroll system ・Server hosting, etc.	Provision of software

(Prepared by the study team)

(2) Information and Telecommunications Legislation Pertaining to Foreign Investment

The following are legal instruments pertaining to use of IT services:

- Law on Information Technology, No. 67/2006/QH1, June 29, 2006
- Law on Electronic Transactions, No. 52/2005/QH11, November 29, 2005
- Law on High Technologies, No. 21/2008/QH12, November 13, 2008
- Law on Investment, No. 59/2005/QH11, November 29, 2005
- Law on Value-Added Tax, No. 13/2008/QH1, June 3, 2008
- Law on Enterprise Income Tax, No. 32/2013/QH13, June 19, 2013
- Decision No. 49/2010/QĐ-TTg dated July 29, 2010 of the Prime Minister approving the list of high technologies prioritized for development investment and the list of hi-tech products eligible for development promotion
- Decision No. 15/2007/QĐ-BBCVT dated June 15, 2007 of the Ministry of Post and Telecommunications approving the planning on information technology and communication development in the Northern key economic region to 2010 and orientations towards 2020
- Information and telecommunications development plan of Vinh Phuc Province through 2010, with a vision toward 2030
- Government decree No. 54/2013/NĐ-CP dated November 8, 2013, regulating information and telecommunication systems in industrial parks

This study did not find any particular restrictions on foreign investment in the area of IT services other than the following points:

- In order to sell software and cloud services and rent IT devices, permission must be obtained from the regulating agencies for each type of item being sold, which takes some time.
- These cloud services may be subject to restrictions.

(3) Implementation System

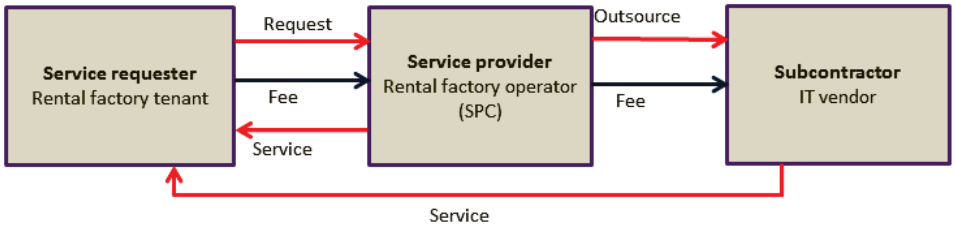
1) Envisioned Scenarios

There are two conceivable methods of providing IT services: either SPC provides them directly, or they introduce another company to provide them. In the latter case, there are again two possible options: SPC provides some services as subcontractors, or SPC acts only as intermediaries for service requests. The chart below shows these three scenarios.

This investigation of implementation systems assumes the following:

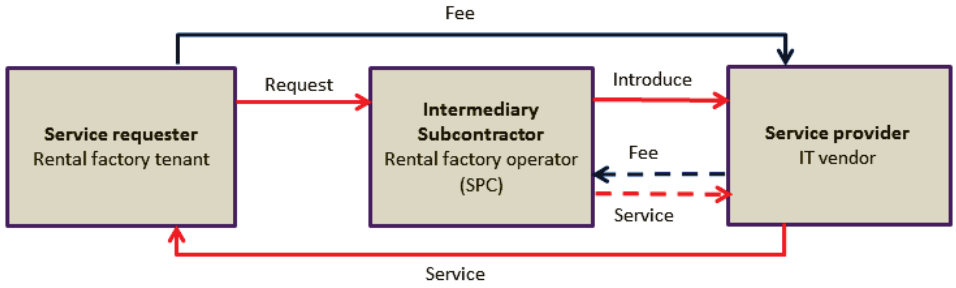
- Use of these services will be available to tenants of the rental factories.
- SPC can obtain the necessary licenses to perform these services.
- None of the companies planning to form SPC are able to provide these services at Ba Thien 2 Industrial Park. Thus, assistance will be needed from IT vendors or other companies capable of providing these services, especially in the early stages of the Project.

① SPC provides service directly

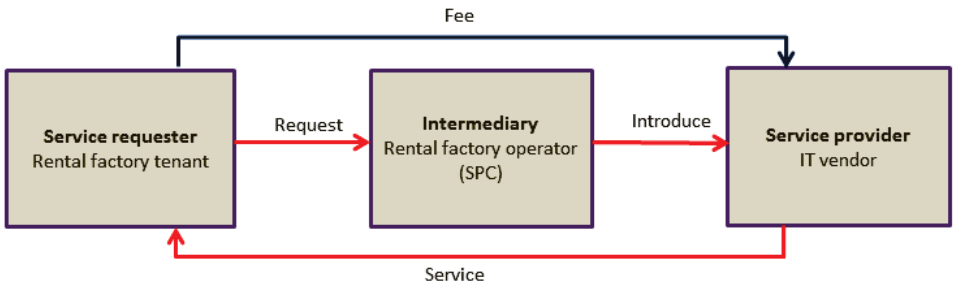


② SPC introduces other companies to provide services

(a) SPC provides some services as subcontractors



(b) SPC only acts as intermediaries for service requests



(Prepared by the study team)

Figure 9-5: Implementation System for IT Services

2) Commentary

When examining similar projects, this study found that companies operating an industrial park or rental factories generally did not provide IT services, or only did so with an SPC as an intermediary as in Pattern (2b). One exception is the Kizuna rental factory; however, Kizuna itself employed IT specialists to perform services related to Internet and telephone connectivity. The absence of any case

in which an SPC provides IT services directly, as in Pattern (1) above, is mainly due to the following reasons.

- Service fees paid by tenants are insufficient to cover the costs.
- Operators cannot outcompete other IT service providers in terms of pricing.
- Operators see it as advantageous to have an IT service provider as a tenant.

None of the companies planning to form SPC can provide the IT services needed at Ba Thien 2 Industrial Park. Therefore, Pattern (1) (SPC provides services directly) is not realistic from the perspective of the project budget, as is confirmed by past examination of similar projects.

On the other hand, the following comments, recorded during interviews with IT vendors, show what vendors need in terms of an implementation system:

- They would prefer SPC representatives to be present during meetings with tenants.
- Collection of service fees can be complex, and they would prefer for SPC to do it.
- It would be best to lump together the fees for IT services common to all tenants into a single administration fee, collected by SPC.

The study confirmed that IT vendors expect SPC to perform certain functions related to the provision of services. By performing these functions, SPC could assist IT vendors and not only gain new sources of revenue, but also provide IT services that better meet tenants' requirements. The implementation system should therefore take into account the needs of IT vendors.

Consequently, this study finds that Pattern (2a), in which SPC introduces other companies to provide the services and perform some services as subcontractors, is the most appropriate implementation system.

(4) Scale of Implementation, Phased Plan (scale in the initial phase, etc.)

1) Projected Demand in the Initial Phase

For a private contractor to provide IT services, there must be a minimum level of demand. In this service, there are service menus which presuppose a fixed number and scale of tenants. Table 11-4: Phased Development Plan shows the zoned development plan of rental factories into which tenants will move. Based on that plan, the table below shows the projected number of tenants in each year.

Note that these projections assume tenants will move into approximately 90% of the development zones (rounded off after the decimal point) upon completion of construction, and each tenant will continue to occupy the factories for the duration of the project period. The tenants are expected to employ an average of 15 people each, and comprise manufacturers of parts for automobiles, other four-wheeled vehicles, and electronics.

Table 9-12：Projected Number of Tenants

FY	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
New	13	7	10	10	10	10	20	20	20	20
Cumulative total	13	20	30	40	50	60	80	100	120	140

(Prepared by the study team)

The number of tenants is expected to increase in stages over a number of years following the start of the Project. In fiscal year 2017, the first year of the project, 13 tenants are projected to move in; only seven are projected to move in the following year.

2) Scale of the Project in the Initial Phase

Interviews were conducted with local IT vendors to confirm their ability to provide IT services in the initial phase based on the results of projected demand described in the previous section. The interviews verified that IT vendors are generally able to provide all specified services starting from when the first tenants moved in. However, the IT vendors may need assistance from the SPC that operate the rental factories to provide certain services from the menu. Below are comments from the IT vendors.

- Vendors will need to make an initial investment and pay fixed costs in order to provide services for IT operation and maintenance and network quality control (listed in the service menu) at Ba Thien 2 Industrial Park. The initial cost will put the vendors into the red from the start.
- One IT vendor said at least 20 tenants are required for them to achieve a profit providing IT operation and maintenance services; and at least 50 tenants are required for network quality control services.
- The IT vendors see advantages in providing tenants with services from the start. Therefore they are generally willing to shoulder the initial investment and fixed costs of providing the services even if it puts them into the red.
- If the initial costs are too great a burden for IT vendors, SPC assistance may be needed. For example, SPC could help in the following ways:
  - -SPC could provide spaces free of charge for the use of IT personnel stationed in the rental factories.
  - -SPC could include services common to all tenants in the contract between SPC and the tenants.

For the following reasons, it should be possible to make all IT services available to tenants from the start.

- IT vendors confirmed that they would generally be able to provide tenants with all the services from the start.
- Even if there is insufficient demand from the start, assistance from SPC has the potential to mitigate the problem.

The necessity and specifics of the form of assistance from SPC will be investigated in the future.

Additionally, assistance from SPC is seen as important for the following reasons:

- IT services should be available from the start so that tenants can concentrate on their actual work.
- The rental factories need to have a complete suite of IT services available from the start, for SPC to attract tenants and differentiate the factories from competing facilities.

(5) Project Prospects (revenue, costs, fees, etc.)

The following project simulation for IT services was implemented in order to fully understand prospects for revenue and costs to SPC if they provide these services.

1) Assumptions

① Service fees

The service fees were projected based on interviews with IT vendors.

② Projected utilization of services

The utilization of services by each tenant based on interviews with IT vendors was projected. The utilization rate is the percentage of tenants projected to use each service. Tenants are expected to employ an average of 15 people each, and comprise manufacturers of parts for automobiles, other four-wheeled vehicles, and electronics.

③ Service implementation system

- The service implementation system will be as described in (2a) from (3) Implementation system.
- The value of services provided by SPC as subcontractors is estimated at 10% of the total fees paid by tenants for IT services.
- SPC will not need to employ IT specialists to provide any services.

④ Demand for services

Table 9-15 shows the projected number of rental factory tenants. Demand for services during operation is based on the total number of tenants occupying the rental factories in the previous year.

Table 9-13：Projected Demand for IT Services (for project simulation)

FY	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Initial	13	7	10	10	10	10	20	20	20	20
Operating	0	13	20	30	40	50	60	80	100	120

(Prepared by the study team)

2) Project Prospects

- Based on the assumptions above, revenue of SPC was projected.
- Expenses incurred by SPC are not considered, as it is assumed SPC will not need to employ IT specialists; the rental factories will cover the cost from their common budget.

(6) Challenges for Implementation, etc.

1) Avoiding Obsolescence of the Service Menu

This service menu was developed in response to the current needs of tenants and includes only services that currently can be provided. The services will not actually start until more than two years from now. IT technology develops very rapidly, so in the future tenants could have different

requirements and different services could be available. In the implementation phase as well, the service menu will need to be re-examined in order to provide services that best meet tenants' needs.

2) Optimizing the IT Service Implementation System

In (3) Implementation system, it was found that the optimal method of providing IT services is Pattern (2a) in which SPC introduces other companies to provide the services and perform some services as subcontractors. However, SPC will likely provide some services directly in response to requests from IT vendors as in Pattern (1). For example, SPC may bundle service fees into an administration fee they collect from tenants. The service menu should be re-evaluated as necessary in order to optimize the implementation system.

3) Considering Assistance for IT Vendors at the Start of the Project

In principle, IT vendors will bear the initial investment and fixed costs of providing IT services. However, if the initial costs are too great a burden for IT vendors, SPC may need to offer assistance. Upon developing detailed plans for the rental factories, there is a need to determine the initial investment and fixed costs of providing IT services, and to consider whether or not assistance will be needed from SPC, and if so what type of assistance.

9.1.6 Logistics Services

(1) Envisioned Logistics Services

The table below shows envisioned logistics services. Estimated prices differ depending on the scope of the work and volume of goods.

Table 9-14：Envisioned Logistics Services

Name	Overview	Major service details
(1) Shipping services for facilities, machinery and fixtures for factories	・Advance consultation and confirmation of laws and regulations as to whether or not facilities, machinery and fixtures for production and manufacturing can be imported and exported. ・ Total arrangement of disassembly, packaging, customs clearance and ocean and air transport from Japan and elsewhere, and import customs clearance, shipping and assembly on the Vietnam side. ・Conduct all services in Japanese.	・ Advance consultation and confirmation of laws and regulations as to possibility of import and export ・ Free-on-board (FOB) work from facility disassembly and export packaging to ship loading and air transport ・Ocean and air transport ・Vietnamese import procedures and shipping ・ Opening, assembly, leveling and installation at factories
(2) Shipping services for material procurement	・Total support for shipping for material procurement from Japan, inside and outside Vietnam and elsewhere for everything from materials for trials to procuring materials for mass production. ・Shipping confirmation with non-Vietnamese vendors,	・ Shipping confirmation and making deals with non-Vietnamese vendors ・Vietnamese import procedures and shipping

Name	Overview	Major service details
	etc., ocean and air transport, import customs clearance, storage and shipping services for materials from outside Vietnam. Also handle deals and shipping with Vietnamese vendors. ・Conduct all services in Japanese.	・ Deals and shipping with Vietnamese vendors
(3) Product shipping services	・ Total shipping to customers inside and outside Vietnam. ・Truck transport as well as milk run transport organized by suppliers is being considered for deliveries to customers in Vietnam. ・Ocean and air, and overland transport services will be provided from factory shipping to customers' doors for customers in Japan and outside Vietnam. ・It should be possible to provide overland shipping between Hanoi/HAIFON and South China (between China and Vietnam), between Hanoi/HAIFON and Bangkok (East-West Corridor) and other established services.	・Export work ・Total ocean and air transport ・Domestic product transport
(4) Storage services	・ Build warehouses to temporarily store fixtures, materials, products and other items required at rental factories. ・ Various responses to domestic cargo for general warehouses and bonded warehouses for non-resident inventory. ・ Envisioning operations at existing external warehouses in the initial phase given the scale of rental factories and number of tenant companies.	・Non-resident inventory storage ・General warehouse storage ・ Stock operation (VMI also being considered)
(5) Personal moving services for resident employees	・ Provide complete door-to-door personal moving services for resident employees, from their homes in Japan to company housing in Vietnam.	・ Temporary packaging and pickup at resident employees' homes ・ Packaging for shipping, shipping ・Ocean and air transport ・Customs clearance preparation on the Vietnam side ・ Import customs clearance in Vietnam ・Delivery to company housing in Vietnam

(Prepared by the study team)

(2) Envisioned Transport Modes, Routes and Reference Prices

The table below shows envisioned modes of transport

Table 9-15: Envisioned Modes of Transport, etc.

Service mode	Details	Reference prices
a) Ocean transport	Ocean container base ・Major Japanese ports to HAIFON PORT, Vietnam (Weekly service from Tokyo, Yokohama, Nagoya, Osaka, Kobe, Moji, Hakata; voyages of approx. 8–15 days) ・HAIFON PORT charges ・Import and export customs clearance charges ・Container transport fees (HAIFON PORT to Ba Thien 2 Industrial Park)	20'GP / 40'GP / 40'HC (Unit: USD) ・400–600 / 750–900 / 750–900 *Includes surcharges (Estimate of Japan port charges ¥35,000.-/50,000.-/50,000.-) ・180–300/250–350/250–350 (+VAT 10%) ・100–250/110–260/110–260 (+VAT 10%) ・280–300/320–350/320–350 (+VAT 10%)
b) Storage	General warehouse base ・Stocking fees ・Storage fees	FT (Unit: USD) 4.00–4.50 (Minimum 8.00–9.00) 0.20–0.30 / day (+VAT 10%)
c) Air transport	Freight charges from Narita/Kansai Airports to HANOI AIRPORT (*based on daily direct flights) ・Minimum (total freight charge) ・45–1,000 kg ・Air Waybill charges	Air freight charges/fuel surcharges (Unit: JPY) ・12,000.-(per case) / 75–99.-(per kg) ・250～200.(per kg)- / 75–99.-(per kg) ・300,-(per case)
d) Overland transport	Box truck base ・From Ba Thien 2 Industrial Park to HAIFON PORT	1.5/3.5/5.0/15.0-ton box truck (Unit: USD) ・85–100/110–130/135–160/250–300 (+VAT 10%)

(Prepared by the study team)

*The prices above were calculated based on current rates and current exchange rates and thus are only references for the actual prices of transport expenses. Therefore, they may change due to changes in loading times, exchange rates and public expenses; and the specific nature of the work, volume handled and volume of goods.

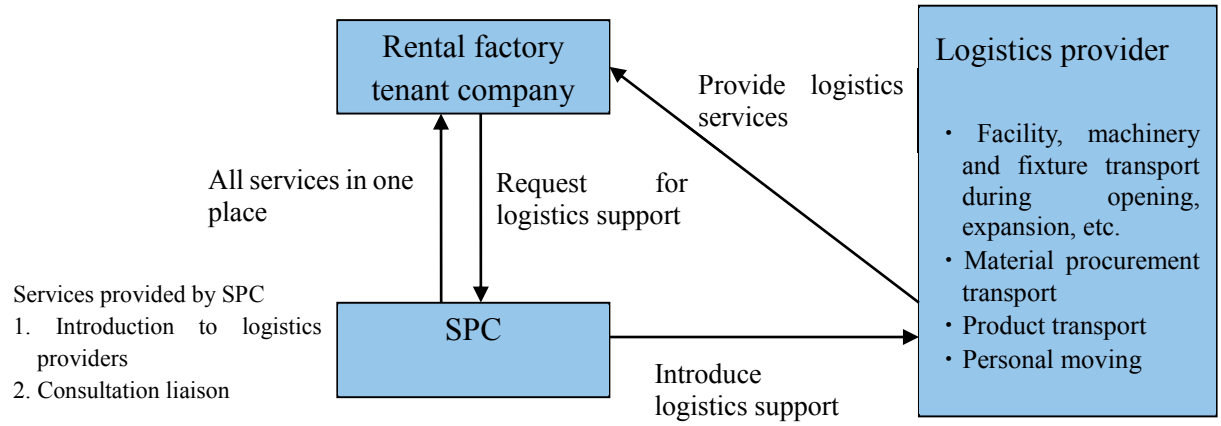
*GP (General Purpose Container): Box container, height: 8'6"

*HC (High Cube Container): Box container, height: 9'6"

*FT (Freight Ton): The greater of one cubic meter or one ton

(3) Implementation System

Logistics service work requires permits and approval as well as advanced expertise, thus SPC will introduce tenant companies to logistics providers based on consultations and requests for support from tenant companies and leave the implementation of the actual work to the logistics providers so the SPC is not liable for the risk of damages, etc. from physical transport.



(Prepared by the study team)

Figure 9-6: Implementation System for Logistics Services

(4) Scale of Implementation, Phased Plan

Services will be provided in response to tenants' individual needs from Phase 1. However, the construction of storage warehouses depends on the volume of goods, thus providing services after the Phase 3 improvements is being considered. These will all be flexibly discussed and considered in response to actual circumstances.

(5) Project Prospects

These services are part of all services in one place under the Project, but in principle it will be provided by entities other than SPC for a fee since logistics work is still restricted in Vietnam.

(6) Challenges for Implementation, etc.

1) Advantages

- Tenant companies can have all their needs satisfied through access to a global network of logistics providers
- Tenant companies can receive logistics services for small volumes
- Shifting the work to logistics providers helps SPC cut costs by removing the need to hire expert staff
- SPC can avoid the risks of physical damage and this accident-prone work
- SPC does not need additional investment in logistics facilities (warehouses, etc.)

2) Disadvantages

- SPC will have difficulty turning a profit as they cannot act as the master contractor since this type of work is partially restricted

9.1.7 Insurance Services

(1) Local Insurance Market

1) Systems Involving Insurance

It is not possible for a non-Vietnamese insurance company to directly insure against risks in Vietnam; Decree No 45/2007/ND-CP Article 3 (March 27, 2007) sets forth that risks in Vietnam are to be insured by insurance companies that have been approved by the Vietnamese government. In response, Japanese insurance companies have created a local underwriting system under which they fund Vietnamese insurance companies.

2) General Insurance Companies

There are 29 general insurance companies in Vietnam, and three Japanese insurance companies (TOKYO KAIJO, MITSUI SUMITOMO KAIJO and SOMPO JAPAN NIPPONKOA) have created a local underwriting system. Formerly state-run Bao Viet is the largest, but recently PVI, a member of the Petrovietnam Group, has grown significantly. Those two along with the third-largest, Bao Minh, account for 54% of the market. The top five account for 70% of the market, and the top 10 hold an 82% share.

3) Scale of General Insurance Premiums

The total amount of direct insurance premiums collected by Vietnamese general insurance companies in 2012 was 898.72 million USD, and total assets were worth 35.546 trillion VND. The scale is small, but probably large enough to underwrite this project.

4) Insurance Sales Channels

Local private policies are sold by agencies, but nearly all entities that handle foreign investment contracts are insurance brokers.

5) Insurance Conditions

Insurance conditions contain no major differences with conditions used internationally in order to make it easy to purchase non-Vietnamese reinsurance. Conditions drafted by insurance brokers are also used. Conditions written in English are also accepted.

6) Premiums

Fire insurance premiums are set forth in an ordinance from the Ministry of Finance. This applies to contracts with each individual SME, and the conditions and premiums are not flexible.

7) Premium Taxes

Consumption tax is levied against all but some types of insurance premiums, and insured persons and entities are obligated to pay them. There is a separate tax obligation for the expense of fireproofing for compulsory fire insurance.

(2) Group Insurance

It is expected that the scale of expanding into Vietnam per SME will not be very large, thus the assets and number of employees of companies expanding into Vietnam will be small. With no information about the insurance situation in the local area, even selecting an insurance company is difficult. If each SME is to obtain insurance on its own, there is no incentive for insurance companies to try to win their business, and the SMEs may only be able to secure limited insurance conditions or expensive premiums, or in some cases may not be able to obtain insurance at all. It is difficult to obtain information about risks in the local area.

Thus, one option is to gather together SMEs that will occupy rental factories and obtain group insurance where they are collectively treated as one entity. Employing this method can result in larger-scale profits for insurance companies and allow SMEs to secure stable insurance, which would be difficult to obtain on their own, and to improve their ability to negotiate insurance conditions and premiums.

It is envisioned that securities will be issued to each client SME under a Master Policy in which the industrial park operator is the contract party. The inception date will be the same for all. This study confirmed actual cases in which group insurance was applied to tenant companies, which were occupying shopping malls, as comprehensive insurance. In these cases, occupants were able to obtain improved conditions and flexible premiums compared to standard, individual contracts.

(3) Envisioned Required Insurance

Table 9-16: Envisioned Required Insurance

Type	Details	Notes
Marine	Import, export and domestic transportation of materials and products	
Fire	Fires, etc. in machinery and facilities located in the factories	Group insurance consideration target
Movable comprehensive	Fires, etc. in machinery and facilities located in the factories	
Automobile	Automobile insurance for owned vehicles	
Accident	Accidents during the work of resident employees and employees	
Liability	Liability for damages due to physical injury or property damage	Group insurance consideration target
Worker's compensation	Worker's compensation required by local laws and regulations	Group insurance consideration target

(Prepared by the study team)

(4) Local Japanese Insurance Companies

Since Japanese companies are the envisioned SMEs, using Japanese insurance companies will be considered first to provide customers with a feeling of comfort, the option to negotiate insurance coverage after accidents in Japanese, and the service in Japanese they expect. The table below shows local Japanese insurance companies.

Table 9-17: Local Japanese Insurance Companies

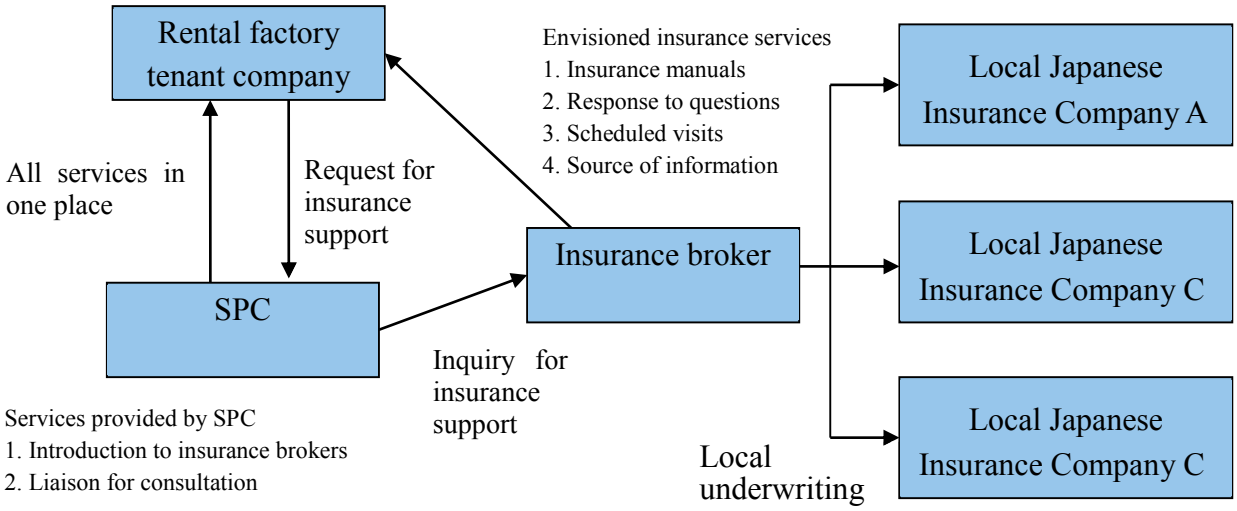
Japanese headquarters	Local insurance company	Address
Sompo Japan Nipponkoa	United Insurance Company of Vietnam	11th Floor, Hanoi Tung Shing Square, Unit 1102, 2 Ngo Quyen Street, Hoan Kiem District, Hanoi, Vietnam
Tokio Marine	Bao Viet Tokio Marine Insurance Company Limited	Room 601, 6th Floor, Sun Red River Building, No23 Phan Chu Trinh Street, Hoan Kiem District, Hanoi, Vietnam
Mitsui Sumitomo Insurance	MSIG Insurance (Vietnam) Company Limited	11th Floor, Sun City Building, 13 Hai Ba Trung, Hoan Kiem District, Hanoi Vietnam

(Prepared by the study team)

(5) Implementation System

Insurance services require permits and approval as well as advanced expertise, thus SPC will take requests for consultation and support from tenant companies, make inquiries to insurance brokers and through the insurance brokers obtain insurance for the tenant companies from the three local Japanese insurance companies.

Each of the local Japanese insurance companies is of the opinion that it can consider a generally proactive approach toward insuring rental factory tenant SMEs. In addition, introducing the method of cooperative underwriting for three companies is considered the effective to avoid poaching of individual accounts from each other in needless competition, which will destroy the group system.



(Prepared by the study team)

Figure 9-7: Implementation System for Insurance Services

(6) Envisioned Insurance Services

SMEs can enjoy generous services under group insurance that they would not be able to obtain individually.

1) Insurance Manuals

Insurance brokers create and distribute manuals that contain an overview of the insurance, what to do in case of common accidents, who to contact when accidents occur, etc.

2) Response to Questions

Through industrial park operators, insurance brokers answer individual questions from tenant companies.

3) Scheduled Visits

Staff members from insurance brokers and the local Japanese insurance companies regularly visit the tenant companies they insure to check on their needs and the condition of their insurance services.

4) Information Provision

Insurance brokers and local Japanese insurance companies provide information about local risks to the tenant companies they insure.

(7) Scale of Implementation, Phased Plan

Group insurance continues to be prepared based on specific occupancy projects in Phase 1. If fewer than five companies move in, they will be individually insured. Group insurance will be set up once five companies have been gathered.

(8) Project Prospects, Challenges for Implementation, etc.

If SPC provides these services directly as insurance brokers, they will not be able to collect many fees from tenant companies, and their business will not be profitable enough for them to hire insurance professionals. Additionally, since the insurance services require permits and approval, they are generally provided by entities other than SPC for a fee as explained previously.

The success of the Project depends on whether or not enough tenant companies can be gathered to be able to obtain group insurance.

9.1.8 Logistics Financing

(1) Overview and Aims of Envisioned Services

- The sales representation scheme (through a trading company acting as exporting agent[17]) shown in the figure below will be the standard framework to propose to the headquarters of Japanese SMEs expanding into Vietnam in the future, and to support their procurement of operating capital for trade between Japan and Vietnam.
- Contracts will be three-party agreements between local suppliers to new and existing industrial parks, Japanese SMEs expanding into Vietnam and sales agencies.

[17] This is a Western financing scheme, but it has come into use more and more often in Japan in recent years.

- Commercial distribution financing will be provided after screening.
- These services will make it possible for local Vietnamese companies to postpone payment to headquarters for approximately 180 days.

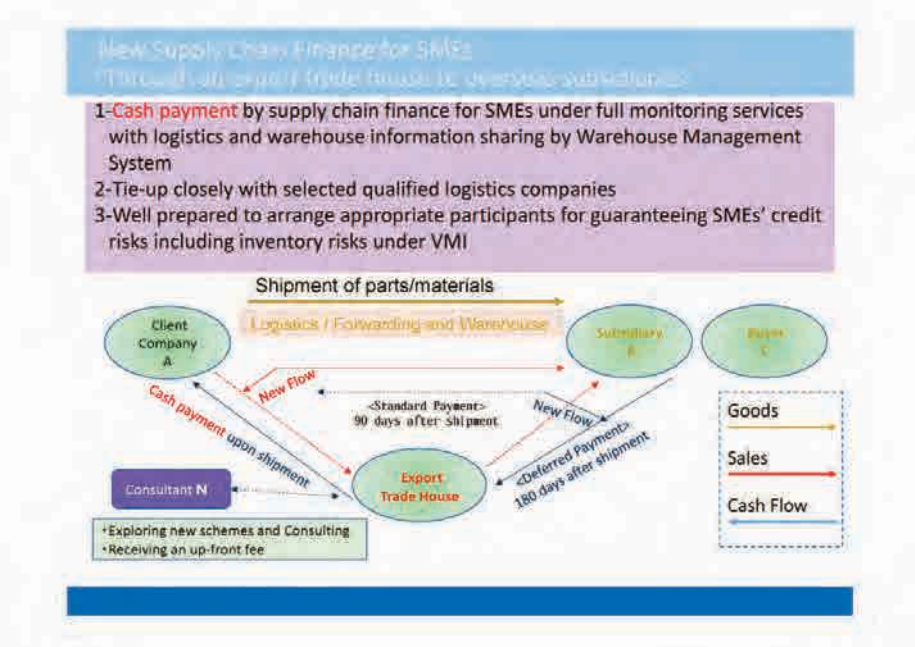


Figure 9-8: Proposed Scheme for New Supply Chain Finance for SMEs

(2) Purpose of Study

To study the effectiveness of the Trading Company as Export Agent Scheme described above, which will be employed for the first time in Vietnam, and confirm whether or not withholding taxes, etc. can be avoided in order to respond flexibly with the various funding needs of SMEs developing strategies to expand overseas.

1) Study Methodology

Visits were made to the Hanoi branches of two major Japanese banks and two major logistics companies to conduct interviews about the scheme in the above figure.

2) Confirming Possibilities and Problems with Actual Work

- Despite the lack of precedent in Vietnam, banks and logistics companies responded proactively and with interest. There seem to be plenty of potential needs.
- The two major Japanese banks have been asked to consider the idea of linking together the services of purchasing domestic receivables and collecting of receivables that they currently provide to their corporate customers. However, it seems that each bank is taking the conservative stance of putting its customers first.
- Vietnamese companies are asked by these logistics companies to bear costs other than normal costs for procedures during import customs clearance, but the study examined whether there were any problems with the business of trade and confirmed that Vietnamese companies do not incur additional costs.

3) Confirming Relevant Legislation (taxation laws, ministerial ordinances (circulars, etc.))

- The study examined factoring restrictions and confirmed that there are no legal problems with the proposed scheme and that laws allow for the purchase of relevant receivables.
- The study examined the possibility of foreign exchange futures between VND and JPY or USD and confirmed that there are many obstacles stemming from the small size of the foreign exchange market and the dependence on matching with a relative currency.

(3) Commentary

- In this scheme, the Japanese headquarters of SMEs are able to receive funding after materials and other items are shipped to their local companies in Vietnam by export agent trading companies using VMI at the time of export. The scheme would be effective in Vietnam as well, and can sufficiently supplement the standard financial assistance granted based on the creditworthiness of the Japanese headquarters of SMEs by conventional banks and other financial institutions.
- However, there is a concern that local companies in Vietnam are subject to the foreign contractor tax (a withholding tax) once goods have cleared import customs. It is probably necessary to consider an additional deemed tax of 2–5% ahead of time.

Table 9-18: Types of Transactions and Deemed Taxes from the Foreign Contractor Tax on Product Sales

Type	Deemed VAT	Deemed CIT
Services associated with product sales (On the spot import and export processing, including DDP, DAT and DAP terms)	-	1%
General services (including leases)	5%	5%
Oil drilling services	7%	5%
Restaurant, hotel and casino management services	5%	10%
Aircraft (including engines and parts) and ship leases	-	2%
Construction and installation (that accompany the supply of materials, machinery and facilities)	3%	2%
Construction and installation (that do not accompany the supply of materials, machinery and facilities)	5%	2%
Other manufacturing and shipping services	3%	2%
Reinsurance and security transfers	-	0.1%
Derivatives	-	2%
Interest	-	5%
Royalties	-	10%

(Source: Circular 60/2012/TT-BTC and the JETRO website)

9.2 Local Companies that are Possible Tie-up Partners with Japanese SMEs

9.2.1 Fully Understanding Circumstances Related to Business Matching

According to a JETRO study, the difficulty of local procurement is a challenge for Japanese companies looking to expand into Vietnam. It is no exaggeration to say that finding good suppliers determines whether a business succeeds or fails.

Thus, this study included an interview and survey of documents to fully understand the current circumstances of local companies that are possible tie-up partners for Japanese SMEs (business matching) as well as an organization of strategies for Project rental factories.

The table below shows the results of interviews about business matching.

Table 9-19：Results of Interviews about Business Matching

Interviewee	Results
JETRO	・JETRO actually visits companies, and compiles and publicizes information about possible tie-up partner companies. The information seems to be highly accurate.
JICA experts	・Matching companies is one of their missions, but not their main mission. ・They have established desks in foreign investment agencies and offer services in Japanese.
SMEs operating in Vietnam	・Most tie-up partner companies are already determined in Japan or are determined when surveying the environment for expansion. ・There are initial projects for sales channels, but none are promised for several years into the future, and it seems there is a need to find new customers.
Local consultants	・Each company has different needs, so customized strategies and actions are required. ・Material suppliers and sales channels are investigated and discovered through consultants' networks.

(Prepared by the study team)

9.2.2 Business Matching Analysis

(1) Views on Material Procurement upon Expanding into Vietnam

Based on the results of interviews and the survey of documents of SMEs with experience expanding into Vietnam, the procurement of materials and other items by SMEs upon expanding into Vietnam follows one of the two patterns below.

(i) Suppliers are determined during consideration of expansion.

(ii) Suppliers are investigated in conjunction with expansion.

There were many cases where suppliers of materials and other items were determined while expansion was being considered as in the first pattern. The typical pattern was for raw materials and partially finished goods to be imported from Japan and finished products to be exported to Japan.

On the other hand, some companies screened suppliers of materials and other items in conjunction with expansion as in the second pattern. For these companies, their selection of suppliers was a factor in deciding the location of their expansion.

(2) Views on Finding Sales Channels after Expanding into Vietnam

In many cases in the initial stages of expansion into Vietnam, products are exported to Japanese headquarters or the places they will be sold, or are sold to Japanese customers within Vietnam. However, hardly any existing customers have committed to doing business over the long term, thus from a business expansion and risk hedging viewpoint, there is a pressing need to find sales channels after expanding into Vietnam.

9.2.3 Strategies at Project Rental Factories

As explained previously, there are definite needs for business matching from the viewpoints on material procurement upon expanding into Vietnam and on finding sales channels after expanding into Vietnam. Thus, SPC provides services to help SMEs select material suppliers (business matching services) either directly or through business partners (consultants, etc.) for a fee.

The study revealed that there is a wide price range for these services and considered that the price starts at approximately 100,000 JPY.

9.3 Considered Marketing and Sales Promotion Strategies

The most critical challenge in the course of implementing the Project is raising the operation rates of rental factories to secure continuous, consistent revenue. Thus, as described in Chapter 6, activities to assist SMEs in expanding into Vietnam and entice SMEs to relocate to Project rental factories are currently being implemented in association with the institutions, etc. shown on the table below with whom discussions and coordination is ongoing.

Table 9-20: Proposed Associations with Other Institutions, etc. (Same as Table 6-5)

Partner and nature of partnership	Specific candidate
(1) Partnership with municipalities to assist SMEs make overseas business expansion	Municipality A Municipality B Municipality C Municipality D
(2) Partnership with financial institutions to find potential tenants	Financial institution A Financial institution B Financial institution C Financial institution D Financial institution E Financial institution F Financial institution G Financial institution H Financial institution I Financial institution J
(3) Partnership with large companies, trading companies, etc. to assist related SMEs to make overseas business expansion	Company A Company B Company C Trade companies
(4) Partnership with companies doing rental factory business in Vietnam to attract Japanese companies, share the know-how of operating rental factories, etc.	Company E
(5) Partnership with the central and other governments, and partner companies in Vietnam to hold various seminars to find potential tenants	Vinh Phu Province Vina CPK

(Prepared by the study team)

9.4 Considered Ways to Meet the Needs of Japanese Workers in Vietnam

It is not likely that Japanese SMEs that have ventured into Vietnam are dispatching many Japanese workers to Vietnam, and for that reason, living allowances for workers in Vietnam are probably difficult and cumbersome for both the workers and the companies; there is a significant need for a different approach.

Thus, various ways of assisting Japanese nationals who have been dispatched to Japanese SMEs in Vietnam will be considered: verification of the state of housing for non-Vietnamese in the Hanoi area, the possibility of secure housing from the current market for those workers, and searching for housing with services for various daily necessities.

9.4.1 Overview of the Market for Serviced Housing in Hanoi

(1) Large Serviced Apartments

Clusters of serviced apartments are located in central Hanoi and in the Tay Ho area. The apartments in central Hanoi were developed mainly for dispatched workers from other Asian countries. Foreign developers were the main builders of these apartments in the past, but the developers of large serviced apartments since 2006 have been mainly Vietnamese. As of the end of March 2014, there were 32 projects for large serviced apartments with a total of nearly 3,000 units within Hanoi city limits.[18] The total number of rooms in large serviced apartments is expected to climb to approximately 3,500 by the end of 2014 due to the completion of Lotte Center and other large projects during the year.

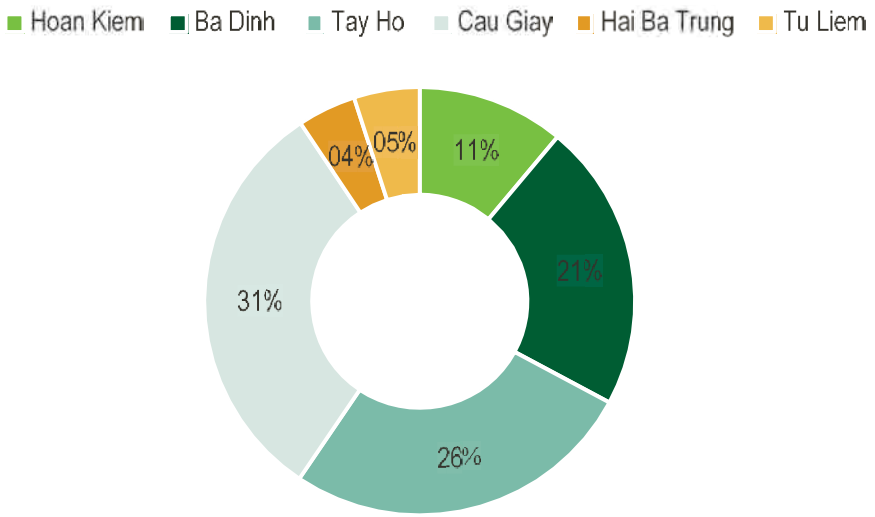
Below are the results of analysis of the number of units classified by operator, areas served and rent as well as unit mix, rent and services provided for each type.

(Source: CBRE Vietnam)

Figure 9-9: Serviced Apartments, Supply by Year and by Operators

- The Cau Giay (the southwestern part of Tay Ho) and Tay Ho areas comprise most of the area served, and the target areas provide a relatively easy commute to work in Vinh Phuc Province.

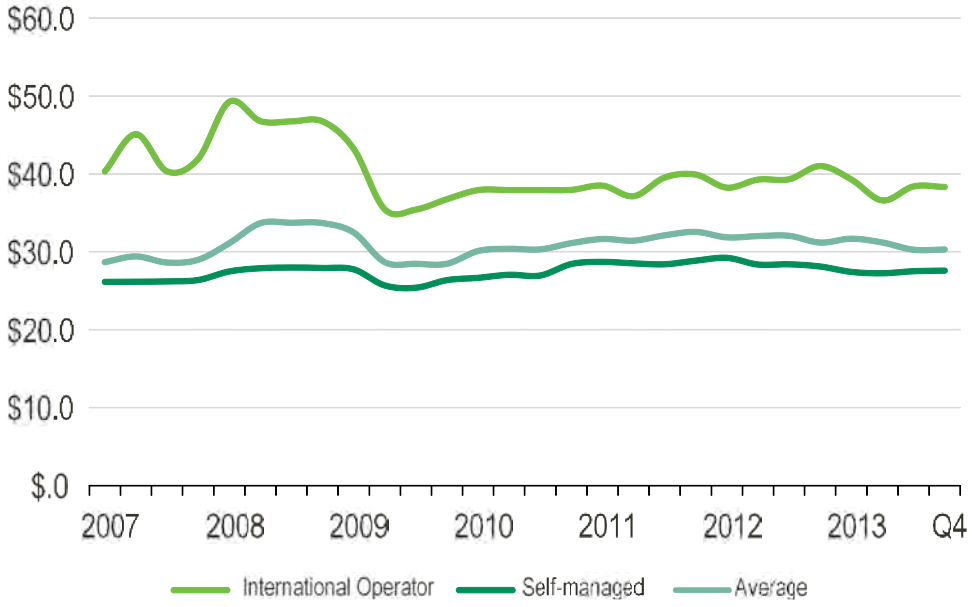
[18] CBRE Hanoi Office, as of end of March 2014



(Source: CBRE Vietnam)

Figure 9-10: Serviced Apartments, Supply by District

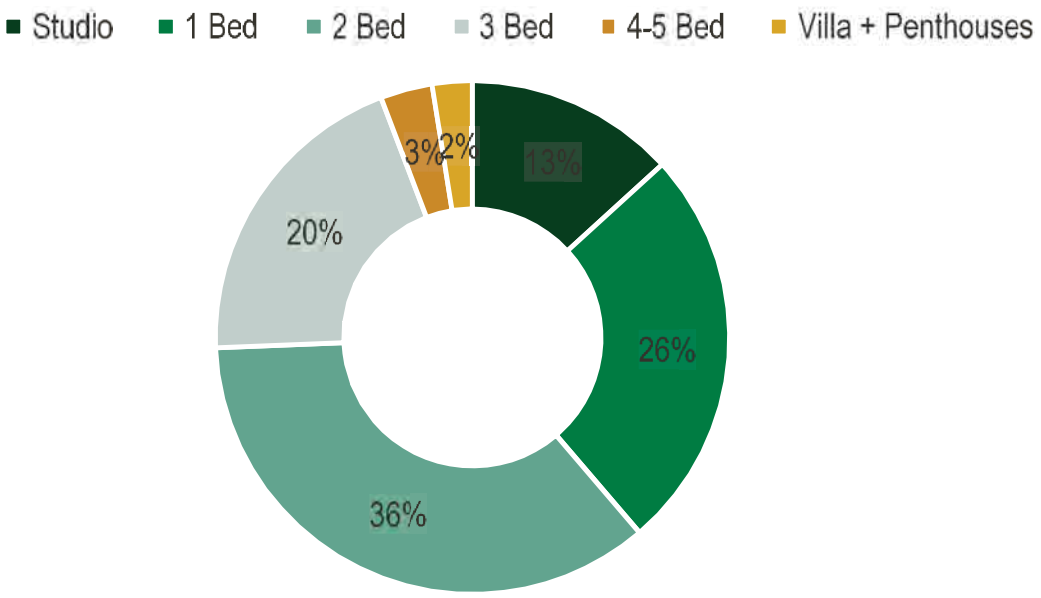
- Rent has stayed stable after decreasing temporarily after the global financial crisis.



(Source: CBRE Vietnam)

Figure 9-11: Serviced Apartments, Average Asking Rents (USD per m^2 per month)

- Demand for two-bedroom apartments was high from workers accompanied by their families, and demand for studios and one-bedroom apartments was high from workers who came alone.
- Together, studios and one-bedroom apartments account for 39% of demand.



(Source: CBRE Vietnam)

Figure 9-12: Serviced Apartments, Unit mix

- On average, rent for large serviced apartments within Hanoi City limits is expensive. Rent for these apartments in Hanoi will likely exceed the estimated housing budget of approximately 1,000 USD for Japanese workers who would be dispatched to Japanese SMEs in Vietnam under the Project.

Table 9-21: Serviced Apartments, Average Asking Rents by Room Type

AVERAGE ASKING RENTS (USD per month)								
Per m^2	Studio	1-Bed	2-Bed	3-Bed	4-Bed	5-Bed	Villa	Penthouse
Min	31.58	14.29	10.65	9.35	19.26	20.69	15.83	31.63
Avg.	43.70	24.83	24.54	24.00	27.53	32.41	28.21	30.88
Max	58.82	59.45	44.44	41.30	34.78	36.48	26.67	40.82
Per unit								
Min	800	500	750	1,100	3,500	6,000	2,500	6,000
Avg.	2,082	1,884	2,570	3,263	5,526	8,900	3,981	13,158
Max	2,800	3,270	4,500	6,900	10,450	10,000	5,000	30,000

(Source: CBRE Vietnam)

- The services currently provided and its analysis are shown as below. The services provided at these apartments can serve as a reference for services generally required for dispatched workers.
- It is noticeable that required levels are not always accord with availabilities of services. For example, swimming pools are often provided in order to improve landscapes and images of serviced apartments; however, the pools are not frequently utilized. On one hand, since it is difficult to invite operators of

minimarts, availabilities of minimarts are not high; however, they are normally highly required by occupants.

- Many occupants of large serviced apartments have been dispatched to Vietnam by major companies and have been provided cars, thus there is no need for shuttle services.
- Household generators for use during power outages will probably not need to be as powerful because of continued improvement of the power supply.

Table 9-22: Serviced Apartments, Services & Facilities

Services & Facilities	Availability of services	Required	Necessary	Value-added
Daily maid service on business days	32/32	○		
Landry Service	32/32	○		
Car Parking	32/32	○		
100% Power Backup	32/32	○		
Babysitting service on request	22/32		○	
Fitness Gymnasium	28/32	○		
Swimming Pool	25/32		○	
Children's playground/playroom	22/32		○	
Shuttle Bus Services	13/32			○
Sauna / Steam Room	21/32		○	
Business Service Center	18/32	○		
Restaurant/Bar	21/32	○		
Massage Rooms/Beauty Salon	14/32		○	
Jacuzzi	12/32		○	
Minimart	11/32	○		
Retail & Entertainment Complex (Theater, bowling center)	16/32		○	
Tennis Court	8/32			○
Billiards Room/Table Tennis	5/32			○
Club	12/32			○
Tenant Library	2/32			○

(Prepared by the study team)

＊Serviced Apartments, Supply by Operations

International Operators		
1	Somerset Westlake	Ascott International
2	Somerset Grand	Ascott International
3	Somerset Hoa Binh	Ascott International
4	Fraser Suites Hanoi	Fraser Hospitality
5	Sofitel Plaza Hanoi	Accor
6	Hoa Binh Green	Ascott International
7	Crown Plaza	Intercontinental
8	Intercontinental Hanoi	Intercontinental
9	Candeo Hotels	Candeo Hotels
In-house Operators – International Developers		
1	Daeha Apartments	Korea
2	Coco Village	Japan
3	Oriental Palace	Thailand
4	Golden Lodge	Holland
5	Mayfair Apartments	Australia
6	Pan Horizon	Singapore
7	Sedona Suites	Singapore
8	Jana Garden	Japan
9	Rose Garden	Korea
10	Sun Red River	Japan
11	V-Tower	Japan
12	Hanoi Lake View	British
13	Hanoi Club	N/A
14	Grand Plaza	Korea
15	Keangnam Landmark 72	Korea
16	Pacific Place	Singapore
In-house Operators – Local Developers		
1	Elegant Suites	Duy Hoang Minh Co., Ltd.
2	Elegant Suites Westlake	Duy Hoang Minh Co., Ltd.
3	DMC Tower	Tan Long Co., Ltd. (DMC)
4	Atlanta Residences	Green Global Co., Ltd.
5	Skyline Tower	Nam Hung Co., Ltd.
6	Me Linh Plaza Tower	Eurowindow Holdings
7	Dolphin Plaza	TID Group

(2) Condominiums for Rent (Alternative 1)

There are cases where investors have purchased condominiums for sale but are leasing them out as rental housing because they have not been able to resell them, and cases where developers in leaseback schemes with investors are subleasing units as serviced rental housing. In both cases, investors are seeking capital gains. Thus, their expectations of investment return are generally low, and as a result rent is set lower than that for large serviced apartments.

Table 9-23: Selected Apartments for Lease from Developers, Asking Rents

Project	No. of-bed rooms	Area(m^2)		Asking rent (USD per apt, inc. VAT)		Asking rent (USD/m^2, inc. VAT)
		Min	Max	Min	Max	Avg.
Golden Westlake	1	70	70	1,200	1,350	19
	2	120	120	1,350	1,870	14.01
	3	129	184	1,750	2,800	14.91
Indochina Plaza Hanoi	2	93	98	1,300	1,500	14.5
	3	116	145	1,600	2,200	13.85
Royal City	2	98	98	1,700	1,800	18
Times City	2	98	98	1,700	1,800	18

(Source: CBRE Vietnam)

Rent is high for units under developer leaseback schemes, but significant savings per person are possible if two people share a two-bedroom apartment or three people share a three-bedroom apartment.

In cases where individual investors lease units on their own, rent is generally low and furniture, services and other conditions can be added on through flexible negotiations. Units for lease directly from investors are constantly on the market now, and there is value in considering enlisting the services of SPC as agents to communicate with owners and negotiate services.

Table 9-24: Selected Apartment for Lease from Owners

Project	No. of bed-rooms	Asking rent(USD per month)
Keangnam Landmark 72	Studio	800 (unfurnished)
Ciputra	4	1,000 (furnished)
	3	800 (furnished)
Thang Long International	2	800(furnished)
Rainbow Linh Dam	1	850 (serviced apartment)
Hoa Binh Green Apartments	2	800 (furnished)
Atlanta Residences	3	1,000 (furnished)

(Source: CBRE Vietnam)

(3) Small Serviced Apartments (Alternative 2)

Many local companies and wealthy Vietnamese offer small serviced apartments aimed at dispatched workers who are over their housing budget in large serviced apartments.

The table below shows examples of typical small serviced apartments.

Table 9-25: Service Apartments in Smaller-Scale Projects

	Name	District	No. of Units	Unit Size (m^2)	Rates(USD per unit per month, inc. VAT)
1	Hanoi Apt I	Hoan Kiem	9	50-120	1,500-1,700
2	Hanoi Apt II	Hoan Kiem	10	60-120	1,000-1,700
3	Mayflower	Hai Ba Trung	17	60-120	1,800-2,500
4	Water Front Apt	Tay Ho	9	65-300	2,300-4,400
5	Lakeside garden	Tay Ho	8	150-220	2,200-4,000
6	The Moon	Ba Dinh	6	90	1,500
7	Thien Thai Executive Residence	Tay Ho	15	99-120	2,000-2,500
8	Palm garden	Tay Ho	14	90-110	1,000-1,800
9	Syrena Apat	Hai Ba Trung	8	100-200	1,600-2,000
10	Rainbow Apt	Hai Ba Trung	30	63-140	1,400-2,500
11	Park View Serviced Apt	Hai Ba Trung	6	60-150	1,000-2,300
12	The Maya	Ba Dinh	23	60-100	1,500-2,500
13	Xuan Hoa Apt	Ba Dinh	6	80-90	1,000-1,200
14	Hanoi Center Point	Hai Ba Trung	15	60-150	800-1,300
15	Zodai Apartments	Hai Ba Trung	11	130	2,200
16	Hanoi Lake Residence	Ba Dinh	10	190	2,100-3,000
17	Lake Front	Ba Dinh	9	200	2,500
18	Bee Apartment	Ba Dinh	8	100-165	1,200-1,700

（Source: CBRE Vietnam.）

(4) Local Efficiency Apartments (for non-Vietnamese) (Alternative 3)

No statistical data exists, but many local residences in four- or five-story buildings (where each floor has one unit), villas, townhouses and other housing are being leased to non-Vietnamese. Rent is low, and these accommodations offer plenty of space for less than 1,000 USD per month. However, each occupant needs to hire a housekeeper and otherwise secure their own daily services, and language barriers that cannot be overcome by Japanese or English exist. Thus, living in these accommodations would probably cause a great deal of stress to a Japanese worker living and working outside Japan for the first time.

9.4.2 Overview of the Market for Serviced Housing in Vinh Phuc Province

Currently, no large serviced apartments for non-Vietnamese dispatched workers exist in Vinh Phuc Province because it is within commuting range of Hanoi, with an abundance of shopping and entertainment facilities.

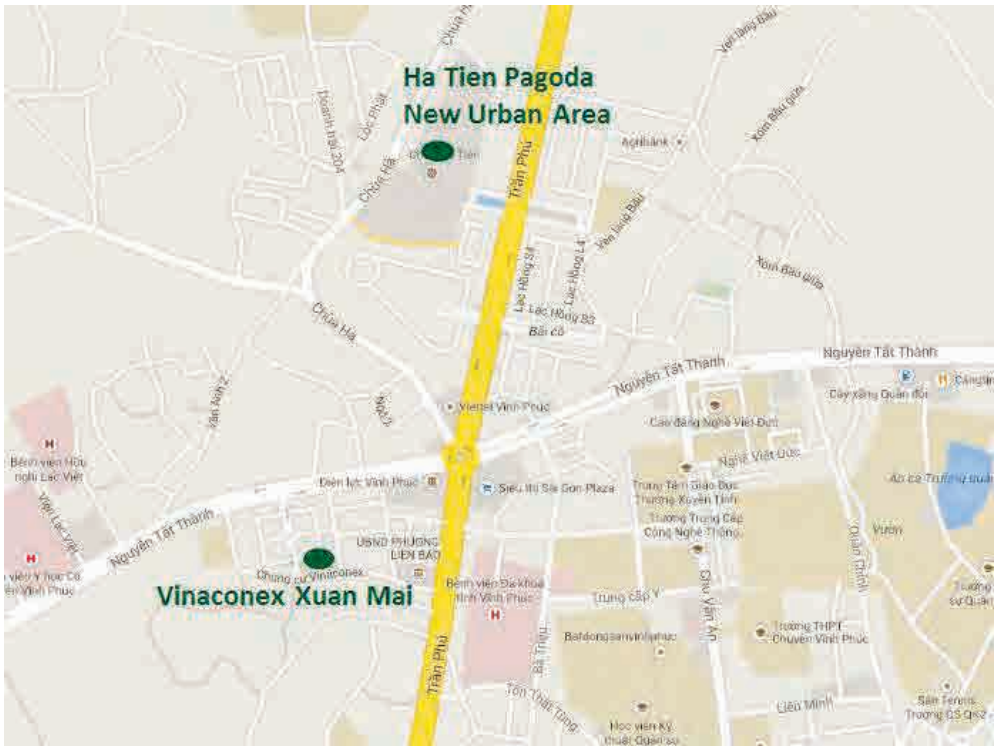
However, as explained below, approaches to fulfilling housing needs in Vinh Phuc Province are available.

(1) Housing for Rent in Developments

The following two large housing development projects in Vinh Phuc Province have been completed, and the owners of the housing have already offered to rent them out.

Table 9-26: Buy-to-let Housing Projects, Vinh Phuc

	Vinaconex-Xuan Mai	Ha Tien Pagoda
Picture		
Total area	3.8ha	49.56ha (inc. commercial area)
Type	Housing for low-income earners	New urban area, commercial housing
Project components	9 condominium blocks, 532 units Four 5-storey blocks, two 11-storey blocks, two 19-storey blocks	17.75ha,722 villas & terraced houses
Current progress	Completed. Handed over to buyers	Completed. Handed over to buyers
Average asking prices	VND 8.6 million per m^2 Approx. VND 1.16 billion per unit ($135m^2$)	VND 7 million per m^2 Approx. VND 1.75 billion per m^2 ($250m^2$)
Average asking rent(furnished)per month	-	Approx. USD 800 per month (no services offered)
Average asking rent(unfurnished) per month	Approx. USD 125 per month (no services offered)	-
Average unit size(m^2)	$135m^2$	$250m^2$



(Source: CBRE Vietnam)

Currently none of these units come with housekeeping, laundry or other services, but it may be possible to respond to any needs that materialize.

Monthly rent is low, and it is possible to satisfy the current demand for housing for dispatched workers by working together with rental housing developments and adding services.

(2) Converting Hotel Rooms into Serviced Apartments

Most of the 46 hotels currently in operation in Vinh Phuc Province are small, one- or two-star hotels. The table below shows the grade, supporting facilities and room rates for the main hotels.

Table 9-27: Significant Hotel Grades, Supporting Facilities and Asking Rates, Vinh Phuc

Criteria	Song Hong	Dam Vac	Trung Du	Thai Duong	Yen Ngoc	Vinh Yen	Ngoc Lan
Grade	4 star	3 star	2 star	2 star	2 star	2 star	2 star
No. of rooms	89	34	50	40	45	60	18
Occupancy (%)	45%	40%	40%	50%	50%	55%	60%
Room Rates (Single)	1,200,000 VND	400,000 VND	300,000 VND	300,000 VND	300,000 VND	250,000 VND	250,000 VND
Discount for longer stay	30~40%	5%	10%	10%	10%	10~15%	22%
Discounted Room Rate	720,000 VND	380,000 VND	270,000 VND	270,000 VND	270,000 VND	225,000 VND	195,000 VND
Car Parking	○	○	○	○	○	○	○
Laundry service	○	—	○	○	—	○	○
Cleaning service	○	○	○	○	○	○	○
Restaurant	○	○	○	○	○	○	○
Conference hall	○	○	○	○	○	○	○
Swimming pool	○	○	○	—	—	—	—
Tennis court	○	○	—	—	—	—	—
Massage/Steam	○	—	○	○	○	○	—
Karaoke	○	—	○	—	—	—	○
Children Playground	○	—	—	—	—	—	—
Shuttle Bus Services	—	—	—	—	—	—	—

(Source: CBRE Report)

Of the hotels above, the Song Hong Hotel is a high enough grade to accommodate non-Vietnamese, and it is probably possible to secure a monthly rent of less than 1,000 USD through a long-term contract.

9.4.3 Considering the Development of Serviced Apartments Next to Ba Thien 2 Industrial Park

Given the considerations above, it is probably possible to secure housing including considerable services for Japanese workers in Vietnam. Options in Hanoi include leasing condominiums directly from the individual investors who own them or leasing efficiency apartments developed by Vietnamese as

investments, and options in Vinh Phuc Province include leasing units in the Ha Tien Pagoda Villa or entering a long-term contract with the four-star Song Hong Hotel. However, none of those accommodations employs resident Japanese staff members, thus there is still a sense of anxiety over emergencies.

Thus, the viability of individual developers developing serviced apartments next to Ba Thien 2 Industrial Park is being considered.

(1) Specific Services Provided, Sales Points, etc.

1) Completely furnished housing that allows a worker to relocate with just one suitcase
- Include furniture
- Include household appliances
- Include dishes, utensils and other supplies

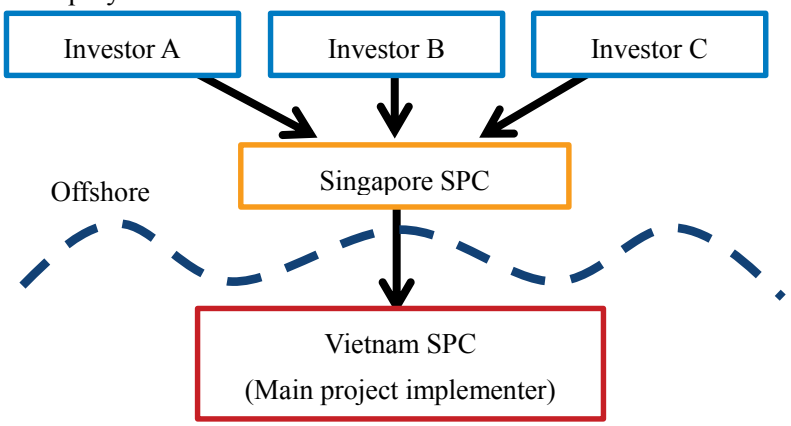
2) Non-technical Services to Care for the Daily Life of a Japanese Worker in Vietnam Alone (will exclude unnecessary services)
- Breakfast services (for a fee)
- Linen services
- Cleaning services (for a fee)
- Shuttle bus services (for a fee)

3) Location Next to the Industrial Park to Avoid Traffic in Central Hanoi
- Secure a land for development next to the industrial park

(2) Implementation System

1) Investment Scheme for SPC

A scheme that makes it easier to attract investors by establishing an offshore SPC for investing to serve as an investor for SPC established in Vietnam to increase the liquidity of investor equity.

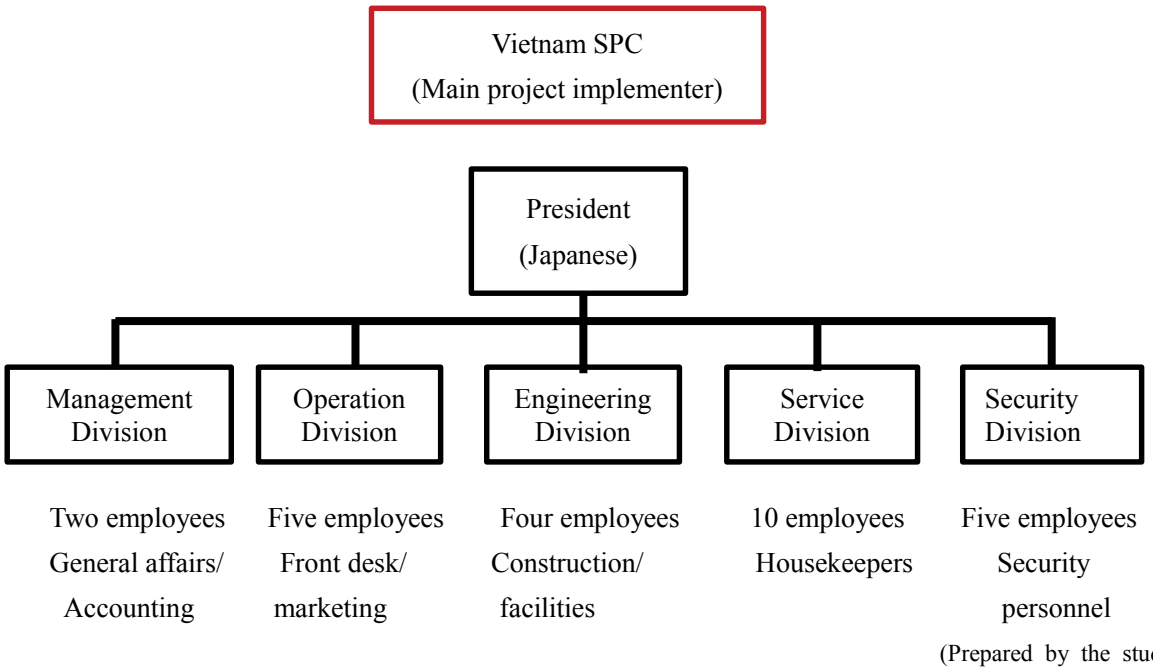


(Prepared by the study team)

Figure 9-13: Investment Scheme for SPC

2) SPC Organizational Chart and Mumber of Employees

Build a system by which SPC secures the number of employees required to perform all tasks not outsourced.



(Prepared by the study team)

Figure 9-14: SPC Organizational Chart and Number of Employees

3) Outsourcing (restaurant operations, cleaning, shuttle bus services)

・Establish a restaurant within the building and provide breakfast and dinner catering-style to paying customers

・Enter an agreement with a cleaning company and have them offer cleaning services via the front desk.

・Provide shuttle bus services to and from the industrial park on weekdays, and to and from Hanoi on weekends and holidays.

(3) Scale of Implementation, Phased Plan (scale in the initial phase, etc.)

Construction overview is set below

Total number of units:	50
Land area:	1,000 m^2
Floor area:	3,000 m^2
Private use area:	2,000 m^2
Area of each unit:	40 m^2
Layout:	1 LDK (one bedroom plus living-dining-kitchen)

(4) Project Projections

1) FS

Project simulation was run based on above conditions.

2) Project will realize a profit in the:

Second year

3) Accumulated losses will be cleared in the:

Third year

4) Cash-based investments recovered in the:

14th year (before corporate taxes)

16th year (after corporate taxes)

5) Project IRR (over 40 years)

8.55% (before corporate taxes)

7.59% (after corporate taxes)

(5) Challenges for Implementation

1) Medical services

Hanoi is one to 1.5 hours away, thus an alliance with a medical institution within Hanoi city limits capable of administering services in languages other than Vietnamese will be considered.

2) Education services

At this time is difficult to envision large numbers of workers bringing their families with them to Vietnam; it is assumed that facilities are aimed at workers coming alone. Thus, education services are outside the scope of considerations.

3) Entertainment

Currently there are very few entertainment options for non-Vietnamese in Vinh Phuc Province, thus the response is shuttle bus services to Hanoi.

4) Competition

The fact that the property is located within commuting range of Hanoi means that the balance between supply and demand as well as the market environment for housing for non-Vietnamese in Hanoi has a significant effect on the Project. Continuous review of the market environment is required.

5) Profitability

The FS resulted in an IRR of 8.55%。

Given the uncertainty of the Project and the risks associated with implementing a project in Vietnam, the IRR for the Project should be at least 10%, and if possible 15% or more would be

best. Considerations must be made for improving profitability.

9.5 Calculating Estimated Operation Costs

The table below shows estimated operating costs in light of the results of considerations for each service. SPC operating costs mainly comprise rental factory personnel costs for expansion assistance services and operational assistance services.

Operational assistance services as well as services for meals, vehicles, IT, logistics, insurances, logistics financing and serviced apartments next to industrial parks will not be provided by SPC, but SPC will introduce tenants to other entities such as companies comprised of SPC, and those other entities such as companies comprised of SPC will provide these services to the tenants.

Note that services regarding worker housing, short-term lodging facilities for business travelers, entertainment facilities, convenience stores and clinics will be determined in the future after deliberation with Vina CPK.

Table 9-28: Estimated Operating Costs

Item	Details	Estimated operating costs
Expansion assistance services	・Overseas expansion consulting	Personnel costs: shown below (1) One Japanese director, Vietnamese staff members who speak Japanese can correspond (2) Japanese director stationed permanently (1,500 USD/MM) (3) Vietnamese staff as follows (USD 800/MM) Phase 1: two people; Phase 2: two people; Phase 3: three people; Phase 4: three people; Phase 5: four people; Phase 6: four people; Phase 7 and on: 10 people (4) If the building permit services, fire permit acquisition services and EIA assistance of individual companies differ from one another, they will be charged separately.
	・ Investment development permission acquisition	
	・Moving preparation assistance	
	・Building permit and fire permit acquisition (4)	
	・EIA assistance (4)	
Operational assistance services	・Employment, accounting, legal	Separate accounting
	・Environmental efforts	
	・ Assistance with securing a workforce	
	・Introductions to possible tie-up partner companies	
	・Business matching support	
Meal services		Separate accounting
Vehicle services		Separate accounting
IT services		Separate accounting *permanent IT staff
Logistics services		Separate accounting
Insurance services		Separate accounting
Logistics financing services		Separate accounting
Housing	・ Serviced apartments next to industrial parks	Separate accounting
	・Housing for workers	Coordinate with Vina CPK
	・Short-term lodging facilities for business travelers	
Other	・Entertainment facilities	Coordinate with Vina CPK
	・Convenience stores	
	・Clinics	

(Prepared by the study team)

Chapter 10 Discussion of Environmental and Social Considerations

10.1 Review of Approved Environmental Impact Assessment Report

The project area for rental factories for Japanese small and medium-sized enterprises (hereinafter "Project Site") is located completely within Ba Thien 2 Industrial Park (see 7.1.1 Figure 7-3). The environmental impact assessment report of Ba Thien 2 IP ("EIA Report") has already been approved by MONRE as of December 2011.

Discussion regarding the environmental and social considerations of this study, which follows a review of the approved EIA Report's conformance with "JICA Guidelines for Environmental and Social Considerations" (April 2010) (hereinafter "JICA Environmental Guidelines"), has been conducted with a particular focus on environmental and social considerations of the Project Site. However, given the many management complications in retrieving information specifically on the Project Site, review of the Project Site in some parts are carried out through reviewing the information on Ba Thien 2 as a whole. The structure of the EIA Report (December 2011) is as follows, as stipulated by Appendix 2.5 of MONRE circular 26/2011/TT-BTNMT.

Ba Thien 2 IP Project Site (hereinafter "IP Project Site") is comprised of the administrative districts of Ba Hien Commune, Thien Ke Commune, Trung My Commune of Binh Xuyen District. Of these, the Project Site is mainly in the Thien Ke Commune.

Table 10-1: EIA Report Structure

Foreword	
Ch. 1	Basic Information of Project
Ch. 2	Natural, Environmental, and Socio-Economic Conditions of IP Project Site
Ch. 3	Assessment of Environmental Impact
Ch. 4	Prevention, Mitigation and Relief of Impacts
Ch. 5	Environmental Management and Monitoring Plan
Ch. 6	Consultation with Local Community
Conclusion	Conclusion, Recommendations, and Commitment to Environmental Protection

10.1.1 Result of Review of Approved Environmental Impact Assessment Report

JICA has evaluated this project to be Category B, therefore the study was conducted according to the "Outline of Reports for Environmental and Social Considerations for Category B Projects" (June 2011). Though it was not required to conform to "Annex B of World Bank's Safeguard Policy OP 4.01," it was referenced as necessary. Details of the results for each item are listed in 10.1.2.

In addition, a study was conducted to determine any potential adverse impacts from implementing the project and the necessary policies to evade, minimize, and mitigate these impacts.

10.1.2 Detailed Results of Environmental Impact Study of this Project

The Project Site being considered, as stated in 7.1.1, is 27.83ha in the far west side of Ba Thien 2. The corresponding area is mainly in Thien Ke Commune, and the development plan has arrangements for Thien Ke Commune to be developed into an industrialized area/city. The Project Site is located within the

industrial area of Binh Xuyen District, including Nam Binh Xuyen, Binh Xuyen, Thuong Lo, Binh Xuyen 2, Ba Thien, and Ba Thien 2 IPs.

Vinh Phuc Province is currently drafting the Vinh Phuc urban construction plan, in which the Ba Thien 2 is included. According to this plan, the areas southeast and east to Ba Thien 2 are planned to be developed as urban facilities and a service providing area (such as housing complexes, worker dormitories, residential relocation site, commercial service centers and other services) for an industrial area of Binh Xuyen District, and environmental impacts in these areas are to be assessed in the future.

(1) Basic Environmental and Social Circumstances

Tables 10-2 and 10-3 show the overall basic environmental and social circumstances of Ba Thien 2 and the Project Site.

Table 10-2: Basic Environmental and Social Circumstances

Item	Environmental and Social Overview
Land Use	The overall land use of the site for the industrial park includes residential districts, arable land, roads, rivers, graveyards, and military use. Arable lands for paddy fields and eucalyptus forests make up 75% (308.83 ha) of the land use, while 9% is for military use, 6.25% is vacant land, and 3% is residential areas.
Natural Environment	75% of the entire IP area is artificially maintained arable lands such as rice fields and eucalyptus forests. Another 9% is made up of green land, the May River, riverbanks, vacant land, ponds, lakes and marshes. There is no natural forest as the majority of the industrial park area is made of agricultural land, perennial fruit producing hillocks and forested area (vacant land), and its principle plant is the eucalyptus tree. As there is no natural forest in the industrial park area, Ba Hien Commune, or Thien Ke Commune, there is no precious or priority wildlife to protect. There are no rare species on ICUN's or Vietnam's Red List. There is a bear designated as an endangered species at the wildlife zoo in Thien Ke Commune, however the breeding credential has been issued by the Vietnamese law (No.118/2009/GCN-G issued September 29, 2009).
Inhabited Territory of Indigenous Peoples	The ethnic minority of San Diu live in Trung My Commune. The ethnic minority receives preferential treatments from Vinh Phuc Province, including water supply, power supply, and formal education for children.
Socio-Economic Circumstances	The Project Site in Binh Xuyen District, Vinh Phuc Province has seen rapid growth in production value in recent years. Production totals increased from 225 billion VND in 1998 to 4.232 trillion VND in 2010. In economic structure, industries increased from 18% to 84%, while agriculture declined to 9%. The poor decreased to 9%, and starving households have disappeared.
Involuntary Resettlement	As residents to be relocated will be sufficiently compensated, there has been no discontent from those affected. The residents have stated they wish to be relocated soon.

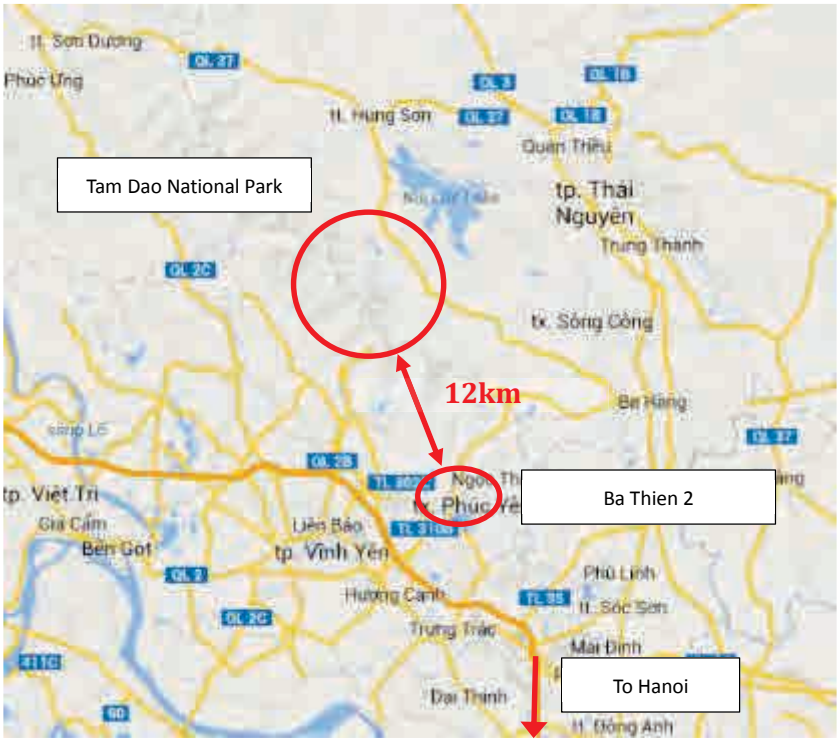
Item	Environmental and Social Overview
Land Acquisition	As of February 2014, 120ha of Ba Thien 2 had been acquired by the Binh Xuyen District PC, and has obtained consensus for the acquisition of the remaining land.
Local Economy	The economies of Ba Hien, Thien Ke, and Trung My communes are made up of 80-90% agriculture, and the remaining in forestry. A very small amount of households run businesses such as street vendors.

Information specific to the Project Site is given below.

Table 10-3: Information Specific to the Project Site

Item	Information specific to the Project Site
Land Use	The Project Site has no residential areas, rivers, and is not used for military use, but contains arable lands, roads, and graveyards. The paddies are mainly used to farm corn, and eucalyptus forests make up most of the area.
Natural Environment	There is no natural forest in the Project Site. It was developed with artificially arable land with paddies producing corn and eucalyptus forests.
Inhabited Territory of Indigenous Peoples	The EIA Report mentions the “ethnic minority San Diu living in the Ba Thien 2 IP Project Site”; however, the occupying area was limited to the land intended as land acquisition for the phase 4. The local government confirmed in hearings that no San Diu reside in land subject to acquisition in Phase 2 which includes the Project Site for rental factories.
Socio-Economic Circumstances	IP Project Site continues to develop economically and is shifting from agriculture to manufacturing industry. Due to the vast amount of employment opportunities, poverty and other social problems are gradually declining.

While the there are no particular areas within the Project Site designated by Vietnamese law as a nature reserve (national park, protected areas, Ramsar Wetlands, etc.) or cultural heritage sites, Tam Dao National Park (*Vườn quốc gia Tam Đảo*) is 10 km away from the Project Site. Tam Dao National Park is designated as a nature reserve.



(Source: Made by Study Team based on Google Maps)

Figure 10-1: Location of Tam Dao National Park

The features of Tam Dao National Park are as follows. The nature reserve is separated from the Project Site, and project implementation is not expected to impact the natural environment. The EIA report also show no habitats of ecological importance or areas of historical or cultural value.

Table 10-4: Features of Natural Protected Area Zone

Item	Features
Reason for legal designation	The mountain, whose peak is the highest in the area at 1,450 above sea level, has alpine vegetation and virgin forest. Temperatures are 8-10°C colder than the flatlands.
Designating body	Vietnamese Prime Minister
Underlying laws and designation timeline	19,000ha of Tam Dao Forest was designated a nature reserve with Decision No. 41/TTg of the Prime Minister, dated January 24, 1977. Tam Dao Forest was officially designated a national nature reserve in 1986 with Decision No. 194/CT of the Chairman of the Council of Ministers (current Prime Minister). Establishment of Tam Dao National Park approved by Prime Ministerial Decision No. 136/TTg, dated March 6, 1996. Tam Dao National Park established by Ministry of Agriculture and Rural Development (MARD) Decision No. 601/NN-DOP, dated May 15, 1996.

	Designated area was revised from 36,883ha to 34,995ha by Prime Ministerial Decision No. 155/2002/QD-TTg, dated November 12, 2002.
Flora and fauna	There are 490 plant species and 281 animal species living in Tam Dao National Park. Endangered species include the fokienia hodgins, pilocarpus fleuryi, chukrasia tabularis, erythrophlocum fordii, rhoclodentron simmi, madhuca pasquieri, podocarpus neriifolius and white cheeked black monkey.

(2) Confirming Vietnamese Policy on Social and Environmental Consideration and Agencies

・Overview of policy on social and environmental considerations

Policy on social and environmental considerations in Vietnam are as follows.

Table 10-5: Overview of policy on social and environmental considerations of Vietnam

Item	Overview
National policy and plans in the environmental sector	・”National Strategy on Environmental Protection (PM Decision No. 256/2003/QD-TTg)” ・”National Biodiversity Strategy to 2020, Vision to 2030 (PM Decision No. 1216/2012/QD-TTg)”
Relevant laws and standards for social and environmental considerations	・ 2005 Law on Environmental Protection (52/2005/QH11) ・ Implementation and Guidelines for Law on Environmental Protection (Decree 80/2006/ND-CP) ・ Revision of Implementing regulations (Decree 21/2008/ND-CP) Also, a Revised Law on Environmental Protection (55/2014/QH13) will come into effect on January 1, 2015.
Environmental Impact Assessment (EIA)	・ 2005 Law on Environmental Protection ・ Decree 29/2011/ND-CP ・ Ministry of Natural Resources and Environment (MNRE) Circular No. 26/2011/TT-BTNMT
Disclosure of information	While the MNRE circular requires EIAs to be made public, details on methods for public disclosure are not clearly specified.
Land recovery	Land recovery is defined in writing as follows: ・ Land Law 2003 (13/2003/QH11) ・ Decree 2003 on the Implementation of the Land Law (181/2004/ND-CP) ・ Decree 197/2004/ND-CP on compensation, support and resettlement when land is recovered by the State ・ Decree 84/2007/ND-CP: Additional stipulations on the grant of land use right certificates, recovery of land, exercise of land use rights, order and procedures for compensation, support and resettlement when land is recovered by the state ・ Decree 69/2009/ND-CP additionally providing for land use planning, land prices, land recovery, compensation, support and resettlement ・ Circular 14/2009/TT-BTNMT, detailing the compensation, support and resettlement and order of and procedures for land recovery, allocation and lease A Revised Land Law (45/2013/WH13) went into effect January 1, 2014. Under the new law, land recovery after January 1, 2014 is subject to the following decrees:

Item	Overview
	・ Decree No. 47/2014/ND-CP on Compensation, Support, Resettlement and Land Acquisition ・ Circular No. 37/2014/TT-BTNMT on MONRE Detailing Compensation, Support, Resettlement and Land Acquisition
Resettlement	Resettlement is defined by legislation for land recovery.

・Status of environmental permissions for the project

Under Decree 29/2011/ND-CP, an EIA report must be prepared for Ba Thien 2. Under the decree, EIA reports will be evaluated and approved by either the provincial Department of Natural Resources and Environment (DONRE) or the central Ministry of Natural Resources and Environment (MONRE), depending on the project type and scale. As the MONRE is granted the authority for evaluating and approving EIA reports for development of industrial parks exceeding 200 ha, the Ba Thien 2 EIA report has already been approved by MONRE. An overview of social and environmental considerations is given below.

Table 10-6: Overview of Social and Environmental Considerations

Item	Overview
EIA status	・Submitted July 28, 2011.
EIA approval	・Approved by MONRE on December 12, 2011.
Flow of submission and approval	・Under Decree 29/2011/ND-CP, if there are any deficiencies in the EIA as received, the approving agency must report the deficiencies to the contractor within 5 days of receipt. For MONRE submissions, MONRE evaluates the report within 45 days of receipt of the completed EIA report, or within 60 days in cases in which complex environmental impacts are expected. For DONRE submissions, the DONRE evaluation period is 30 days, or 45 days for complex cases. For the evaluations, either an evaluation committee is established or evaluation is outsourced to a service provider. After the EIA report is received, the approving agency will request the contractor to pay the evaluation fees. The contractor is then informed of the evaluation results in writing. ・If informed that approval of the evaluation will require revisions or additions, the contractor must handle such revisions or additions. If informed that the EIA could not be approved, the contractor must prepare a new EIA report and repeat the above process. If not informed of any required revision or additions, the contractor then applies in writing to the approving agency for a certificate of EIA report approval. ・The approving agency must approve of the application within 15 days of receipt. ・Days required for MONRE cases are 45 days for evaluation and 15 days for approval. ・Days required for DONRE cases are 30 days for evaluation, 20 of which are for DONRE to confirm EIA content and 10 of which are for the PC to confirm EIA content. Approval takes 15 days. ・The EIA report for Ba Thien 2 took 4 months and 2 weeks from Vina CPK submission to approval; however, that was due to the time taken by revisions and additional requests based on consultation after report submission.
Study items	・Decree 29/2011/ND-CP17 articles and 26/2011 TT-BTNMT Appendix 2.5 define the following for EIA reports: negotiations between the project owner, EIA implementing agency and EIA approving agency at time of EIA report preparation; project details and items which may adversely impact the environment; present state of the environment; predicting environmental impact from project implementation; proposing mitigation measures;

Item	Overview
	environmental management planning; estimating cost for mitigation measures; and the project owner's commitment to mitigation measures. For the Ba Thien 2 EIA report, the chapters are formed to account for this.
Stakeholder's meeting	・The stakeholder's meeting took place through the PC, representing the residents. Also, Vina CPK requested the PC and Fatherland Front for their opinions in writing when drafting the EIA report. Vina CPK reflected content from the PC and Fatherland Front responses in the EIA report and put them in the report attachments.
Format for submitted documents	・The documents to be submitted are defined in Decree 29/2011/ND-CP. Other than the EIA report, there are the applications required for EIA report evaluation and approval, as well as a project FS report. Formats for the EIA report and applications are defined in Circular 26/2011/TT-BTNMT.
Environmental monitoring in the project	・Vina CPK is obligated to monitor the environment of Ba Thien 2 Industrial Park based on the environmental monitoring plan described in Chapter 5 of the EIA report and report the results to the DONRE annually. Vina CPK submitted monitoring results to DONRE in June 2014 and has received DONRE approval. ・A separate EIA report for the construction of rental factories within Ba Thien 2 Industrial Park is not required. ・Tenant companies are required to prepare EIAs for submission to the DONRE depending on their field. (Businesses subject to EIAs are defined in Decree 29/2011/ND-CP Attachment II.) ・Each tenant companies are required to implement the monitoring plan as described in the EIA.
Required environmental standards for tenant factories	・QCVN 01:2009/BYT, National Technical Regulation on Drinking Water Quality ・QCVN 03:2008/BTNMT, National Technical Regulation on the Allowable Limits of Heavy Metals in the Soil ・QCVN 05:2009/BTNMT, National Technical Regulation on Ambient Air Quality ・QCVN 06:2009/BTNMT, National Technical Regulation on Hazardous Substances in Ambient Air ・QCVN 07:2009/BTNMT, National Technical Regulation on Hazardous Waste Thresholds ・QCVN 08:2008/BTNMT, National Technical Regulation on Surface Water Quality ・QCVN 09:2008/BTNMT, National Technical Regulation on Underground Water Quality ・QCVN 14:2008/BTNMT, National Technical Regulation on Domestic Wastewater ・QCVN 19:2009/BTNMT, National Technical Regulation on Industrial Emission of Inorganic Substances and Dusts ・QCVN 20:2009/BTNMT, National Technical Regulation on Industrial Emission of Organic Substances ・QCVN 24:2009/BTNMT, National Technical Regulation on Industrial Wastewater ・QCVN 26:2010/BTNMT, National Technical Regulation on Noise ・QCVN 27:2010/BTNMT, National Technical Regulation on Vibration ・QCVN 40:2011/BTNMT, National Technical Regulation on Industrial Wastewater ・TCVN 6707:2009, Warning Signs for Hazardous Wastes

Table 10-7: Status of Social and Environmental Permissions Required for the Project

Item	Overview
Permit for project implementation in a protected area	n/a
Waste permissions	n/a (Waste will be collected by a contracted garbage collection and disposal sub-contractor)
Civil works permit for areas with buried cultural assets	n/a
Wastewater treatment permissions	Permissions required; under application as of October 2014

・Roles of relevant social and environmental agencies

The EIA report was prepared by the 2 project owners, Vina CPK and VCC Engineering Consultants Joint-Stock Company (VCC). VCC is a company established in 2007 under the 100% state-owned Vietnam National Consultant Corporation for Industrial and Urban Construction (VNCCIUC). VCC is preparing the FS and master plan, handling project management and evaluating the EIA. A summary of relevant social and environmental regulating authorities and other relevant agencies is given below.

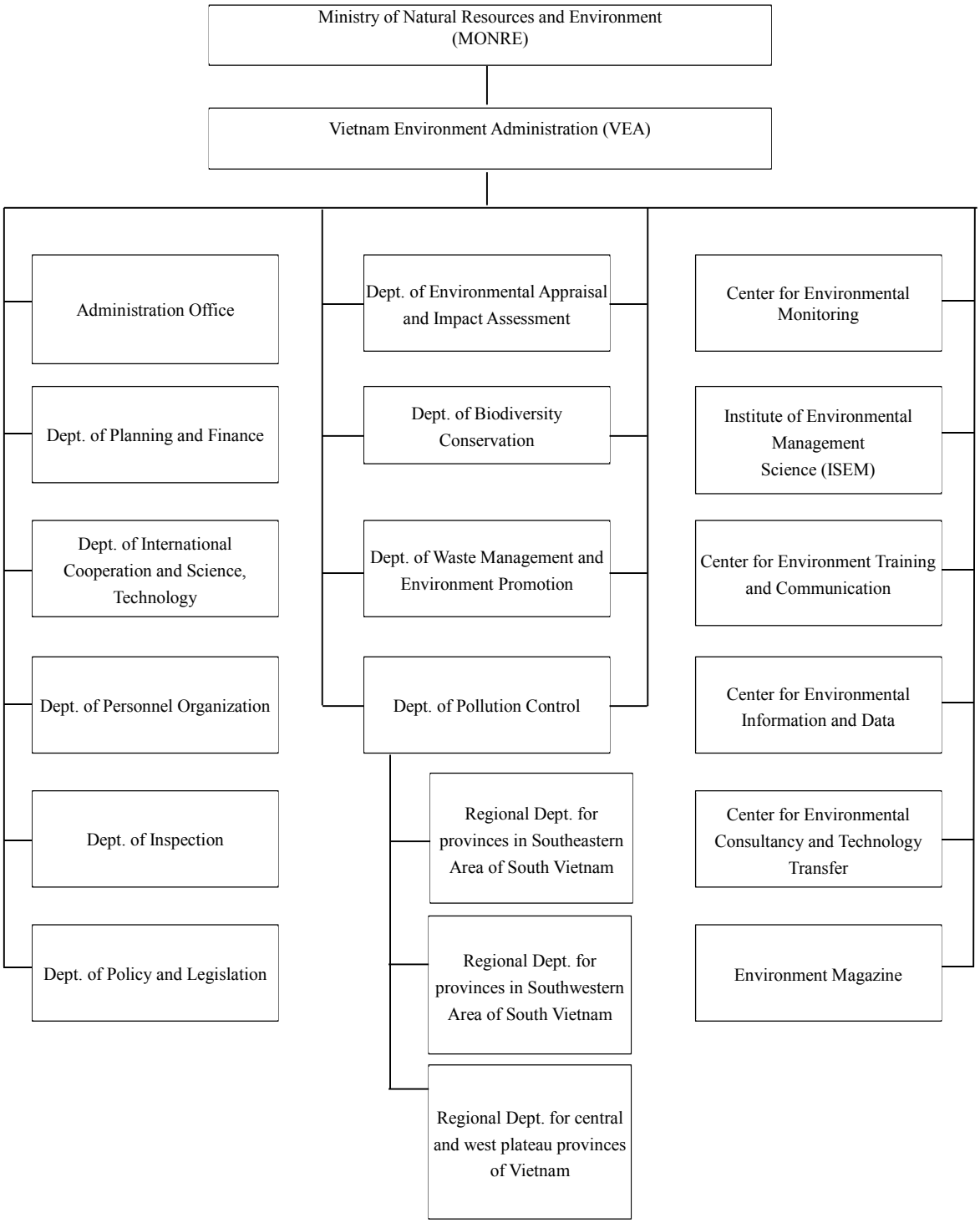


Figure 10-2: VEA Organizational Chart

(Source: Prepared by Study Team based on VEA website)

Table 10-8: Overview of Relevant Social and Environmental Regulating Authorities and Other Relevant Agencies

Social and Environmental Regulating Authorities	
Implementing agencies for social and environmental considerations	Under the Law on Environmental Protection, MONRE is granted administrative functions for environmental protection. Under MONRE, the VEA formulates environmental regulations, strategies, plans, national objectives, programs and projects and also oversees EIA evaluations. In addition, VEA also handles general environmental protections, including environmental pollution measures, promotion of environmental protections and waste management.
Experience in EIA preparations, land recovery and resettlement	As of November 2013, the Vinh Phuc Provincial DONRE had received EIA reports for 4 IPs in Vinh Phuc Province.
EIA Approving Agencies	
Functions	Under the Law on Environmental Protection and Decree 29/2011/ND-CP (Issued Aug. 18, 2011), either MONRE or the provincial DONREs are responsible for evaluating and approving EIA reports, depending on project type and scale. MONRE has authority for evaluating and approving EIA reports on development projects for IPs exceeding 200 ha, with VEA evaluating EIAs under MONRE.
Other Agencies	
Land recovery and poverty measures	Under Land Law 2003 Article 42, Decree 197/2004/ND-CP, Decree 84/2007/ND-CP, Circular No. 14/2009/TT-BTNMT Under Decree 29/2011/ND-CP, the Binh Xuyen District Compensation and Land Acquisition Committee is handling compensation work for the project, and the Ministry of Labor, Invalids and Social Affairs (MOLISA) and Bureau of Labour, Health and Social Welfare is handling poverty measures. Note here that there are no donor agencies, NGOs or other groups assisting in environmental protections for the Project Site.

(3) Differences between the JICA Environmental Guidelines and Vietnamese EIA laws

Differences between the new JICA Environmental Guidelines, World Bank Safeguard Policies and Vietnamese legislation relevant to the EIA are shown in the table below.

Table 10-9: Comparing JICA Environmental Guidelines/World Bank Safeguard Policies to relevant Vietnamese EIA laws

	JICA Environmental Guidelines & World Bank Safeguard Policies	**Relevant EIA Laws of Vietnam**	**Major Differences**	**Measures to Close Gap**
Assessment Procedures	Confirm that projects comply with the laws or standards related to the environment and local communities in the central and local governments of host countries; it also confirms that projects conform to those governments' policies and plans on the environment and local communities. Confirms that projects do not deviate significantly from the World Bank's Safeguard Policies.	An existing environmental assessment system regulated by the Department of Natural Resources and Environment (DONRE). (Decree NO.80/2006/ND-CP)	(Nothing in particular)	—
Language of EIA Reports	EIA reports (which may be referred to differently in different systems) must be written in the official language or in a	Written in either Vietnamese or English. (Circular No.08/2006/TT-	(Nothing in particular)	—

	JICA Environmental Guidelines & World Bank Safeguard Policies	Relevant EIA Laws of Vietnam	Major Differences	Measures to Close Gap
	language widely used in the country in which the project is to be implemented. When explaining projects to local residents, written materials must be provided in a language and form understandable to them;	BTNMT)		
Disclosure of Information about Environmental and Social Considerations	In principle, project proponents etc. disclose information about the environmental and social considerations of their projects, and assists project proponents etc. by implementing cooperation projects as needed. Encourage project proponents etc. to disclose and present information about environmental and social considerations to local stakeholders.	When preparing the EIA Report, the opinions of the administrative communes/districts or the municipal PC must be heard, and those opinions must be included in the EIA Report. (Law on Environment Protection Article 20) The EIA report is mandated to be announced at a public hearing Decree No. 80/2006/ND-CP). However, details for how to receive comments during the open period are not determined.	Japanese legislation has yet to reach to a decision regarding detailed issues about the disclosure of EIA Reports.	Given that the EIA report can be viewed at the commune PC, it deems unnecessary for further measures
Availability/ Copying	EIA reports are required to be made available to the local residents of the country in which the project is to be implemented. The EIA reports are required to be available at all times for perusal by project stakeholders such as local residents and copying much be permitted.	The EIA Report is publicized at the Project Site. (Circular No.08/2006/TT-BTNMT)	(Nothing in particular)	—
Consulting with local Stakeholders	Project proponents etc. consult with local stakeholders through means that induce broad public participation to a reasonable extent, in order to take into consideration the environmental and social factors in a way that is most suitable to local situations, and in order to reach an appropriate consensus. In the case of Category A projects, encourage project proponents etc. to consult with local stakeholders about their understanding of development needs, the likely adverse impact on the environment and society, and the analysis of alternatives at an early stage of the project.	Residents may participate in the scoping stage and appraisal stage of the EIA Report. Discussions with stakeholders are to be held for national projects under Category A during the scoping stage, and residents as well as stakeholders must be consulted. A public hearing must also be held during the appraisal stage of the EIA report. (Circular No.08/2006/TT-BTNMT)	Procedures and sanctions are currently not determined.	Given that stakeholders including the local residents has been extensively consulted multiple times and has executed EIA based on those consultation and agreements, it deems unnecessary for further measures.

	JICA Environmental Guidelines & World Bank Safeguard Policies	Relevant EIA Laws of Vietnam	Major Differences	Measures to Close Gap
Disclosing Monitoring Results	Confirm with project proponents etc. the results of monitoring to confirm that project proponents etc. are undertaking environmental and social considerations for projects. The information necessary for monitoring confirmation must be supplied by project proponents etc. by appropriate means, including in writing. Also, disclose the results of monitoring conducted by project proponents et. On its website to the extent that they are made public in project proponents etc.	Monitoring results shall be summarized in a white paper and archived within the country. (Three levels: provincial, local, and state) (Circular No.08/2006/TT-BTNMT)	(Nothing in particular)	—

Source: Profile of Vietnam Environmental and Social Considerations

(4) Verification of the Alternative Plan

Ba Thien 2 development is a project based on the industrial park development plan given in the "Master Plan for Socio-Economic Development in Vinh Phuc Province Through 2020". Various alternative plans were discussed when preparing the master plan, the results of which are reflected in the project plan.

Upon the implementation of the project, the plan to develop rental factories within an existing industrial park was chosen for further study as a result of comparing the following 3 plans. Summary of comparison are indicated in Appendix A.

① Develop rental factories within an existing industrial park (Ba Thien 2)
② Develop and operate rental factories independently of existing industrial parks
③ Do not implement development of the rental factories

(5) Scoping

In addition to direct and immediate environmental impacts of the project, the scope of environmental impact investigated in this study also included derivative and secondary impacts, cumulative impacts, and inseparable project impacts to the extent thought reasonable over the entire project life cycle. Following these conditions, a risk analysis was performed with the following scoping, referring to the descriptions in the EIA report as available in November 2013.

Table 10-10: Scoping Results

Class	JICA Guidelines		Vietnam EIA		Evaluation		Reasons for Assessment
	No.	Impacts	No.	Impacts	Before/ During construction	During operation	
Anti-pollution Measures	1	Air pollution	1	Air quality	B-	B-	**During construction:** Air quality is expected to worsen at the work site and in the surrounding area due to airborne pollutants and dust from factory construction work. **During operation:** Impacts from air pollution are expected in connection with increased traffic and factory production.
	2	Water pollution	2	Water quality	B-	B-	**During construction:** The May River and groundwater could be contaminated by domestic wastewater from construction workers, wastewater from construction machinery, drainage from vehicle cleaning, sediment and oil runoff from surface runoff during rainfall, and other water. Groundwater could also be polluted by boring or pile work. **During operation:** In addition to the possible impacts of wastewater discharged from administrative buildings and factories, there could also be impacts from watering plants and road cleaning.
	3	Waste	3	Waste	B-	B-	**During construction:** Construction waste and general waste from workers is expected. **During operation:** Industrial waste and general waste is expected from administrative buildings and factories. Industrial waste could include hazardous waste.
	4	Soil pollution	4	Soil pollution	B-	B-	**During construction:** There could be soil pollution from workers' domestic wastewater, wastewater runoff containing oil from construction machinery or vehicles, and waste. **During operation:** If a drainage pipe ruptures and leaks wastewater, any pollutants in the wastewater could impact soil. Also, hazardous waste could pollute the soil if not handled properly.
	5	Noise and vibration	5	Noise and vibration	B-	B-	**During construction:** Noise and vibration is expected from work vehicles and construction machinery. **During operation:** Noise and vibration is expected from factory operations and increased traffic volume.
	6	Ground subsidence	6	Ground subsidence	B-	C	**During construction:** Construction with boring or pile work not meeting technical standards could impact the ground stratum. **During operation:** The ground could sink around work defects in areas where the ground is soft. Groundwater use could also result in ground subsidence.
	7	Offensive odors	7	Offensive odors	B-	B-	**During construction:** General waste from workers could produce offensive odors. **During operation:** The drainage system could produce offensive odors. Factories could also produce offensive odors, depending on their field of business.

Class	JICA Guidelines		Vietnam EIA		Evaluation		Reasons for Assessment
	No.	Impacts	No.	Impacts	Before/ During construction	During operation	
	8	Sediment	8	Sediment	B-	D	**During construction:** Gravel and sediment deposits from surface runoff could obstruct the flow of water. **During operation:** Given the low chances of sediment runoff during operation and the fast current of the river, it is unlikely that sediment deposits could impact riverbed material.
Natural Environment	9	Protected areas	1	Protected areas	D	D	**During construction/operation:** Despite its relative proximity to Tam Dao National Park and Dai Lai Lake being at the foot of Mt. Tam Dao, the Project Site has no protected areas, historic or cultural heritage sites, tourist areas, or resort areas and is far from any natural forests.
	10	Ecosystem	2	Ecosystem	D	B-	**During construction:** Levelling works for the Project Site is almost complete, and the surrounding area is developed into farmland and residential districts. Thus, no rare species have been reported and construction of rental factories is not expected to impact the ecosystem. **During operation:** Air and water pollution from factory operation is expected to impact the local ecosystem.
	11	Hydrology	3	Hydrology	B-	B-	**During construction/operation:** Rainwater and wastewater collected on the Project Site will be discharged to the May river and can possibly impact the hydrology.
	12	Topography and geology	4	Topography and geology	D	D	**During construction:** Given no soft ground is reported at the Project Site that may cause soil failures and landslides due to construction of rental factories of a similar size to this project, no impact is anticipated on the topography and geology. **During operation:** Given there are no reports of soil failures or landslides from factories already operating in the industrial park, no impact is anticipated on the topography and geology during service.
Social Environment	13	Resettlement and land acquisition	1	Resettlement	B-	D	**Before and during construction:** Residents may be relocated as a result of Ba Thien 2 development. **During operation:** No resettlement is expected as a result of operation starting.
	14	Poverty	2	Living and livelihood	B-	B-	**During construction/operation:** Land acquisitions at the Project Site could impact the livelihoods of residents in the site area.
	15	Ethnic minorities and indigenous peoples	5	Ethnic minorities and indigenous peoples	B-	B-	**During construction/operation:** Some Project Site residents and landowners could be ethnic minorities or indigenous peoples.
	16	Local economies, such as employment, livelihood, etc.	2	Living and livelihood	B-	B+	**During construction/operation:** Land acquisitions at the Project Site could impact the livelihoods of residents in the site area. However, the local economy is expected to grow due to park operations.
	17	Land use and utilization			C	C	**During construction/operation:** Land usage will change from residential and agriculture to industry;

Class	JICA Guidelines		Vietnam EIA		Evaluation		Reasons for Assessment
	No.	Impacts	No.	Impacts	Before/ During construction	During operation	
		of local resources					however, this is not expected to have any severe impact on local resource usage.
	18	Water usage			B-	B-	**During construction/operation:** Residents living downstream of Ba Thien 2 on the May and Ca Lo Rivers who use river water could be impacted by wastewater from the IP.
	19	Existing social infrastructures and services			B-	C	**During construction:** Employment of construction workers from outside the area could be a strain on social infrastructures and services. Traffic is expected to increase due to transport of construction materials and workers. **During operation:** The increased residency and commuting that comes with regional growth could be a strain on social infrastructures and services. However, social infrastructures and services could be improved by offering new infrastructure and services.
	20	Social institutions such as social infrastructure and local decision-making institutions			D	D	**During construction/operation:** This project is for construction and management of rental IP factories and is not expected to negatively impact social capital, local decision-making bodies or other social institutions.
	21	Misdistribution of benefits and damages			D	D	**During construction/operation:** Relocated residents could be victimized if not properly compensated; however, this point is discussed under "Local economies, such as employment, livelihood, etc." No parties have been found to receive any special benefits from the project.
	22	Local conflicts of interest			D	D	**During construction/operation:** No local conflicts are expected. This project is for development of rental factories in Ba Thien 2, a project given in local development plans.
	23	Cultural heritage	3	Cultural heritage	C	D	**During construction:** As there are no items of cultural heritage in the Project Site, the project is not expected to have any direct impact to cultural heritage. However, cultural heritage items may be discovered during construction works. **During operation:** The project is not expected to have any direct impact on cultural heritage.
	24	Landscape	4	Landscape	B-	D	**During construction:** Although the project is to develop rental factories within an industrial park, it may impact the landscape if the construction site and construction waste is visible from the outside. **During operation:** Plans for Ba Thien 2 Industrial Park include planting a 20-meter wide barrier of trees around the periphery of the site, and given this project is for development of rental factories within the industrial park, the implementation of this project is unlikely to impact the landscape..
	25	Gender	6	Working environment	D	D	**During construction/operation:** The project is not expected to have any negative impact on gender relations.
	26	Children's rights			D	D	**During construction/operation:** The project is not expected to have any negative impact on children's rights.

Class	JICA Guidelines		Vietnam EIA		Evaluation		Reasons for Assessment
	No.	Impacts	No.	Impacts	Before/ During construction	During operation	
	27	Infectious diseases such as HIV/AIDS			B-	B-	**During construction/operation:** It is possible that infectious pathogens in domestic wastewater could contaminate the soil or groundwater. Also, with people gathering from various different regions, infections could spread or be communicated by mosquitoes or other intermediaries.
	28	Working environment (including occupational safety)			B-	B-	**During construction:** Workers' health could be impacted by the construction work. Dust or gases could impact respiratory organs and eyes, noises could impact hearing and high temperatures could be a factor affecting workers' health during the summertime. **During operation:** Inadequate working environment are expected to impact workers.
Other	29	Accidents			B-	B-	**During construction:** Sickness and work accidents, such as traffic accidents on the construction site, fire, falling or electrocution, are possible. **During operation:** The following are possible hazards: occupational accidents; fire; explosion; leaks or flooding and water pollution from ruptured supply pipes or drainage pipes; chemical or oil spills; electrical accidents; traffic accidents; food poisoning; sickness; secondary disasters from underdeveloped rescue systems; and traffic accidents from increased traffic volume.
	30	Trans-boundary impacts and climate change	—	Other	D	D	**During construction/operation:** No trans-boundary environmental impacts are expected. The Project Site is approximately 180 km from the border with China. With hydropower comprising a large percentage of electric power generated in Vietnam and the low emission factors of hydropower, impacts on climate change from power supply will be limited. As tenant businesses are also obligated to comply with Vietnamese emissions standards for air pollutants and other factors, the project is not expected to impact climate change.

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C+/-: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected.

Terms of Reference (TOR) were discussed based on the EIA report for all social and environmental items scoring A, B or C in the scoping results.

Table 10-11: Terms of Reference based on scoping results

Social / Environmental Item	Study items	Study Method
Air Pollution	1) Environmental standards (WHO guidelines, Vietnamese environmental and emission standards, Vietnam Institute of Tropical Technology and Environmental	1) Confirm existing EIA, conduct literature search and hold interviews with local stakeholders 2) Confirm existing EIA

Social / Environmental Item	Study items	Study Method
	Protection (VITTEP) emissions factors, etc.) 2) Current air quality 3) Impacts of construction work 4) Impacts during operation (industry, transport vehicles, drainage collection system, wastewater treatment plant, discharge from waste storage area)	3) Confirm existing EIA, inspect site and check expected project implementation plan 4) Confirm existing EIA and expected project rental factory development plan
Water Pollution	1) Environmental standards 2) Impacts from surface runoff 3) Impacts from worker domestic wastewater 4) Impacts from construction work wastewater 5) Impacts on groundwater contamination during construction 6) Impacts during operation (wastewater from public facilities and factories, surface runoff from rainwater, watering trees, cleaning roads)	1) Confirm existing EIA, conduct bibliographic study and hold local hearings 2) Confirm existing EIA, inspect site, and forecast impact of surface runoff based on rainfall intensity 3) Confirm existing EIA and forecast impact based on expected domestic wastewater volume 4) Confirm existing EIA and forecast impacts based on oil leaked from construction machinery and work vehicles and wastewater from washing vehicles, etc. 5) Confirm existing EIA and check expected project implementation plan 6) Confirm existing EIA and expected project rental factory development plan
Waste	1) Environmental standards 2) Volume of waste (incl. worker domestic waste and hazardous waste) to be produced during construction 3) Volumes of municipal waste, industrial waste and hazardous waste during operation	1) Confirm existing EIA, conduct bibliographic study and hold local hearings 2) Confirm existing EIA and forecast waste volumes based on expected project implementation plan 3) Confirm existing EIA and forecast waste volumes based on expected project rental factory development plans
Soil pollution	1) Possibility of soil pollution from workers' domestic wastewater or surface runoff 2) Discharged wastewater containing oil from construction machinery 3) Volume and treatment method of waste which could result in soil pollution 4) Drainage piping plan and measures for treating ruptured drainpipes	1) Confirm existing EIA and check methods for domestic wastewater management, etc. 2) Confirm existing EIA and measures for oil leaks from construction machinery 3) Confirm existing EIA, determine waste volumes and check disposal methods 4) Confirm existing EIA and countermeasures for ruptured drainpipes, as well as early detection schemes and measures for handling leaks when found
Noise and vibration	1) Environmental standards (Vietnamese environmental standards and US EPA reference values) 2) Impacts during construction 3) Impacts during operation (IP management systems and management systems for noise and vibration measures in each factory)	1) Confirm existing EIA, conduct bibliographic study and hold local hearings 2) Confirm existing EIA, inspect site and check expected project implementation plan 3) Confirm existing EIA and expected project rental factory development plan
Ground Subsidence	1) State of geology and ground 2) Existing soft ground 3) Impacts related with groundwater use 4) Impacts of ground subsidence	1) Confirm existing EIA and conduct bibliographic study 2) Confirm existing EIA and conduct local hearings 3) Confirm existing EIA, conduct local hearings and check expected project rental factory development plan 4) Confirm existing EIA, inspect site and check expected project construction plan and rental factory development plan

Social / Environmental Item	Study items	Study Method
Offensive Odors	1) State of general waste management during construction work 2) Robustness of wastewater collection and treatment systems 3) Management structures for odor measures at each factory	1) Confirm existing EIA, survey the site and conduct interviews with local stakeholders 2) Confirm existing EIA, conduct local hearings and check expected project rental factory development plan 3) Confirm existing EIA and expected project rental factory development plan
Sediment	1) Possibility of soil depositing during the work 2) Relative positions between the Project Site and May River	1) Confirm existing EIA, determine soil amounts and estimate the chances of sediment deposits 2) Confirm existing EIA and survey the site
Ecosystem	1) Impact of rental factory operation on local ecosystem	1) Confirm existing EIA and survey the site
Hydrology	1) Rainwater collected at the Project Site and wastewater treatment methods	1) Confirm existing EIA, inspect site and check expected project construction plan and rental factory development plan
Resettlement and land acquisition	1) Scale, etc. of resettlement and land acquisition	1) Confirm existing EIA, conduct bibliographic study and hold local hearings
Poverty	1) Impacts of farmland recovery on livelihoods	1) Confirm existing EIA and conduct local hearings
Ethnic minorities and indigenous peoples	1) Ethnic minorities and indigenous peoples within the Project Site	1) Confirm existing EIA and conduct local hearings
Local economies, such as employment, livelihood, etc.	1) Impacts of farmland recovery on livelihoods 2) Number of new jobs produced by the park	1) Confirm existing EIA and conduct local hearings 2) Confirm existing EIA, conduct local hearings and check expected project rental factory development plan
Land use and utilization of local resources	1) Land usage changes and the associated local resource usage	1) Confirm existing EIA and check land usage changes and the associated local resource usage
Water usage	1) Water usage on the Mei and Lo Rivers	1) Confirm existing EIA and expected project rental factory development plan
Existing social infrastructures and services	1) Impact of construction worker employment on social infrastructures and services 2) Increase in traffic density from transport of construction workers and materials 3) Impact of rental factory worker employment on social infrastructures and services 4) Impact of rental factory workers on traffic volumes	1) Confirm existing EIA and check expected project implementation plan 2) Confirm existing EIA and check expected project implementation plan 3) Confirm existing EIA and expected project rental factory development plan 4) Confirm existing EIA and expected project rental factory development plan
Cultural heritage	1) Measures for any cultural heritage discovered during the work	1) Confirm existing EIA and check measures for any cultural heritage discovered during the work
Landscape	1) Impact of construction waste during the work on the landscape	1) Confirm existing EIA and check expected project implementation plan
Infectious diseases such as HIV/AIDS	1) Transmission route during construction and service	1) Confirm existing EIA and check expected project construction plan and rental factory development plan
Working environment (including occupational safety)	1) Expected working environment during construction 2) Expected working environment during operation	1) Confirm existing EIA and check expected project implementation plan 2) Confirm existing EIA and expected project rental factory development plan
Accidents	1) Risk of accidents during construction and accident prevention measures 2) Risk of accidents during operation and accident prevention measures	1) Confirm existing EIA and check expected project implementation plan 2) Confirm existing EIA and expected project rental factory development plan

(6) Results of Environmental and Social Study

Various interviews and field studies were conducted for environmental and social items based on the results in (5) Scoping until November 2014. The results are as follows.

Table 10-12: Results of Environmental and Social Study

Impacts	Study results (including quantitative predictions)
Air Pollution	**During construction:** In the Ba Thien 2 EIA report, the amount of air pollutants that were generated from the preparation and construction work for the entire IP was calculated based on WHO guidelines and the VITTEP emissions factor. The result showed that the amount of air pollutants was within standards for both criteria, or the possibility of impacting the environment was low even if the standards were exceeded temporarily. This project is for the development of rental factories in Ba Thien 2, and the construction work involved will not generate emissions in excess of air pollutant estimates for normal factory construction. Therefore, as described above, this project does not create air pollution that impacts the environment. Nonetheless, the EIA report requires measures for dust generated during the preparation and construction work at Ba Thien 2 as it may affect the workers and surrounding area. As there is no preparation work in this project and little dust will be generated during construction, dust is not expected to impact workers or the surrounding area. **During operation:** Based on the emission survey results for air pollutants in an industrial park in the Southern delta region of Vietnam and environmental protection research for an industrial park located in the Northern economic zone conducted by MONRE, air pollutant emissions in Ba Thien 2 were calculated as 29,227.67 kg/day. Health and lifestyle of the surrounding residents could be affected if appropriate measures are not taken. The maximum possible area for the project is 27.83 ha, which is roughly 9% of the 308ha that Ba Thien 2 occupies (see 7.1.1), and air pollutants of 2,630 kg/day are estimated to be generated based on the area ratio. As based on materials issued by the Research Institute for Transport Science and Technology in the Ministry of Transport (Vietnam), vehicle emissions including dust, SO_2 and NO_2 are estimated at 14.45 kg/day for the entire park. This estimate includes air pollutants that are generated from vehicles used by the tenant companies in the rental factories as well. Substances that cause bad odors and pollutants, such as NH_3, H_2S, CH_3SH and CH_4, as well as organic substances, bacteria, and mold may also be diffused by wind from the drainage system in the industrial park. Thus, this must also be considered in the Project Site.
Water pollution	**During construction:** In the EIA, domestic wastewater from workers for the entire park was estimated at 34.16 m^3/day. Workers will also need to be hired for long periods to construct the rental factories gradually. As domestic wastewater contains infectious pathogens and other harmful bacteria, it may affect the water quality of the surrounding area if appropriate sanitation facilities are not arranged. Surface runoff mixed with oil that leaks from construction machinery and from water used to wash vehicles may cause water pollution, and boring and piling work may affect the groundwater. As boring or piling work is not necessary in rental factory construction for this project, groundwater is not expected to be impacted. However, surface runoff water may mix with oil leaked from construction machinery or the wastewater from washing vehicles. Also in the EIA, water quality may be affected by sediment and oil runoff from the construction site during rain, with the estimated amount of possible impurities due to surface runoff being 9,250 kg/308.83ha over a 15-day period. Based on the area ratio, it was estimated that 832.5 kg of impurities will be generated over a 15-day period for this project. Some of these impurities may flow into the rainwater drainage system and worsen the water quality in the May River.

Impacts	Study results (including quantitative predictions)
	During operation: In the EIA, total drainage volume of the industrial park was estimated at 9,014.4 m^3/day, comprising domestic wastewater (1,848 m^3/day), wastewater from tenant companies (6,796.8 m^3/day), and wastewater from public facilities in the industrial park (369.3 m^3/day) that all travels through the drain pipes and collected at the wastewater treatment facility. For this project, domestic wastewater from administrative offices and the rental factories is collected at the wastewater treatment facility in the industrial park. Wastewater contains both domestic and industrial wastewater, and may contain contaminants including pathogens. If it is not appropriately treated at the wastewater treatment facility, it may impact water quality of the May River, which receives the discharge after treatment. Also in the EIA, besides the domestic and industrial wastewater that is treated at the treatment facility described above, water that is used for watering and to wash the road surface in the industrial park may runoff into the rainwater drainage system and impact water quality of the May River once it is discharged into it. As the rainwater drainage system for this project is to be connected to the industrial park's drainage system, it may affect the water quality of the May River if not appropriately treated.
Waste	**During construction:** The EIA estimated 122.5 l/month of waste oil from construction vehicle oil changes and roughly 50 kg/month of harmful waste, such as oily clothes, paint containers, and chemical tanks will be generated due to construction work in addition to the 100 to 120 kg/day of construction waste and chemicals such as bricks, aggregate, wood, and metal materials. It also estimated 213.5 kg/day of general waste from 427 construction employees, assuming each worker generates 0.5 kg/day in general waste. The plan for this project is to develop a maximum of 27.83ha in stages by 2034, therefore, general waste will be generated from construction workers during this time. **During operation:** General waste, industrial waste, and harmful industrial waste will be generated during operation. For the EIA, estimated waste comprises 23,100 kg/day of general waste generated from 46,200 employees, 145.71 t/day of industrial waste for the construction area (212.40 ha), and 14.51 t/day of harmful industrial waste (10% of all industrial waste). This project will construct a rental factory in stages and an administrative building over a total of 27.83 ha. Although the number of workers to be employed and types of factories to occupy the buildings are unknown, it can be assumed that 18.8 t/day of industry waste and 1.88 t of harmful industrial waste (10% of all industrial waste) will be generated based on the area ratio of the estimated values described above.
Soil pollution	**During construction:** The EIA estimates that 34.16 m^3/day of domestic wastewater will be generated during industrial park development, meaning that soil may be polluted if it is not appropriately treated. Soil pollution from the drainage of wastewater that contains oil from construction machinery and waste is also possible. This project may also pollute the soil if domestic wastewater from construction workers, oil drained from construction machinery, and waste are not properly managed. **During operation:** The EIA lists the possibility of soil pollution from the discharge (domestic and industrial wastewater) generated from companies in the industrial park, waste, and contaminated water leaking from drain pipes; these concerns also apply to the Project Site.
Noise and vibration	**During construction:** In the EIA, the noise generated from construction machinery and vehicles during construction did not exceed Vietnamese standards based on noise calculations at 2m, 200m and 500m from the source based on construction machinery and vehicle reference values published by the US EPA in 1971. While some measure of vibration is inevitable, their impact can be kept to a minimum by observing Vietnamese standards. In the project as well, noise and vibrations from construction machinery and vehicles is inevitable. However, it is expected that the impact can be kept to a minimum by using construction machinery that complies with Vietnamese standards.

Impacts	Study results (including quantitative predictions)
	During operation: Noise and vibrations are expected to be generated mainly from factories in operation and vehicles during operation. However, noise is normally reduced by 1 to 1.5 decibels (dB) by planting trees at an interval of 3 to 5 meters apart. Noise and vibrations are expected to be generated mainly from factories in operation and vehicles during operation.
Ground subsidence	**During construction:** While the ground at the industrial park is stable and—as based on the geological surveys conducted by VCC—consists of clay, gravel, and lime, appropriate foundation work will be needed for taller buildings. As the rental factories planned for this project do not require pile work and there have been no reports of ground subsidence from factories that have already constructed near the Project Site, the possibility of ground subsidence is considered to be low. **During operation:** The possibility of groundwater pumping resulting in ground subsidence is low as the plan is for the Vinh Phuc Water Supply Joint Stock Company to supply the park with water and in principle groundwater will not be used. Water should be supplied directly from the industrial park water supply system for this project as well (see 7.1.1), thus eliminating the possibility of ground subsidence caused by pumping of groundwater.
Offensive odors	**During construction:** Both in the EIA and the project, general waste discarded by workers may result in offensive odors. **During operation:** While the EIA reported that the drainage system, the water treatment facility, and the soil waste storage area in the park might produce contaminants and substances that cause offensive odors, such as NH_3, H_2S, CH_3SH, and CH_4, amounts are small and offensive odors can be avoided by proactively taking action against air and water pollution, and waste. There is no water treatment facility or waste storage area in the Project Site. However, offensive odors should be avoidable by thoroughly managing waste with the drainage system and each tenant company.
Sediment	**During construction:** Although the EIA estimated sediment runoff from graded lands, this runoff is not likely to accumulate and impact riverbed material due to quick flow of the May River. This project is to build rental factories on the graded land, and sediment is expected due to surface runoff of rainwater from graded surfaces. However, as the Project Site is on the west end of the park and the May River is located on the east side, the chances that sediment in surface runoff from the Project Site will accumulate in the May River are slim.
Ecosystem	**During operation:** From the EIA, conventional ecosystems and biological resources around the park mainly consist of agricultural crops, such as rice and corn, and there are no endangered species that have to be protected as listed in the Regional Red List. Conversely, air and water pollution from management of the park is expected to impact the ecosystem and will be alleviated by planting a 20-meter wide barrier of trees around the periphery on over 13.61% of the site area. Factory operations on the Project Site may also impact the ecosystems due to air and water pollution.
Hydrology	**During construction/ operation:** Recovered rainwater and wastewater from the Project Site will be released to the May River after being treated at the water treatment facility in the industrial park. Maximum treatment capacity is 10,000 m^3/day and will not affect the flow volume of the May River (monsoon season: 100 to 120 m^3/s, dry season: 10 m^3/s).
Resettlement and land acquisition	**During construction:** In the EIA, 41 residents were targeted for resettlement due to the development of this industrial park, and they will require appropriate compensation and support. However, hearings with related organizations have confirmed that no residents on the Project Site are to be relocated.

Impacts	Study results (including quantitative predictions)
	As the Project Site was primarily farmland before land acquisition, there are no residents that need to be relocated nor buildings that need to be dismantled. There was a cemetery (0.4844 ha) owned by the Thien Ke PC in the southeast of the Project Site, and it has already been relocated by Vine CPK. However, hearings have shown that 38.4342ha of the Project Site owned by the Thien Ke and Trung My PCs, and 65 individuals (mainly woodland, rice paddies, and farmland) have been targeted for the land acquisition. Vine CPK has already paid compensation for this land, and land acquisition has been completed.
Poverty	**During construction/ operation:** Hearings have confirmed that the majority of landowners on the Project Site are involved with agriculture and forestry and have received a higher education; hence they are not poor. While they may become poor if they stay jobless without replacing their livelihoods lost due to arable land acquisition for the project, hearings showed that this is not likely. The landowners will be given preferential treatment in hiring for the industrial park and receive other compensation, including vocational training support, from the Vinh Phuc PC.
Ethnic minorities and indigenous peoples	**During construction/operation:** Hearings have shown that there are no ethnic minority or indigenous peoples (San Diu) among the land owners for the Project Site.
Local economies, such as employment, livelihood, etc.	**During construction/operation:** The survey result expresses concern of the loss of livelihood of those who are involved in agriculture and forestry caused by unemployment after the land targeted for the Project Site is acquired as most of these workers do not have the necessary education to ensure any type of job other than agriculture and forestry. Although the plan is for Vinh Phuc Province and Vine CPK to take the necessary measures for these people, such as vocational training and preferential hiring in Ba Thien 2 and other industrial parks in Vinh Phuc Province, these measures must definitely be executed. Ba Thien 2 development is expected to modernize the local industry, increase land prices, attract businesses, create jobs (46,200 employees), and produce stable income, and this project will contribute to that development.
Land use and utilization of local resources	**During construction/operation:** While those involved in agriculture may lose their employment due to the change from agricultural land to industrial land to develop the industrial park, impacts will be minimized through vocational training, preferential hiring and other measures. (These issues are discussed further in “Local economies, such as employment, livelihood, etc.”). In the EIA, annual yields of 81 t in rice and 5.22 t in aquaculture were expected to decrease as 98.55ha of rice paddies and 5.22ha of lakes are to be recovered for land acquisition for the park development, stability of the food supply will not be affected. Another 1.78ha of irrigation is also to be recovered; however, the irrigation targeted for land acquisition does not impact irrigation in the surrounding areas. As the Project Site is used to build rental factories and for the operation of these factories in the industrial park, it will not result in the impacts discussed in the EIA.
Water usage	**During construction/operation:** In the EIA, no impacts were anticipated on local ground water resources as the water required by the industrial park will be supplied by the Vinh Phuc Water Supply Joint Stock Company and groundwater would not be pumped to the surface in principle. The water for rental factories for this project will also be directly supplied from the water supply system in the park by the Vinh Phuc Water Supply Joint Stock Company. Therefore, there is no impact expected on local groundwater resources as groundwater will not be pumped to the surface in principle. Domestic and industrial wastewater in the park will be treated at the water treatment facility and then discharged into the May River. Estimated discharge volume in the EIA is 9,014.4m^3/day, which will have little impact to the river flow volume as the river flow reaches 200 to 250 m^3/s in the monsoon season (10 m^3/s during dry season). However, residents around the May River and the basin of the Lo River downstream of the

Impacts	Study results (including quantitative predictions)
	May River may be affected if wastewater is not properly treated, and hence the wastewater standards must be followed. (These issues are discussed further in "Water pollution").
Existing social infrastructures and services	**During construction:** The EIA anticipated an increase in social infrastructures and service users from the employment of construction workers (427 employees for the entire industrial park) and an increase in traffic to transport construction materials and workers. As rental factory development will be in stages in the project, the employment of construction workers is limited compared to the rest of the industrial park, and a significant increase in social infrastructures and service users as well as a significant impact on traffic is not anticipated. **During operation:** In the EIA, an increase in population density and impact on social infrastructures and social services was expected from the employees in the industrial park (46,200 employees). More specifically, an impact on road conditions is expected due to the increase in traffic volume. Traffic volume on the TL310 is currently 50 vehicles per hour, expected to increase to 250 vehicles per hour once the industrial park starts operation. On other roads, an increase of traffic volume by 30% is anticipated. Measures will also be needed to meet increased demand for medical and educational facilities. The employment of workers for this project may also lead to the impacts described above.
Cultural heritage	**During construction:** While no cultural heritage artifacts are currently known in the Project Site, cultural heritage artifacts may be discovered during construction. As the grading work for the Project Site is almost complete, the chances of finding cultural heritage artifacts is low.
Landscape	**During construction:** The EIA report does raise the possibility of impact on the landscape when developing the Ba Thien 2 industrial park, if construction waste (bricks, aggregate, and wood) generated 100 to 120kg/day is not regularly collected and disposed. However, the site of this project is located at the far west side of Ba Thien 2 and sits back away from the surrounding roads. The area to the west of Ba Thien 2 is a wooded area, where neighboring residents cannot visually see the development site. Moreover, his project is for development of rental factories in an industrial park designed accounting for the surrounding landscape that includes planting a 20-meter wide barrier of trees around the periphery of the site, and the rental factories are not expected to impact the surrounding landscape.
Infectious diseases such as HIV/AIDS	**During construction/operation:** The EIA raised the possibility of infectious pathogens contained in domestic wastewater from construction workers and in-service employees contaminating soil and groundwater, as well as that of the spread of infection by mosquitos among people coming from various areas. The same can be said of this project as well.
Working environment	**During construction:** The EIA reported an anticipated impact on respiratory organs and eyes from dust and air pollution, and hearing from noise. It also describes damage to health, such as fatigue, thirst, headaches, and dizziness from the heat of the sun and construction machinery, traffic accidents involving construction vehicles, accidents from construction work in high places, and falls and electric shock on rainy days. **During operation:** The EIA did not mention working environment after service. This project will develop and operate rental factories, and the direct employment of workers by the SPC is limited to the administrative offices and security guards for the rental factories. Working environment for these employees are expected to observe related regulations, and the same is required for the tenant companies in rental factories. If related regulations are not observed, there could be an adverse effect on the employees.
Accidents	**During construction:** In addition to accidents and sickness during construction, such as traffic accidents, fire, falls, and electric shock on the construction site, in Vietnam there is also the possibility of

Impacts	Study results (including quantitative predictions)
	landmines. With the reclamation work for the Project Site almost complete, there is no chance that landmines will be found. There is; however, still the possibility of accidents and sickness during construction, such as traffic accidents, fire, falls, and electric shock on the construction site. **During operation:** The EIA mentioned possible industrial accidents, fire, explosions, water leaks, flooding, and water pollution caused by damage to the supply and drainage pipes during operation as well as secondary disasters caused by chemical and oil leaks, and electric accidents, traffic accidents, food poisoning, and sickness due to rescue systems not being setup in the park. The same can be said of this project as well.

(7) Impact Assessment

The following is the summary of the impact assessment based on the results of (5) and (6).

Table 10-13: Impact Assessment

Category	No.	Impacts	Impact assessment at scoping		Impact assessment based on study results		Reasons for assessment
			Before/ during construction	During operation	Before/ during construction	During operation	
Anti-pollution Measures	1	Air pollution	B-	B-	B-	B-	**During construction:** Dust generated from construction of the rental factory is not likely to impact on workers and residents in the surrounding area from. **During operation:** Air pollution generated from the construction site and rental factories may impact resident health and lifestyle in the surrounding area. Moreover, the site drainage system for the rental factories may generate substances that cause air pollution and offensive odors.
	2	Water pollution	B-	B-	B-	B-	**During construction:** Worker domestic wastewater, surface runoff mixed with oil that leaks from construction machinery, water used to wash vehicles, and surface runoff due to rainfall may affect the water quality of the surface water in the surrounding area that includes the May River. **During operation:** If industrial and domestic wastewater is not appropriately treated and released into the May River, it may adversely affect the river. As the rainwater drainage system in the rental factory is to be connected to the industrial park's drainage system, surface water runoff may affect the water quality of the May River if it is not appropriately managed.
	3	Waste	B-	B-	B-	B-	**During construction:** Construction waste, oil leaks from construction vehicles, and general waste from workers will be generated. **During operation:** General waste from workers,

Category	No.	Impacts	Impact assessment at scoping		Impact assessment based on study results		Reasons for assessment
			Before/ during construction	During operation	Before/ during construction	During operation	
							and industrial and hazardous waste from factories will be generated.
	4	Soil pollution	B-	B-	B-	B-	**During construction:** Discharged domestic wastewater and wastewater that contains oil from construction machinery, and waste may pollute the soil if not properly managed. **During operation:** Domestic and industrial wastewater drained from the factories, waste, and drain pipe leaks may pollute the soil.
	5	Noise and vibration	B-	B-	B-	B-	**During construction:** Construction vehicles and machinery are expected to generate noise and vibrations. **During operation:** The factories and related vehicles are expected to generate noise and vibrations.
	6	Ground subsidence	B-	C	D	D	**During construction:** The ground for this project is stable, consisting mainly of gravel and clay, and ground subsidence from construction of the rental factories is not anticipated as there have been no reports of ground subsidence so far. **During operation:** Groundwater is not expected to be pumped at the Project Site, therefore, no ground subsidence is anticipated from the pumping of groundwater.
	7	Offensive odors	B-	B-	B-	B-	**During construction:** General waste may generate offensive odors. **During operation:** Waste and the drainage system may generate offensive odors.
	8	Sediment	B-	D	D	D	**During construction:** Sediment from this project is not likely to accumulate and impact riverbed material as the Project Site is located at the west end of the park, making it improbable that surface runoff will reach the May River at the east end of industrial park. Moreover, the river flow is fast. **During operation:** Due to the low possibility of sediment runoff during operation and the fast river flow, little impact is anticipated on the riverbed material from sediment accumulation.
Natural environment	9	Protected areas	D	D	D	D	**During construction/operation:** There are no protected areas in the Project Site.
	10	Ecosystem	D	B-	D	B-	**During construction:** The reclamation work for the Project Site is almost complete and the surrounding area is farmland and residential areas with no reports of rare species. Therefore, no impact on the ecosystems is anticipated from rental factory construction. **During operation:** Air and water pollution from factory operation may impact the ecosystems.

Category	No.	Impacts	Impact assessment at scoping		Impact assessment based on study results		Reasons for assessment
			Before/ during construction	During operation	Before/ during construction	During operation	
	11	Hydrology	B-	B-	D	D	**During construction/operation:** The volume of drainage that will be released from the industrial park into the May River after it has been treated is not large enough to affect its flow volume.
	12	Topography and geology	D	D	D	D	**During construction:** Given no soft ground is reported at the Project Site that might cause soil failures and landslides due to construction of rental factories of a similar size to this project, no impact is anticipated on the topography and geology. **During operation:** Given there are no reports of soil failures or landslides from factories already operating in the industrial park, no impact is anticipated on the geology and geography during operation.
Social environment	13	Resettlement and land acquisition	B-	D	D	D	**During construction:** While there are no residents that will be relocated because of this project, land owned by the Thien Ke and Trung My PCs and 65 individuals was to be recovered. This land is mainly for used as woodland, rice paddies, and farmland, and land owned by the Thien Ke PC includes a cemetery. Compensation has already paid by Vina CPK and the land acquisition has been terminated. **During operation:** No resettlement is anticipated from rental factory operation.
	14	Poverty	B-	B-	D	D	**During construction/operation:** No residents, whose land is targeted for land acquisition in this project, are poor.
	15	Ethnic minorities and indigenous peoples	B-	B-	D	D	**During construction/operation:** There are no ethnic minority or indigenous peoples (San Diu) among the land owners whose land is on the Project Site.
	16	Local economies, such as employment, livelihood, etc.	B-	B+	B-	B+	**During construction/operation:** Plans are to take the necessary measures for residents targeted for land acquisition, such as vocational training and preferential hiring in Ba Thien 2 and other industrial parks in Vinh Phuc Province. These measures must definitely be executed. Nonetheless, industrial park operations are expected to modernize local industry, increase land prices, attract businesses, create jobs, and product stable income.
	17	Land use and utilization of local resources	C	C	D	D	**During construction/operation:** While those involved in agriculture may lose their employment due to the change from agricultural land to industrial land to develop the industrial park, the impact will be minimized through

Category	No.	Impacts	Impact assessment at scoping		Impact assessment based on study results		Reasons for assessment
			Before/ during construction	During operation	Before/ during construction	During operation	
							vocational training, preferential hiring and other measures (see "Local economies, such as employment, livelihood, etc."). There is also no impact anticipated on the stability of food supply from land acquisition of rice paddies and lakes.
	18	Water usage	B-	B-	D	D	**During construction/operation:** Water will be supplied by the Vinh Phuc Water Supply Joint Stock Company and groundwater will not be pumped to the surface. Moreover, as wastewater will be appropriately treated at the water treatment facility, chances are slim that water discharged into the May River will affect its flow volume.
	19	Existing social infrastructures and services	B-	C	D	B-	**During construction:** As this project progresses in stages, there is little chance that there will be impact from the transportation of construction materials and workers. **During operation:** Increases in population density and traffic are expected to impact social infrastructures and services.
	20	Social institutions such as social infrastructure and local decision-making institutions	D	D	D	D	**During construction/operation:** As this project is to build and operate rental factories in the industrial park, no negative impact on social capital, local decision-making bodies or other social institutions is expected.
	21	Misdistribution of benefits and damages	D	D	D	D	**During construction/operation:** If proper compensation was not paid to those who are targeted for land acquisition, they would become victims. This issue is discussed in "Local economies, such as employment, livelihood, etc." No parties have been found to receive any special benefits from the project.
	22	Local conflicts of interest	D	D	D	D	**During construction/operation:** As the purpose of this project is to develop rental factories in Ba Thien 2 based on the regional development plan, no local conflict is expected in the area.
	23	Cultural heritage	C	D	D	D	**During construction:** As the reclamation work for the Project Site is almost complete, the chances of finding cultural heritage artifacts are low. **During operation:** This project is not expected to have a direct impact on cultural heritage sites.
	24	Landscape	B-	D	D	D	**During construction:** This project is for development of rental factories in an industrial park designed accounting for the surrounding landscape, and the rental factories are not expected to impact the surrounding landscape. **During operation:** Rental factory operation is not expected to impact the landscape. This

Category	No.	Impacts	Impact assessment at scoping		Impact assessment based on study results		Reasons for assessment
			Before/ during construction	During operation	Before/ during construction	During operation	
							project is for development of IP rental factories, and Ba Thien 2 plans include planting a 20-meter wide barrier of trees around the periphery of the site.
	25	Gender	D	D	D	D	**During construction/operation:** This project is not expected to have any negative impacts on gender relations.
	26	Children's rights	D	D	D	D	**During construction/operation:** This project is not expected to have any negative impacts on children's rights.
	27	Infectious diseases such as HIV/AIDS	B-	B-	B-	B-	**During construction/operation:** Soil and groundwater may be contaminated from infectious pathogens contained in sewage. There is also the possibility of mosquitos spreading infection amongst people coming from various areas.
	28	Work environment (including occupational safety)	B-	B-	B-	C	**During construction:** An impact on respiratory organs and eyes from dust and air pollution, and hearing from noise is anticipated. Damage to health, such as fatigue, thirst, headaches, and dizziness from the heat of the sun and construction machinery, traffic accidents involving construction vehicles, accidents from construction work in high places, and falls and electric shock on rainy days is also anticipated. Measures are therefore necessary to develop a safe work environment. **During operation:** Employees who are directly employed by this project and employees of tenant companies in the rental factories are required to maintain a work environment based on the related regulations. There could be adverse consequences if the related regulations are not observed.
Other	29	Accidents	B-	B-	B-	B-	**During construction:** Accidents and sickness during construction, such as traffic accidents, fire, falls, and electric shock on the construction site may occur. **During operation:** Industrial accidents, fire, explosions, water leaks, flooding, and water pollution caused by damage to the supply and drainage pipes during operation as well as secondary disasters caused by chemical and oil leaks, and electric accidents, traffic accidents, food poisoning, sickness due to rescue systems not being setup in the park, and traffic accidents from an increase in traffic are all possible.
	30	Trans-boundary impacts and climate	D	D	D	D	**During construction/operation:** As the industrial park where the rental factories will be

Category	No.	Impacts	Impact assessment at scoping		Impact assessment based on study results		Reasons for assessment
			Before/ during construction	During operation	Before/ during construction	During operation	
		change					built is roughly 180 km away from the border with China, no trans-boundary environmental impact is anticipated. As the ratio of hydropower is high in Vietnam and has a low emission factor, the impact on climate change from the supply of power is limited. Moreover, as tenant companies are required to observe emission standards for air pollution in Vietnam, no impact on climate change is anticipated.

A+/-: Significant positive/negative impact is expected.

B+/-: Positive/negative impact is expected to some extent.

C+/-: Extent of positive/negative impact is unknown. (A further examination is needed, and the impact could be clarified as the study progresses)

D: No impact is expected.

(8) Reviewing Mitigation Measures and Drafting the Environmental Management Plan and Monitoring Plan

The EIA report reviews the avoidance, minimization, and compensation measures (mitigation measures) of impacts on the social environmental for the most of the items evaluated as B or C for the environmental evaluation in (7). This is summarized in the draft Environmental Management Plan with additional necessary mitigation measures at the Project Site. The currently anticipated implementing and responsible agencies, as well as mitigation costs, shall be estimated in as much detail as possible. Also, the environmental protection responsibilities and obligations for contractors will be clearly listed in contractor agreements so that these mitigation measures are properly executed during construction.

Table 10-14: Mitigation Measures and Environmental Management Plan

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
During construction				
Air pollution	・Spread water on the material route in the industrial park twice a day to prevent dust from spreading.	Cost of air pollution mitigation measures (entire industrial park): 50,000,000VND/ implementation period: during construction	Vina CPK	－
	・In order to wash trucks to get rid of mud and sand before leaving the construction site to keep dust from spreading in the surrounding area, Vina CPK		Contractor	Vina CPK

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	recommended using washing stations for trucks to be built at the main gate facing the road TL310 and the back gate.			
	・Use the hotline for the administrative office in the industrial park as installed by Vina CPK for complaints regarding dust and construction vehicles. ・Plant trees to prevent dust from spreading. ・Not use old vehicles for construction, to not overload vehicles, and to cover the material being transported.		Vina CPK Vina CPK Contractor	Vina CPK
Water pollution	Construction wastewater and rainwater runoff ・Install rainwater drainage channels directly connected to the rainwater drainage system installed by Vina CPK. ・Remove contamination through screening before it flows into the industrial park's rainwater drainage channels via rainwater drainage channels in the rental factories. ・Periodically inspect and dredge rainwater drainage channels so construction materials do not flow into and block the channels. ・Not assemble construction tools near the rainwater drainage channels to avoid leaks which may contaminate the rainwater drainage system. Domestic wastewater ・Provide toilets (200-liter mobile/portable toilets) based on Ministry of Health regulations (one toilet per 30 workers), and have the septic tank cleaned regularly by specialists.	Cost of water pollution mitigation measures (entire industrial park): 50,000,000VND/ implementation period: during construction Maintenance costs for rainwater drainage system (Project Site): included in project cost. Implementation period: during construction	SPC SPC Within industrial park: Vina CPK Project Site: SPC Contractor Vina CPK	Vina CPK
	・Defecation outside is prohibited.		Contractor	Vina CPK

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	・Restrict sewage generation by hiring local residents (as they can live in their own houses and not at the construction site).		Contractor	Vina CPK
	Floods ・Use large pumps installed by Vina CPK in areas with frequent floods.		Contractor	Vina CPK
	・Limit construction during monsoon season and storms.		Contractor	SPC
	Other ・Prohibit discharge hazardous materials and contaminants into the existing drainage systems, in particular into the May River.		Contractor	Vina CPK
Waste	・Use waste storage (100 m^2) and hazardous waste storage (50 m^2) installed by Vina CPK away from water sources in the industrial park.	Cost of waste mitigation measures (entire industrial park): 50,000,000VND/ implementation period: during construction	Contractor	Vina CPK
	・Sort into industrial (construction) waste, hazardous waste, and general waste.		Contractor	Vina CPK
	・Limit construction waste generated. Use waste materials effectively, and temporarily collect general waste and construction waste at the storage in the industrial park.		Contractor	Vina CPK
	・Use the twenty 200-liter trash cans installed by Vina CP in the industrial park.		Contractor	Vina CPK
	・Contract with local waste collection and recycling companies for waste collection (incl. hazardous waste) based on relevant laws.		Contractor	Vina CPK
	Waste oil ・Avoid repairing trucks and machines at the construction site.		Contractor	Vina CPK
	・Use a waste oil recovery tank (300 liters) installed by Vina CPK.		Contractor	Vina CPK
Soil pollution	・Carefully manage domestic wastewater (see “Water quality”) ・Carefully manage waste (See “Waste”)	(See “Water quality”) (See “Waste”)	(See “Water quality”) (See “Waste”)	(See “Water quality”) (See “Waste”)
Noise and	・Use low-noise construction		Contractor	Vina CPK

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
vibrations	machinery according to Vietnamese technological standards TC3733/2022/BYT (90dB at 2m from the source) and 26:2010/BTNMT (70dB at 200m and 500m from the source) for noise and 27:2010/BTNMT (63-98dB at 10m and 55-83dB at 30m from the source) for vibrations. ・Notify local government and communities of working hours and measures to reduce noise. ・Avoid work that makes a lot of noise during local community (within 200m) rest hours (daytime: 11:00 to 13:30, night: 20:30 to 06:30 the next morning). ・Check the level of noise generated from construction machinery. When the level of noise exceeds allowable limits, either use noise-reduction devices or stop using that construction machinery. ・Suppress the spread of noise from roads by reforestation. ・Provide workers with hearing protection equipment. ・Use the hotline for the administrative office in the industrial park as installed by Vina CPK for complaints regarding noise at the work site.		Vina CPK Contractor Contractor Vina CPK Contractor Vina CPK	 Vina CPK Vina CPK Vina CPK
Offensive odors	・Carefully manage waste (See “Waste”)	(See “Waste”)	(See “Waste”)	(See “Waste”)
Local economies, such as employment, livelihood, etc.	・Cooperate with Vina CPK on vocational training and preferential hiring in the industrial park.		Contractors and Vina CPK	DONRE
Existing social infrastructures and services	・Discuss plans accounting for impact on traffic density, such as varying times to drive construction vehicles, to minimize the increase of traffic density from the transportation of construction workers and material.		Contractor	Vina CPK
Infectious diseases such as HIV/AIDS	・Perform on-going sanitation management, proper wastewater treatment, and continuous water quality monitoring to prevent	(See “Water quality”)	(See “Water quality”)	(See “Water quality”)

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	infections. (See "Water quality")			
Working environment	・Provide equipment, and monitor and supervise to ensure worker safety. ・Inform related parties of emergency telephone numbers for hospitals, police stations, local government, disaster prevention organizations, etc. ・Inspect construction machinery and equipment regularly. ・Install lights for night work sites. ・Install fences and warning signs, and allocate personnel at dangerous places. ・Supply safety equipment (helmets and earmuffs, etc.) to workers. ・Arrange worker accommodations. ・Arrange medical facilities in the industrial park based on Ministry of Health regulations for contractor use.		Contractor Vina CPK Contractor Contractor Contractor Contractor Vina CPK	Vina CPK Vina CPK Vina CPK Vina CPK Vina CPK
Accidents	Fire, falls, and electric shock ・Install fire prevention equipment based on regulation TCVN 2600-92. ・Install safety equipment for the electrical system and electric devices. Periodically inspect safety equipment. ・Publish and distribute operation guidelines and safety regulations for machinery and equipment and inform all relevant parties. Traffic accidents ・Collect materials dropped during transportation. ・Notify related parties of hazard signs installed by Vina CPK.	Cost: Included in the agreed amount with contractors Implementation period: During construction (However, the cost of creating guidelines and allocating staff at road TL310 are included in the Vina CPK budget)	Contractor Contractor Contractor Vina CPK Contractor Contractor	Vina CPK Vina CPK Vina CPK Vina CPK Vina CPK Vina CPK
	・Allocate personnel 24 hours a day at road TL 310 where an		Vina CPK	

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	increase in traffic is expected. Safety measures ・Cooperate with the Vina CPK security team to prevent robberies. ・Cooperate with regular Vina CPK patrols. ・Notify all concerned of crime prevention measures provided by Vina CPK.		 Contractor Contractor Contractor	 Vina CPK Vina CPK Vina CPK
During operation				
Air pollution	Air pollutant emissions from tenant companies ・Handle air pollutant emissions based on Vietnamese regulations. ・Implement environmental measures based on each EIA and environmental protection laws. ・Work with Vina CPK to enact measures and specify factories that are not fulfilling their emission treatment responsibilities. Air pollutant emissions from the water treatment system ・Treat industrial wastewater to meet the standards determined by Vina CPK. ・Companies that do not meet wastewater standards or neglect to fulfill their obligations for water treatment will be denied connection to the drainage treatment system. ・Firmly cover all drainage systems and manholes. ・Firmly cover mud storage tanks. ・Collect general and solid waste at least once a day.	Cost of air pollution mitigation measures (entire industrial park): 50,000,000VND/ implementation period: before investment promotion Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	 Tenant Companies Tenant Companies SPC Tenant Companies Vina CPK Vina CPK Tenant Companies Tenant Companies	 SPC and Vina CPK SPC and Vina CPK SPC and Vina CPK
Water Quality	Rainwater management ・Install rainwater drainage systems that consist of concrete squares, concrete drain pipes, open trenches, and grating covers in the Project Site and connect them at the front road to the rainwater drainage system in the	Cost of mitigation measures involving water quality (entire industrial park): 10,000,000VND/ implementation period: before investment promotion	SPC	

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	industrial park. Industrial wastewater treatment ・Observe the following standards to treat industrial wastewater (incl. rental factories): －Metals and harmful chemical substances: Level A of the regulation 24:2009/BTNMT －Other substances: Level B of regulation 24:2009/BTNMT ・Compliance of standard values shall be stipulated in contracts with SPC and tenant companies. In addition, wastewater from each factory should comply with the standards described below: 1. Does not damage drain pipes physically or through a chemical reaction 2. Does not affect the health of workers who clean drain pipes 3. Does not interfere with the normal wastewater treatment process 4. Does not overload the water treatment facility ・Measure industrial wastewater discharged from tenant companies using a meter. ・Analyze wastewater quality discharged by tenant companies by pollution measure results or random sample inspection. ・Prevent wastewater not meeting the standards from being discharged.	Mitigation measure costs (Project Site): included in the project cost Implementation period: after this project has started	Tenant Companies Tenant Companies Tenant Companies Tenant Companies SPC	SPC and Vina CPK SPC and Vina CPK SPC and Vina CPK SPC and Vina CPK Vina CPK
Waste	Collaboration with environmental impact management organizations ・Collaborate with organizations that manage environmental sanitation, collection, and transportation and cleaning in the industrial park installed by Vina CPK.	Waste mitigation measure costs (entire industrial park): 100,000,000VND/ implementation period: before investment promotion	SPC	Vina CPK

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	General waste Place trash cans in the common area of the industrial park.	Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	Vina CPK	
	・General waste generated from tenant companies shall be collected by each factory and environmental sanitation management organizations shall transfer them to the disposal center based on the contract with each company.		Tenant Companies	SPC
	・Use the waste storage area prepared by Vina CPK in the industrial park.		Tenant Companies	Vina CPK
	Industrial waste ・Determine recycle measures (recycle by tenant companies or outsource to recycling companies) for recyclable industrial waste (excluding hazardous waste) and implement them.		Tenant Companies	SPC
	・Waste that cannot be recycled shall be collected and treated by environmental sanitation management organizations based on the contract with each company.		Tenant Companies	SPC
	・Sort industrial waste into hazardous waste and general waste.		Tenant Companies	SPC
	・Prepare equipment to collect and store industrial waste (excluding hazardous waste) in each area.		Tenant Companies	SPC
	Hazardous waste ・Manage all hazardous waste based on directive 12/2011 BNTN&MT.		Tenant companies and environmental sanitation management organizations	SPC and Vina CPK
	・Manage own hazardous waste as there is no primary storage place for hazardous waste will be prepared in the industrial park. Each company is required to select companies to collect and treat hazardous waste as necessary.		Tenant Companies	SPC
Soil pollution	・Carefully manage wastewater	(See “Water quality”)	(See “Water	(See “Water

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
	from the factory (See "Water quality") ・Carefully manage waste (See "Waste") ・Use HDPE pipes with high heat and shock resistance as the drain pipes to prevent leaks of wastewater that contains contaminants caused by damage to drain pipes, laying them in the reinforced concrete trench. ・Periodically inspect drain pipes.	(See "Waste") Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	quality") (See "Waste") SPC SPC	quality") (See "Waste")
Noise and vibrations	・Plant trees in the industrial park to reduce noise.	Cost: Included in the construction cost of entire industrial park. Implementation period: after this project has started	Vina CPK	
Offensive odors	・Carefully manage waste (See "Waste") ・Carefully manage wastewater (See "Water quality")	(See "Waste") (See "Water quality")	(See "Waste") (See "Water quality")	(See "Waste") (See "Water quality")
Ecosystem	・Implement air and water pollution measures. (See "Air quality" and "Water quality") ・Plant a 20-meter wide barrier of trees around the periphery over 13.61% of the site to alleviate the impact on the flora and fauna ecosystems.	(See "Air pollution" and "Water quality")	(See "Air pollution" and "Water quality") Vina CPK	(See "Air pollution" and "Water quality")
Local economies, such as employment, livelihood, etc.	・Implement vocational training and preferential hiring in the industrial park with the cooperation of Vina CPK.	Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	Tenant companies, Vina CPK, and SPC	
Existing social infrastructures and services	・Notify personnel in the industrial park about residences and infrastructure developed by Vina CPK. ・Notify tenant companies about cultural and social activities organized by Vina CPK for industrial park workers and recommend that they participate. Traffic congestion ・Urge personnel to use buses arranged by Vina CPK and limit the usage of private cars.	Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	SPC SPC SPC	
Infectious	・Conduct on-going sanitation	(See "Water quality")	(See "Water	(See "Water

Impacts	Mitigation measures	Costs and implementation period	Responsible party	Supervisor
diseases such as HIV/AIDS	management and water quality monitoring, and install a wastewater treatment system to prevent infections. (See "Water quality")		quality")	quality")
Working environment	・Thoroughly observe the related regulations.	Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	Tenant Companies	SPC
Accidents	Fire and explosions ・Inspect machinery and equipment operated at high heat or voltage regularly based on clear analytical data.	Hazard preventive measure costs (entire industrial park): 200,000,000VND/ implementation period: before investment promotion	Tenant Companies	Vina CPK
	・Prepare thermometers, pressure gauges and other safety equipment for high pressure equipment.	Mitigation measure costs (Project Site): included in project cost Implementation period: after this project has started	Tenant Companies	Vina CPK
	・Ensure safety to prevent fire when maintaining generators.		Tenant Companies	Vina CPK
	・Install fire prevention equipment if installing storage for fuel and heating materials.		Tenant Companies	Vina CPK
	・Notify all related parties about fire prevention plans and strict regulations concerning fire prevention determined by Vina CPK.		SPC	
	・Routinely inspect fire prevention equipment and have them at the ready.		Tenant Companies	Vina CPK
	・Prepare measures to reduce the impact on human bodies and assets if any risks arise.		Tenant Companies	Vina CPK
	・Collaborate with the Vina CPK Disaster Prevention Group.		Tenant Companies	SPC
	・Store heating materials away from fire sources.		Tenant Companies	Vina CPK

1) Draft Monitoring Plan

Vina CPK shall be responsible for monitoring all of Ba Thien 2. Although each tenant company is responsible for observing environmental regulations for IP factories, management of monitoring activities in the Project Site will be discussed to a certain degree in the project.

The following is the draft Monitoring Plan.

Table 10-15: Draft Monitoring Plan

Environmental item	Item	Location	Report system for responsible agency and results	Method	Frequency (stated period continued during operation)
During construction (construction stage)					
Air pollution	Microclimate conditions, dust, CO, SO2, NOx	Five total in the industrial park and five more in the surrounding area	Managed by: Vina CPK Implemented by: A center in DONRE Approved by: DONRE	QCVN 05: Based on 2009/BTNMT (national technical regulations based on environmental air standards)	Every six months
Water Quality	pH, TSS, DO, BOD, COD, E-coli, fecal coliform, NO_2^-, NO_3^-, PO_4^{3-}, SO_4^{2-}, Fe, Zn, Mn, phenol, oil	Three locations for surface water, two for wastewater	"	Surface water: Based on QCVN:08:2008/BTNMT (Vietnamese technical standard groundwater quality level A1) Wastewater: Based on QCVN 24: 2009/BTNMT (based on Vietnamese technical standard quality levels)	Every six months for surface water, every three months for wastewater
Waste	Waste management and treatment status	Rental factory construction site	Managed by: SPC Implemented by: Contractor	Monitor waste management and treatment status record	Expecting once a month; details to be fixed upon conclusion of contractor agreement
Soil pollution	(See "Water pollution" and "Waste")				
Noise and vibrations	Noise and vibration level of construction work	Rental factory construction site	Managed by: SPC Implemented by: Contractor	・Based on Vietnamese technological standards TC3733/2022/BYT (90dB at 2m from the source) and 26:2010/BTNMT (70dB at 200m and 500m from the source) for noise and 27:2010/BTNMT (63-98dB at 10m and 55-83dB at 30m from the source) for vibrations.	Expected during operation of construction machinery; details to be fixed upon conclusion of contractor agreement
Offensive odors	(See "Waste")				

Environmental item	Item	Location	Report system for responsible agency and results	Method	Frequency (stated period continued during operation)
Local economies, such as employment, livelihood, etc.	Employment conditions	Entire the Province	Implemented by: Bureau of Labour, Health, and Social Welfare	Bureau of Labour, Health, and Social Welfare to monitor employment conditions in the Province.	As necessary
Existing social infrastructures and services	Number of construction vehicles by time slot	Rental factory construction site	Managed by: SPC Implemented by: Contractor	Record and confirmation of the number of construction vehicles by time slot by contractor and other details to be determined upon conclusion of the contractor agreement	Determine upon conclusion of contractor agreement
Infectious diseases such as HIV/AIDS	(See "Water pollution")				
Working environment	Working environment	Rental factory construction site	Managed by: SPC Implemented by: Contractor	Maintenance log for safety equipment of workers and construction machinery, usage record of medical facilities and other details to be determined upon conclusion of contractor agreement.	Determine upon conclusion of contractor agreement
Accidents	Safety measures, safety management conditions, accidents and measures	Rental factory construction site	Managed by: SPC Implemented by: Contractor	On-site inspection of safety measures and safety management conditions, review written report, or monitor record management upon an accident	Determine upon conclusion of contractor agreement
During operation (operation stage)					
Air pollution	Wind direction and speed, humidity, temperature, SO_2, NO_x, CO, dust	18 in total: Eight in the industrial park; one each around wastewater treatment facility, waste collection site and office; three on area roads, four in surrounding areas	Managed by: Vina CPK Implemented by: A center in DONRE Approved by: DONRE	Measured with wind roses, wind gauges, moisture meters, thermometers, noise gauges, spectrums, and scales. Based on QCVN 05: 2009/BTNMT (average value of one hour and 24 hours)QCVN 05: 2009/BTNMT	Every six months
Water quality (wastewater)	(Reconfirmation) Temperature, pH, odor, color, BOD_5, COD, suspended solids, arsenic, mercury, lead,	Drain connection points of each tenant company in the Project Site	Managed by: SPC Implemented by: Tenant Companies	Based on QCVN 24: 2009/BTNMT (Vietnamese industrial wastewater technical standard quality level)	Every three months

Environmental item	Item	Location	Report system for responsible agency and results	Method	Frequency (stated period continued during operation)
	cadmium, chromium (VI), chromium (III), copper, zinc, nickel, mangan, steel, tin, cyanogen compounds, phenol, petrolatum, oil and fat, residual chloride, PCB, organic phosphoric ester, organochlorinated pesticide, sulfide, fluoride, chloride, ammonium (nitrogen), total nitrogen, E-coli Total: 34 items				
Water quality (surface water)	pH, DO, SS, COD, BOD_5, NO_2-N, NO_3-N, NH_3-N, Fe, Cd, Pb, Cu, Mn, E-coli Total: 14 items	Three in total: where the May River flows into the industrial park, worker residential areas, and 100m downstream from the wastewater discharge gate	Managed by: Vina CPK Implemented by: A center in DONRE Approved by: DONRE	Based on QCVN 08:2008/BTNMT (Vietnamese surface water technical standard quality level B1)	Every six months
Water quality (groundwater)	pH, electric conductivity, TS, SS, NO_3-N, Cl^-, SO_4^{2-}, Fe, Mn, Zn, Cd, Pb, Cu, As, E-coli, fecal coliform Total: 16 items	One location each for Ba Hien, Thien Ke and Trung My communes	Managed by: Vina CPK Implemented by: A center in DONRE Approved by: DONRE	Based on QCVN 09:2008/BTNMT (Vietnamese groundwater technical standard quality level B1)	Every six months
Waste	Volume of general waste generated from tenant companies, volume of recycle and reuse from factories, volume of hazardous waste generated from factories	TBD (determine based on factory occupancy)	Managed by: SPC Implemented by: Tenant Companies	TBD (waste volume to be monitored)	Every three months
Soil pollution	Pb, Cd, Ni, Mn, Fe, Cu, pH, OC%, total nitrogen, P_2O_5, K_2O, Al^{+3} Total: 12 items	Five in total: one each for the wastewater treatment facility, waste collection area, and Ba Hien, Thien Ke, and Trung My communes	Managed by: Vina CPK Implemented by: A center in DONRE Approved by: DONRE	Based on QCVN: 15:2008/BTNMT (Vietnamese technical standards for residual pesticides in soil) and QCVN: 03:2008/BTNMT (Vietnamese technical standards for maximum permissible levels of heavy metals in soil)	Every six months

Environmental item	Item	Location	Report system for responsible agency and results	Method	Frequency (stated period continued during operation)
Noise and vibration	Noise levels	18 in total: Eight in the industrial park; one each around wastewater treatment facility, waste collection site and office; three on area roads, four in surrounding areas	Managed by: Vina CPK Implemented by: A center in DONRE Approved by: DONRE	Measured with noise gauge. Based on QCVN 26: 2010/BTNMT (Vietnamese technical standards for noise)	Every six months
Offensive odors	(See "Waste" and "Water quality")				
Ecosystem	(See "Air pollution" and "Water quality")				
Local economies, such as employment, livelihood, etc.	Employment conditions	Entire the Province	Implemented by: Labor, Invalids and Social Welfare Bureau	Labor, Invalids and Social Welfare Bureau to review employment conditions in the Province.	As necessary
Existing social infrastructures and services	Usage of bus routes organized by Vina CPK and private cars	Near the Project Site	Implemented and managed by: SPC	Anti-traffic measures	As necessary
Infectious diseases such as HIV/AIDS	(See "Water quality")				
Working environment	Status of preventive measures for labor-related infractions	Each Tenant Company	Implemented and managed by: Tenant Companies	Initiatives to prevent labor-related infractions; investigation and measures to prevent reoccurrence when infractions are found	Determine upon conclusion of tenant company agreements
Accidents	Safety measures, safety management conditions, accidents and measures	Project Site	Managed by: SPC Implemented by: Tenant Companies	Initiatives for safety measures and management; record accidents and measures to prevention reoccurrence	Determine upon conclusion of tenant company agreement

2) Capacity Building and Training

As capacity building and training for monitoring can be outsourced to licensed consultants, it is thought to be not necessary to develop any new personnel.

3) Implementation Schedule and Cost Estimates

The entire industrial park will be monitored twice a year by Vina CPK, and reported to Vinh Phuc Province's DONRE by June 25 and December 25 each year. Vina CPK reserves 80,000,000 VND/time during construction and 70,000,000 VND/time during operation in the total investment budget for monitoring costs.

Costs related to environmental monitoring, mitigation measures, land acquisition/resident relocation and compensation are included in the investment amount as is the monitoring cost for this land.

Most of the necessary monitoring within the Project Site overlaps with the monitoring that is necessary for the entire industrial park. Therefore, monitoring in the rental industrial park shall take place at the same time as the monitoring for the industrial park and as a result, the monitoring cost is considered part of the management costs for the rental industrial park.

4) Integrating Draft Environmental Management Plan into Comprehensive Project Plan for Case Formation, Design, Budget and Implementation

Vina CPK is the executor as well as the responsible party for mitigation measures and monitoring for all of Ba Thien 2, and the draft Environmental Management Plan is integrated into the comprehensive project plan, which includes case formation, design, budget, and implementation. For the Project Site, the differences to the draft Environmental Management Plan on the entirety of the industrial park are important, and most of the other parts are covered by the implementation of the draft Environmental Management Plan for the industrial park. The importance of the draft Environmental Management Plan in the Project Site is recognized in the project plan.

5) Consultation Activity Plan

Although no regular consultations with residents are scheduled, complaints are always accepted.

6) Implementation System and Method

The licensed specialized center within DONRE will monitor the industrial park as a whole, as assigned by Vina CPK. The center will carefully monitor activity with its own sufficient measurement devices and machinery and shall submit its reports to the government agencies. Vina CPK is responsible for monitoring, and DONRE gives the report final approval. Obtaining the DONRE-approved report for this project from Vina CPK will cover most of the monitoring items. Items that need to be obtained for the project will be collected and added to the report obtained from Vina CPK so this can be considered as the monitoring result at the Project Site.

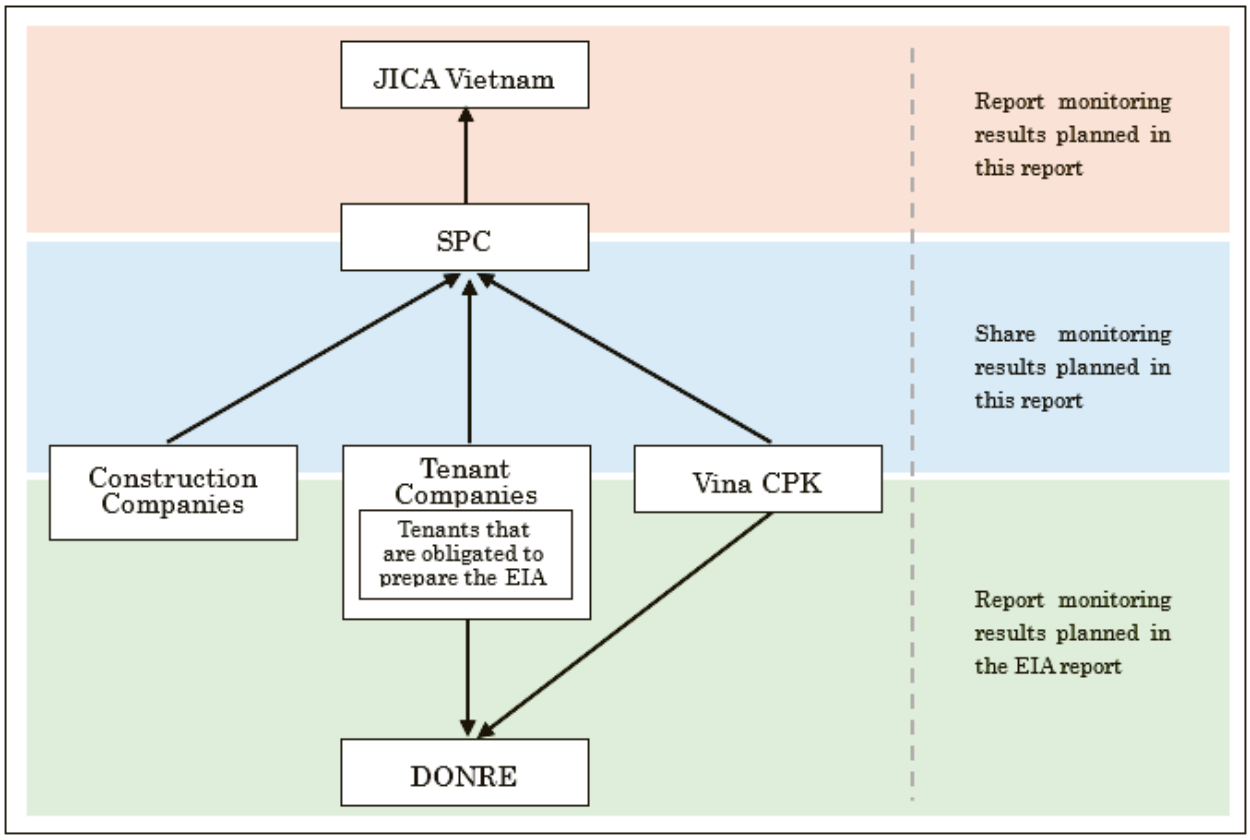


Figure 10-3: Draft Monitoring Implementation System

7) Draft Monitoring Form

According to the latest monitoring report conducted by Vina CPK, the monitoring form used throughout industrial parks during construction is as follows.

Table 10-16: Monitoring form

1 Overview
- 1.1 Contact information
- 1.2 Location
- 1.3 Business profile and size
- 1.4 Demand for resources (hydro/electric power)

2 Source of environmental impacts
- 2.1 Air pollutants, dust, and noise
- 2.2 Wastewater
  - 2.2.1 Worker urban wastewater
  - 2.2.2 Construction work wastewater
- 2.3 Solid waste
  - 2.3.1 Worker municipal solid waste
  - 2.3.2 Construction waste

3 Existing mitigation and response measures, measurements, and analysis results
- 3.1 Existing mitigation and response measures
  - 3.1.1 Air pollutants, dust, and noise
  - 3.1.2 Wastewater
  - 3.1.3 Solid waste
- 3.2 Measurement and analysis results
  - 3.2.1 Surface water analysis results
  - 3.2.2 Wastewater analysis results
  - 3.2.3 Surrounding area atmosphere analysis results
  - 3.2.4 Work area atmosphere analysis results

4 Inspection and management coordination

5 Conclusions and recommendations

6 Commitment

Appendices

Results of environmental analysis in the Ba Thien 2 Industrial Park

1. Surface water analysis results
2. Wastewater analysis results
3. Surrounding area atmosphere analysis results
4. Work area atmosphere analysis results

Table 10-17: Monitoring Form for the Water Quality of the Surface Water

No.	Item	Analysis method	Unit	Result	Reference value
1	pH		-		6-8.5
2	Total suspended solids (TSS)		mg/l		20
3	Dissolved Oxygen (DO)		mg/l		≥6
4	Biochemical oxygen demand (BOD_5)		mg/l		4
5	Chemical oxygen demand (COD)		mg/l		10
6	Nitrite ion (NO_2^-)		mg/l		0.01
7	Nitrate ion (NO_3^-)		mg/l		2
8	Phosphate ion (PO_4^{3-})		mg/l		0.1
9	Sulfate ion (SO_4^{2-})		mg/l		-
10	Zinc (Zn)		mg/l		0.5
11	Iron (Fe)		mg/l		0.5
12	Manganese (Mn)		mg/l		-
13	Oil		mg/l		0.01
14	Phenol		mg/l		0.005
15	Fecal coliform		MPN/100ml		-
16	Total coliform		MPN/100ml		2,500

Table 10-18: Monitoring Form for the Water Quality of the Wastewater

No.	Item	Analysis method	Unit	Result	Reference value
1	Temperature		℃		-
2	Color		Pt-Co		-
3	pH		-		5-9
4	Total suspended solids (TSS)		mg/l		60
5	Biochemical oxygen demand (BOD_5)		mg/l		36
6	Chemical oxygen demand (COD)		mg/l		-
7	Chlorine (Cl_2)		mg/l		-
8	Ammonium (NH_4)		mg/l		6
9	Cyanide CN^-		mg/l		-
10	Total nitrogen (N)		mg/l		-
11	Total phosphorus (P)		mg/l		-
12	Sulfide (S^{2-})		mg/l		1.2
13	Arsenic (As)		mg/l		-
14	Cadmium (Cd)		mg/l		-
15	Nickel (Ni)		mg/l		-
16	Lead (Pb)		mg/l		-
17	Copper (Cu)		mg/l		-
18	Zinc (Zn)		mg/l		-
19	Iron (Fe)		mg/l		-
20	Manganese (Mn)		mg/l		-
21	Trivalent chromium		mg/l		-
22	Hexavalent chromium		mg/l		-

23	Mineral oil		mg/l		12
24	Total coliform		MPN/100ml		3,000

Table 10-19: Monitoring Form for the Atmosphere (noise) of the Surrounding Regions

No.	Item	Analysis method	Unit	Result	Reference value
1	Temperature		℃		-
2	Humidity		%		-
3	Wind speed		m/s		-
4	Wind direction		-		-
5	Noise		dB_A		70
6	Airborne dust		mg/m^3		0.3
7	Carbon monoxide (CO)		mg/m^3		30
8	Sulfur dioxide (SO_2)		mg/m^3		0.35
9	Nitrogen dioxide (NO_2)		mg/m^3		0.2

Table 10-20: Monitoring Form for the Atmosphere (noise) of the Work Area

No.	Item	Analysis method	Unit	Result	Reference value
1	Temperature		℃		-
2	Humidity		%		-
3	Wind speed		m/s		-
4	Wind direction		-		-
5	Noise		dB_A		70
6	Airborne dust		mg/m^3		0.3
7	Carbon monoxide (CO)		mg/m^3		30
8	Sulfur dioxide (SO_2)		mg/m^3		0.35
9	Nitrogen dioxide (NO_2)		mg/m^3		0.2

In addition to the Monitoring form above, the draft monitoring form during construction for this project will include the following items that SPC plans to request the provision of information to the contractors.

Table 10-21: Draft Monitoring form of Additional Monitoring Items for Constructors

No.	Item	Method	Unit	Results	Limits
1	Waste (type, volume, disposal method)）	Waste management and disposal record, etc.			N/A
2	Noise	Confirm the measured values at rental factory construction site is as accord to the Vietnamese standard	dB		Vietnamese technological standards TC3733/2022/BYT (90dB at 2m point from source), 26:2010/BTNMT 70dB at 200m, 500m point from source)
3	Vibration	Confirm the measured values at rental factory	dB		27:2010/BTNMT (63-98dB at 10m point, 55-83dB

		construction site is as accord to the Vietnamese standard			at 30m point from source)
4	Number of Construction vehicles	Create a record of construction vehicles coming in and out of the rental factory construction site			N/A
5	Working environment	Create a maintenance record of safety devices and construction machinery, and a record the use of the medical facility.			N/A
6	Safety measures	On-site inspection of safety measures and safety management, or confirm documented reports, and monitor the recordkeeping upon accidents			N/A

Monitoring forms during operation is planned to be created based on the draft monitoring plan, and should be as follow.

Table 10-22: Draft Monitoring form during Operation

No.	Item	Method	Unit	Results	Limits
【Atmosphere（Noise）】（Vina CPK）					
1	Temperature		℃		-
2	Humidity		%		-
3	Wind speed		m/s		-
4	Wind direction		-		-
5	Noise		dB_A		70
6	Airborne dust		mg/m^3		0.3
7	Carbon monoxide (CO)		mg/m^3		30
8	Sulfur dioxide (SO_2)		mg/m^3		0.35
9	Nitrogen dioxide (NO_2)		mg/m^3		0.2
【Water discharge】（SPC）					
1	Temperature		℃		
2	pH		-		
3	Odor		-		
4	Color		-		
5	BOD_5		mg/l		
6	COD		mg/l		
7	Suspended Solid		mg/l		

8	Arsenic		mg/l		
9	Mercury		mg/l		
10	Lead		mg/l		
11	Cadmium		mg/l		
12	Chromium（VI）		mg/l		
13	Chromium（III）		mg/l		
14	Copper		mg/l		
15	Zinc		mg/l		
16	Nickel		mg/l		
17	Manganese		mg/l		
18	Steel		mg/l		
19	Tin		mg/l		
20	Cyanide		mg/l		
21	Phenol		mg/l		
22	Mineral Oil		mg/l		
23	Oil and fat		mg/l		
24	Residual chlorine		mg/l		
25	PCB		mg/l		
26	Organophosphate Ester		mg/l		
27	Organochlorinated pesticide		mg/l		
28	Sulfide		mg/l		
29	Fluoride		mg/l		
30	Chloride		mg/l		
31	Ammonium（Nitrogen）		mg/l		
32	Total nitrogen		mg/l		
33	Total phosphorus		mg/l		
34	Coliform		MPN/100ml		
【Surface water】（Vina CPK）					
1	pH		-		6-8.5
2	Total suspended solid（TSS）		mg/l		20
3	Dissolved oxygen（DO）		mg/l		≥6
4	Biochemical oxygen demand（BOD_5）		mg/l		4
5	Chemical oxygen demand (COD)		mg/l		10
6	Nitrite ion (NO_2^-)		mg/l		0.01
7	Nitrate ion (NO_3^-)		mg/l		2
8	Phosphate ion (PO_4^{3-})		mg/l		0.1
9	Sulfate ion (SO_4^{2-})		mg/l		-
10	Zinc (Zn)		mg/l		0.5
11	Iron (Fe)		mg/l		0.5
12	Manganese (Mn)		mg/l		-
13	Oil		mg/l		0.01
14	Phenol		mg/l		0.005
15	Fecal coliform		MPN/100ml		-
16	Total coliform		MPN/100ml		2,500
【Groundwater】（Vina CPK）					
1	Temperature		℃		
2	Color		Pt-Co		
3	pH		-		

4	Total suspended solids (TSS)		mg/l		
5	Biochemical oxygen demand (BOD_5)		mg/l		
6	Chemical oxygen demand (COD)		mg/l		
7	Chlorine (Cl_2)		mg/l		
8	Ammonium (NH_4)		mg/l		
9	Cyanide CN^-		mg/l		
10	Total nitrogen (N)		mg/l		
11	Total phosphorus (P)		mg/l		
12	Sulfide (S^{2-})		mg/l		
13	Arsenic (As)		mg/l		
14	Cadmium (Cd)		mg/l		
15	Nickel (Ni)		mg/l		
16	Lead (Pb)		mg/l		
17	Copper (Cu)		mg/l		
18	Zinc (Zn)		mg/l		
19	Iron (Fe)		mg/l		
20	Manganese (Mn)		mg/l		
21	Trivalent chromium		mg/l		
22	Hexavalent chromium		mg/l		
23	Mineral oil		mg/l		
24	Total coliform		MPN/100ml		
【Land contamination】（Vina CPK）					
1	Lead（Pb）		mg/kg		300
2	Cadmium（Cd）		mg/kg		10
3	Nickel（Ni）		mg/kg		-
4	Manganese（Mn）		mg/kg		-
5	Iron（Fe）		mg/100g		-
6	Copper（Cu）		mg/kg		100
7	pH		-		-
8	OC%		%		-
9	Total nitrogen（N）		%		-
10	P_2O_5		%		-
11	K_2O		%		-
12	Al^{+3}		mg/100g		-
【Others】（SPC）					
1	Waste (type, volume and disposal method)				N/A
2	Concentrated traffic				N/A
3	Working environment				N/A
4	Safety measures				N/A

・The Implementing Agency's ,Monitoring System and Status

Vina CPK is responsible for environmental monitoring in accordance with environmental protection laws. Vina CPK will outsource the monitoring work to a licensed consultant to perform the work in accordance with a monitoring system prescribed by the law.

The items to be monitored are defined by business category in the law and listed in the monitoring plan. Items are monitored either once every three or six months. The monitoring result from June 2014 has already been submitted to DONRE.

In accordance with Article 36 of the Law on Environment Protection, the steering committee, investor, and factory owners at the Ba Thien 2 Industrial Park are required to establish a department and/or specialized personnel for environmental management.

Vina CPK plan to establish an environmental task force consisting of 24 personnel in the future. The environmental task force will oversee duties involving environmental sanitation, disaster prevention, and worker health. The task force is planned to have a sanitation team and a disaster prevention team, including a doctor and nurse. At least three personnel will be stationed at Ba Thien 2 to manage environmental issues 24 hours a day. As of April 2014, a team of five personnel were performing these duties.

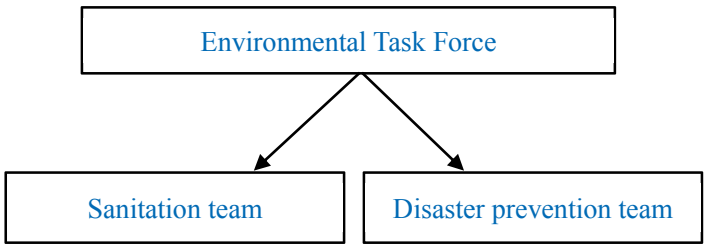


Figure 10-4: Monitoring Implementation System

Vinh Phuc Provincial Urban Environment Corporation plans to start an environmental sanitation business separately from the environmental task force. The environmental sanitation business will be made up of 30 people and its roles are as follows:

- Manage environmental sanitation and solid waste in Ba Thien 2
- Collect trash generated from IP roads, public facilities, and factories (by contract)
- Transport solid waste to disposal site
- Support sanitation services

If an environmental sanitation business is not established, Vinh Phuc Provincial Urban Environment Corporation will handle collection, transport, and disposal of solid waste.

While this system should fulfill Vietnamese Government requirements for environmental and social consideration, checks will be needed to confirm that Vina CPK is monitoring appropriately. Moreover, items not required by the Vietnamese Government but required according to JICA guidelines will be scrutinized, and clarification of the implementation structure, in addition to ensuring the necessary budget and finances, will be reviewed.

(9) Stakeholder Meeting

The Ba Thien 2 Industrial Park project will be discussed with the residents in the target site as well as those in the surrounding area at an early stage, and a plan will be formulated based on results of these discussions.

Vina CPK has had many approaches for consultation, and the Vina CPK representative has carefully and repeatedly deliberated during the EIA report and construction phases based on consultations with local government and Ba Hien, Thien Ke, and Trung My commune representatives. The stakeholder meeting was conducted as follows.

Table 10-23: Stakeholder Meeting Implementation Structure

Participants	Residents: 115 household representatives The Binh Xuyen District Compensation and Land Acquisition Committee and Land Register Committee Commune Head and PC Vina CPK
Scale	The Binh Xuyen District Compensation and Land Acquisition Committee collaborated with the PCs of Ba Hien, Thien Ke, and Trung My communes and Vina CPK to hold meetings with the owners targeted for land acquisition
Period	November 2008-September 2014 The consultation of Ba Thien 2Industrial Park began on Novemenber 2008 when Vina CPK sent out the draft of the EIA report to the Vietnamese Fatherland Front and PC's in the Ba Hien, Thien Ke, and Trun My communes in accorance with Circular 08/2006/TT-BTNMT. Multiple meeting were held with stakeholders and the final amount of compensation for the project field was agreed on September 2014.
Location	The cultural center of each commune where land was to be acquired
Purpose	To hear resident opinions on land acquisition and compensation with regards to industrial park development
Method	Assembly of residents
Details	・Explain the scope of the Project Site, outline, and format ・Explain compensation policies, livelihood restructuring measures, and relocation site to those residents outside of the targeted area ・Explain negative impacts (results of environmental and social evaluation) ・Collect local resident opinions and demands
Collective opinions of the PC and Fatherland	- Concur with the Ba Thien 2 Industrial Park location as it meets the master plan on development of industrial parks in Vietnam through 2015 and orientations to 2020 approved by the Prime Minister.

Fronts of Ba Hien, Thien Ke, and Trung My communes	- Recommend that the users of the industrial park be requested to not impact on the agriculture or other lifestyle aspects by treating wastewater before discharging it in the drainage system and not foul the environment. They must follow Vietnamese laws in regards to treatment of environment pollution, such as other emissions, noise, and waste. - Recommend the industrial park factories and companies to support favor employment of local workers and residents who responded to land acquisition request and give their lands. - Recommend that business developers and EIA report specialists follow the Law on Environment Protection and demand measures to prevent environmental pollution that is stated in the EIA report approved by MONRE. - Recommend that measures are fully executed to protect the environment as per the plan. - Require that a general sewage treatment plant be completed before land starts to be loaned. - Require participation in general environmental protection with the assistance of local government. For example, participating in the “National Food Safety Week” and/or the “National Fire Prevention and Worker Safety Week”.
Comments and meeting results	- Reactions to requiring full compensation and resident relocation in the initial stages were mostly favorable. To provide compensation in the initial stages, Vina CPK pays compensation in advance of government compensation. Comments from multiple households about existing issues and eviction compensation were resolved. - A system will be established for PCs and Vina CPK to deal with any future issues that may occur.
Planned residents’ meetings	None planned

While emphasis will be placed on Vina CPK initiatives, stakeholders will be consulted as necessary and environmental and social initiatives are planned.

10.2 Study for Verifying the Implementation Status of Involuntary Land Acquisition

Vina CPK has already acquired the site for the Project, and former landowners targeted for land acquisition have already received compensation and help rebuilding their livelihoods. Project Site was legally owned by 65 households (not including land owned by the Thien Ke and Trung My PC), and those households have already received compensation and support for restructuring their livelihoods. Thus, there are no residents subject to resettlement.

Since there are no residents subject to resettlement, this study mainly focused on land acquisition, compensation and livelihood restructuring measures for the Project and examined and reported the process and sequence of past land acquisition, specifically the degree to which "JICA Policy for Resettlement" was observed in terms of methods of discussing resettlement with residents, etc. The "World Bank Involuntary Resettlement Source Book Planning and Implementation in Development Projects", and "Resettlement Plan" from the "World Bank Safeguard Policy, OP4.12, Annex A" were used as references throughout the study.

10.2.1 Results of Study for Verifying the Implementation Status of Involuntary Land Acquisition

The following is an overview of the results of the study for verifying the implementation status of involuntary land acquisition for the Project.

(1) Scale of Land Acquisition and Resettlement

The policy for land acquisition and resettlement across the entire industrial park was to build residences for the relocation of all occupants (including landowners, non-permanent occupants, lessees, merchants and store employees) of Project Site on land in the same area in accordance with laws and regulations so that the occupants could promptly achieve stability in their lives following land acquisition and resettlement.

In order to avoid and minimize resettlement in the course of developing industrial parks, residents participate in the consideration of development plans from the initial design stage and consent to the resulting initial design proposal. Thus, there is no submission of alternative initial design plans. "Participation by residents from the initial stage" is thought to be a way to ensure that development plans reflect residents' wishes and minimize resettlement to the extent possible.

Across the entire industrial park, 41 households were subject to resettlement. However, there are no houses within the Project Site; thus, there were no residents and no resettlement. Below are the results of a population census and surveys of assets and land, and of household finances and livelihoods.

People who lost their means of livelihood have already been compensated under Decision No. 18/2011 QD-UBND dated April 20, 2011 on "Compensation, Support and Resettlement when Land is Recovered in Vinh Phuc Province", and no grievances have been reported.

Note that the amount of compensation includes compensation for career changes and job seeking as well as that for assets, and that priority employment at IPs within the Province is promised to the resettled residents.

< Results of Population Census in Project Site >

Table 10-24: Population Census in Project Site (Number of People Impacted)

Type of loss		**Legal**	**Illegal**	**Total**
Required for displacement				
1	HH (Structure owner on Gov. land)	0	0	0
2	HH (Structure on Private land)	0	0	0
3	HH (Tenants)	0	0	0
4	CBEs (Structure owner Gov. land)	0	0	0
5	CBEs (Structure owner on Private land)	0	0	0
6	CBEs (Tenants)	0	0	0
7	Community owned structures including physical cultural resources	0	0	0
Not required for displacement				
8	Land owners	65	0	65
9	Wage earners	0	0	0
Grand Total (1-9)		65	0	65

HH: House Hold, CBEs: Commercial and Business Enterprises

In this study the number of landowners (not the number of households) was compiled.

< Survey of Assets and Land >

・Land

Table 10-25: Land Use

No.	Original Use	Project Site	
		(ha)	(%)
1	Legal residential	0	0
2	Agricultural	2.5414	6.61
3	Rice field	4.2087	10.95
4	Forest	19.7006	51.26
5	People's Committee-owned land	11.9835	31.18
	Agricultural	0.05485	
	Rice field	0.05458	
	Forest	7.29923	
	Graveyard	0.48441	
	Road	3.75798	
	Irrigation	0.13 s 5	
	Abandoned land	0.19903	
6	Other (vacant land, riverbank)	0	0
	Total	38.4342*	100.00

*The existing cadastral dossier does not include measurements of the area of land targeted only for rental factories, thus the total includes the total land area of rental factory spaces that overlap the borders of surrounding areas and the rest of Ba Thien 2 Industrial Park.

Note: The buildings below are included among buildings included on land subject to acquisition.

Table 10-26: Buildings on Land Subject to Acquisition

I	41 common dwellings	Mainly one-story, brick houses (IV level type) built in agricultural villages, but also includes dairy farm buildings and houses built atop scaffolding.
	Military barracks	Two-story houses (400m^2), three IV level type houses (total area 200m^2) and Regiment 66 military barracks have already been relocated to 4,505ha of land acquired in the Gia Khanh region.
Project Site	Four graveyards	Although the Thien Ke PC owned graveyards at the southeastern corner of the Project Site, these have already been relocated (Space numbers 4754, 4838, 4840 and 4841).

・Building types

Table 10-27: Building Types

No.	Building Type	Industrial Park		Project Site		
		Number	Area (m^2)	Number	Number of Occupants	Area (m^2)
1	Temporary housing	6	180	0	0	0
2.	Housing (one-story, fiber-reinforced cement roof material)	137	5,200	0	0	0
3.	Housing (one-story, concrete)	2	135	0	0	0
4.	Housing (two-story)	2	360	0	0	0
5.	Housing (built atop scaffolding)	1	90	0	0	0
6.	Water tanks	3	50	0	0	0
7.	Pump station (water)	1	12	0	0	0
8.	35-kW power lines	3.2km	－	0	0	0
9.	Wastewater channel	1.65km	－	0	0	0
10.	Graves	60	－	4	0	4,844.1

(Source: Vina CPK Co Ltd, demonstration of construction investment and infrastructure business project Industry Park Ba Thien II.)

・Crops, Fruit, Livestock, Fish

According to the study results, Vina CPK has appropriately compensated for crops, fruit, livestock, fish, etc.; however, no data exists for the time of the census. As of now, no grievances on this matter have been reported.

Table 10-28: Survey of Household Finances and Livelihoods

Standard attributes of households receiving compensation	・The 65 households subject to land acquisition were mainly agricultural households. They were neither wealthy nor poor, earning incomes at a level similar to those who have received advanced education. Compensation and educational opportunities provided to them are expected to improve their standard of living.
Household structure	・No households are subject to resettlement. Thus, household structure was not studied.
Income earned from official and unofficial economic activity	・Some residents had other sources of income such as agricultural land other than that acquired, or roadside shops. ・The land use system is explicit, and there were no shared natural resources or common land on which residents lived or earned a living.
Unofficial resident organizations	・As Vietnam is a socialist republic, PC serve as administrative organizations. There is no involvement by NGO or other organizations, nor is there activity by traditional ritual groups, etc.
Basic information and manufacturing system for livelihoods in surrounding regions	・Gross production for the Binh Xuyen District has grown an average of 25% per year in recent years, from 225 billion VND in 1998 to 4,232 billion VND in 2010. Industry as a percentage of the economy has increased from 18% to 84%, and agriculture has decreased to 9%. Only 9% of households are in poverty, and none are starving. Investment in infrastructure development has been appropriate and effective. Each year, 35–40% of the district budget is allocated to infrastructure development and improvement. The district is moving ahead with a welfare program (electricity, schools, high-rise buildings) and activities related to social development and improving the quality of life are moving forward smoothly in all its communes. <Agriculture> Agricultural production in Binh Xuyen District has developed on all fronts in the past several years. PC and the government have interest in and are leading efforts to apply science and technology to the production and changes in the composition of crops and livestock. Livestock breeding is gradually improving in establishing a partial or full management system. The total area of aquaculture reached 8,332ha in 2010, and the annual yield of harvested and wild-caught seafood is 1,225.4 tons. The average annual income across the livestock and marine product industries has reached 100 million VND. The structure of the rural economy is trending in a positive, promising direction. The amount of agricultural land has decreased due to disasters, epidemics, inflation and industrial development. PC and the government proactively changed the economic structure by forming concentrated industrial zones for products as well as highly competitive and economically valuable agricultural zones bordering urban areas. These changes have allowed the area to provide a sufficient volume of food products, and agricultural production in Binh Xuyen District is growing 5% each year. Residents' lives are improving day by day; 99% of rural households have access to electricity and 80% have access to audio-visual media. Thirty-five percent of rural households own a motor scooter. Cottage-like houses with roofs made of leaves have disappeared. The poverty rate declined to 9.01% in 2010. Rural roads have been paved; welfare facilities, cultural facilities and farmer's markets have been built; and the government, public security and social order are stable. <Industry> Binh Xuyen District is bordered by National Route 2 and the international railway, and connects the industrial hubs of Vinh Phuc Province, the cities of Phuc Yen and Vinh Yen. The district promises various business opportunities as it develops economically, particularly the construction of industrial parks and the acceleration of their expansion.

	Currently there are four industrial parks, two industrial clusters and a craft village industry in Binh Xuyen Province. One hundred forty-five Vietnamese and non-Vietnamese companies are registered to do business there, an increase of 29 companies since 2010. Sixty-two of those companies are operating with capital of 430 billion VND. Most registered companies hold the district's investment attraction policies in high regard. Nearly all the companies are effectively operated, consistently employ workers from the district and provide a stable source of income for the district. The district's economy has grown tremendously in recent years, and emphasis has rapidly shifted to industry. Total industrial production reached 2,180 billion VND in the first half of 2008, a year-over-year increase of 71.2%. Main products include ceramic tiles (Prime Group), steel pipes (Vietnam Germany Steel Pipe), motorcycle parts, electronics assembly and livestock feed.
Social and cultural attributes of surrounding regions	1. Service There is room in communes for continuous expansion and development, and 420 households are providing services as they manufacture. Small-scale retailers are expanding, and the main products are basic supplies for manufacturing and construction activities, and daily necessities for residents. Over 1,000 traveling laborers from inside and outside the province earn high incomes. The Project is expected not to interrupt but rather to enhance social services. 2. Education Both the material foundation and the quality of education are being emphasized. The total number of students fell to 2,986 in the 2009-2010 school year, 146 fewer than the previous year. A fund was established to maintain and develop the activities of a training promotion committee to encourage members to participate proactively in committee activities. The Number 8 Central Resolution 2, Vinh Phuc Province No. 14 Party Resolution, Binh Xuyen Party PC Scheme No. 2 concerning education and growth activities from 2005-2010 was implemented throughout the 2009-2010 school year. Intellectual and cognitive levels are good or better for 89.7% of children, and normal for 10.3%. Preschool education has achieved planned objectives, and the attendance rate is high. However, the nursery school attendance rate is relatively low compared to the number of children in the equivalent age bracket. The elementary school has 25 classes and 505 students, both of which are 100% of the objectives. There are 69 fewer students than in the 2009-2010 school year (appropriate family planning by residents is the cause of the decrease). The attendance rate is 100%. The junior high school has 18 classes, and the number of students decreased by 22 compared to the 2009-2010 school year. The attendance rate is 100%. 3. Matters related to medicine, health, population, family, elderly care and children In 2010, 19,390 people were examined, an increase of 4%. One hundred seventy-nine people were admitted to the hospital, 99.4% of the total from the previous year, and 17,211 qualified for outpatient care. Preventive care, state medicine and immunization of youths is being administered properly, and various epidemics have been prevented, initial responses to residents with troubles with examinations, treatment and health made and elderly care administered without delay. Examinations were given to 3,303 children, which is 50% of the objective. Children were administered immunizations for various diseases. The number of children was 483, 100% of the objective for children in the equivalent age bracket. In addition, health clinics hosted specialized training for specialized staff members and training on preventing the spread of communicable diseases. 4. Culture and sports Cultural committees at the commune level provided inter-commune entertainment activities, and activities in the spring time. The district hosted cultural and sporting events, and advertised effectively to bring all residents together to build a new cultural network in the area. The district also carried out the content of Central Directive 27/TW and Vinh Phuc

	Province Party PC Directive No. 03 regarding ceremonial functions. The district is managing the historical heritage in Quang Cai Village. The 18 village speaker system is being used to disseminate party and government guidance and policy, and a democratic system between communes and citizens has been implemented.

(2) Laws and Regulations Applied to Past Land Acquisition and R¥esettlement

Below are the Laws and Regulations Applied to land Acquisition for the Project.

Laws related to land acquisition

- Land Law 2003 (No. 13/2003/QH11)
- Decree No. 181/2004/ND-CP of October 29, 2004 on the "2003 Implementation of Land Law"
- Decree No. 197/2004/ND-CP of December 3, 2004 on "Compensation, Support and Resettlement when Land is Recovered by the State"
- Decision No. 18/2011/QD-UBND dated April 20, 2011 on "Compensation, Support and Resettlement when Land is Recovered in Vinh Phuc Province"
- Decision No. 36/2012/QD-UBND dated October 23, 2012 on "Supplements and Revisions to Decision No. 18/2011/QD-UBND"
- Decision No. 55/2012/QD-UBND dated December 28, 2012 on "2013 Decisions Regarding Land Value in Vinh Phuc Province"

Note that the following regulations will be applied for future land acquisition for Ba Thien 2 Industrial Park.

- Land Law 2013 (No. 45/2013/QH13)
- Decree No. 47/2014/ND-CP of May 15, 2014 on "Compensation, Support, Resettlement and Land Acquisition"
- Circular No. 37/2014/TT-BTNMT of June 30, 2014 on "MONRE Detailing Compensation, Support, Resettlement and Land Acquisition"
- Decision No. 35/2014/QD-UBND dated August 15, 2014 on "Compensation, Support, Resettlement and Land Acquisition in Vinh Phuc Province"

Landholding system

The landholding system in Vietnam is defined in Chapter 1 of Land Law 2003. Under this law, land belongs to all citizens, and the government manages land as a representative of its owners. The government distributes land use rights to citizens in accordance with the provisions of this law. Note Land Law No. 45/2013/QH13 was established in 2013 and went into effect on January 1, 2014.

Procedures related to land acquisition, and methods for calculating asset and compensation costs, etc.

Decision No. 18/2011/QD-UBND dated April 20, 2011 on "Compensation, Support and Resettlement when Land is Recovered in Vinh Phuc Province" defines procedures related to land acquisition, and methods for calculating asset and compensation costs, etc. Below is the main content from this decision that relates to the Project.

Timing of determining compensation rate

Article 9, Paragraph 1

- Compensation amounts are determined according to unit prices for each type of land use issued by Provincial PC on January 1 each year.
- When unit prices for each type of land use at the time of compensation exceed unit prices when the written decision concerning land recovery was issued, compensation amounts will be paid based on unit prices for each type of land use at the time of compensation. When unit prices for each type of land use at the time of compensation are less than unit prices when the written decision concerning land recovery was issued, compensation amounts will be paid based on unit prices when the written decision concerning land recovery was issued.
- When compensation has been delayed at the convenience of people whose land is subject to recovery, and unit prices for each type of land use at the time of compensation are less than unit prices when the written decision concerning land recovery was issued, compensation amounts will be paid based on unit prices for each type of land use at the time of compensation. When unit prices for each type of land use at the time of compensation exceed unit prices when the written decision concerning land recovery was issued, compensation amounts will be paid based on unit prices when the written decision concerning land recovery was issued

Policy for property compensation

Article 17, Paragraphs 1-7

- Owners of real property subject to land recovery will be compensated.
- When owners of real property subject to land recovery are deemed ineligible for compensation, compensation or the provision of support will be considered on a case-by-case basis.
- Houses and other structures built after publication of land use plans without approval by regulating authorities are not eligible for compensation.
- Houses and other structures built after July 1, 2004 in violation of land use set forth in land use plans at the time of construction are not eligible for compensation.
- Structures built after the written decision concerning land recovery was issued are not eligible for compensation.
- Compensation for machinery and manufacturing chains that can be dismantled or relocated are eligible for compensation only for the cost of their dismantling, relocation and reassembly.
- Damage suffered in safety zones will be compensated depending on according to the conditions of the region.

Compensation for relocation of graves

Article 19

- Compensation for the relocation of graves will be provided for a reasonable amount of land, excavation, exhumation, relocation, rebuilding and other related expenses. Compensation rate are set forth in Table 3 of this decision.

Compensation for trees and livestock

Article 20

- Compensation and support for annual crops is based on the yieldability of harvests. The yieldability of harvests is derived from the average price at the time of land recovery of the maximum yieldability of main crops over the past three years.
- Compensation for perennial crops is the value of the perennial crops (excluding the value of the land) at the time of land recovery and is based on Table 2B of this decision.
  - Fruit trees and timber: Estimate based on density per hectare
  - Crops planted prior to the land recovery decision: Maximum of 50% of crop prices
  - Crops planted after the land recovery decision: Not eligible for compensation
  - Saplings: Cost of relocation
  - Break crops: Based on actual conditions

- Compensation for trees planted from the government budget and natural forests will be provided at an amount equivalent to the damage. Compensation amounts will be distributed amongst relevant personnel (managers, forestry employees, etc.) based on the Forest Development and Protection Law.
- Agricultural crops, livestock and marine products whose harvest seasons come prior to the land recovery are not eligible for compensation.
- Compensation for actual losses resulting from early harvesting will be provided for agricultural crops, livestock and marine products whose harvest seasons come after the land recovery. For items that can be relocated, compensation will be provided for the cost of relocation and damage caused by relocation.

Compensation for suspension of work

Article 22

- Compensation for suspension of work is defined in Article 26 of Decree No. 197/2004/ND-CP of December 3, 2004 on "Compensation, Support and Resettlement when Land is Recovered by the State". The following is an overview of Article 26.
  - When organizations and households that employ laborers under employment contracts must suspend manufacturing or operations due to land recovery, an agreed-upon allowance greater than the minimum wage will be paid to employers and employees in accordance with Article 62, Paragraph 3 of the Labor Law of 1994. Laborers who have concluded indefinite employment contracts or employment contracts lasting 12 to 36 months have the right to be compensated as set forth in Items a and b of Article 27, Paragraph 1 of the Labor Law of 1994. The compensation period is the work suspension period, up to a maximum of six months.

The Project will not cause the suspension of work by laborers under employment contracts.

Resettlement support

The Project will not cause any resettlement, thus resettlement support will not be implemented. However, Articles 23 and 24 of this decision will be applied to resettlement caused across Ba Thien 2 Industrial Park as a whole.

Restructuring livelihoods

Article 25

- The following people are eligible beneficiaries of support for restructuring livelihoods.
  - Households and individuals to whom agricultural land was distributed under the conditions set forth in 64/CP dated September 27, 1993, 02/CP dated January 15, 1994, 85/1999/ND-CP dated August 28, 1999, 163/1999/ND-CP dated November 16, 1999 and 181/2004/ND-CP dated October 29, 2004.
  - Agricultural employees of households to whom land was distributed under the aforementioned system who have taken over land due to relocation, inheritance, donation, etc. and are deemed by PC to be engaged in agricultural work on that agricultural land.
  - Households and individuals who fulfill the aforementioned agricultural land distribution conditions but to whom agricultural land has not been distributed, and those who are engaged in agricultural work on agricultural land acquired through inheritance or donation.
- Support for restructuring livelihoods is as follows.
  - Land for agricultural production or aquaculture: 15,000 VND/m^2
    The area of land eligible for support is the maximum area defined in 64/CP dated September 27, 1993, 85/1999/ND-CP dated August 28, 1999, 163/1999/ND-CP dated November 16, 1999 and 181/2004/ND-CP dated October 29, 2004.
  - Land for afforestation: 1,500 VND/m^2
    The maximum area of land eligible for support is 30 hectares (defined in Land Law 2003, Article 70, Paragraph 3).
- Organizations, households and individuals who must suspend production or operations due to land recovery: 20% of average annual post-tax income over the past three years.
- Households and individuals who, prior to becoming SLLC, leased land owned by the government

and used it for agricultural, forestry or aquaculture purposes and people employed by those households and individuals; and people whose main source of income is agricultural work or forestry work will receive support as follows.

- Annual crops with lease contract of three or more years: 30% of rent for land
- Perennial crops or forestry work with lease contract of three or more years: 20% of rent for land
- Annual or perennial crops, or forestry work with lease contract of less than three years: 10% of rent for land
- The area of land eligible for support is the maximum area defined in 64/CP dated September 27, 1993, 85/1999ND-CP dated August 28, 1999, 163/1999/ND-CP dated November 16, 1999 and 181/2004/ND-CP dated October 29, 2004.

Note that the percentages in this paragraph were revised to a uniform 30% in Decision No. 36/2012/QD-UBND dated October 23, 2012 on "Supplements and Revisions to Decision No. 18/2011/QD-UBND".

Support for career changes, training and job seeking

Article 27

- Eligible beneficiaries as defined in Article 25 who are also eligible for financial assistance for career changes or job seeking will receive support of double the value of the agricultural land or forest land acquired, over a maximum area defined in 64/CP dated September 27, 1993, 85/1999ND-CP dated August 28, 1999, 163/1999/ND-CP dated November 16, 1999 and 181/2004/ND-CP dated October 29, 2004.

Other support

Article 28

- Households and individuals who hand over their land within the allotted time period will receive the following bonuses for the early recovery of their land:
  - Annual or perennial crops, aquaculture or forest land allotted for 50 years: 2,000 VND/m^2
  - Forest land or land on which perennial crops are grown, which is managed by the government and worked on by individuals: 1,000 VND/m^2
  - Residential land: 20,000 VND/m^2
  - Handover due to resettlement: 2,000,000 VND/household
- Households eligible for social support measures or preferential treatment will receive support as follows:
  - Revolutionary activists prior to 1945, heroes of the People's Army, family of war dead, wounded soldiers, people regarded as wounded soldiers or disabled soldiers who have lost 81% of working capacity, etc.: 7,000,000 VND/head of household
  - Wounded soldiers, disabled soldiers, people regarded as wounded soldiers, and disabled soldiers who have lost 61% to 81% of working capacity: 6,000,000 VND/head of household
  - Wounded soldiers, disabled soldiers, people regarded as wounded soldiers, and disabled soldiers who have lost 41% to 61% of working capacity: 5,000,000 VND/head of household
  - Families of war dead, eligible beneficiaries of monthly subsidiary aid for their achievements in the revolution, and disabled soldiers who have lost 21% to 41% of working capacity: 4,000,000 VND/head of household
  - Other households receiving subsidiary aid from the government: 3,000,000 VND/head of household

  If multiple people in a single household are eligible for the aforementioned support, the only type of support applied will be the support worth the highest value.
- Under Decision No. 36/2012/QD-UBND dated October 23, 2012 on "Supplements and Revisions to Decision No. 18/2011/QD-UBND", people who hand over their agricultural land within 20 days of receiving compensation money, and people who hand over their residential land within 60 days of receiving compensation money are eligible for an early handover bonus determined for each project by decision of Provincial PC.

Below is analysis of the differences between JICA guidelines for resettlement and the Vietnamese legal system based on the results of this study. Items for which no differences exist are those where the resettlement guidelines for the Project were confirmed to comply with the Vietnamese legal system. Items for which differences do exist are those where the resettlement guidelines for the Project were confirmed to be in line with JICA resettlement policies.

Table 10-29: JICA Guidelines for Resettlement and the Vietnamese Legal System

	JICA Guidelines	Vietnamese Legal System	Difference between Guidelines and Legal System	Project Land Acquisition and Resettlement Policy	Evaluation of Project Resettlement Policy
1	Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives. (JICA GL)	Land recovery rights for building industrial zones are granted by the government, and when such recovery involves resettlement, new land will be distributed, and financial compensation and support for career changes provided in accordance with Land Law 2003, Article 42, Decree No. 197/2004/ND-CP, Decree No. 84/2007/ND-CP and Circular No. 14/2009/TT-BTNMT. (Land Law 2003, Articles 38 and 40)	Land acquisition rights are granted by the government, and there are no provisions for an alternative plan or requiring avoidance of resulting resettlement.	・The 41 households subject to resettlement have already agreed to the details of their compensation. Alternative plans have not been considered. However all eligible households agreed to the compensation, and measures including preferential hiring in the industrial park have been taken.	All eligible households agreed to the compensation subject to land acquisition. Actions has been taken to secure future means of livelihood by preferential treatment in employment at industrial parks. Given that land acquisition and compensation has been agreed, it deems unnecessary for further measures.
2	When population displacement is unavoidable, effective measures to minimize impact and to compensate for losses should be taken. (JICA GL)	(Copied) When resettlement is involved, new land will be distributed, and financial compensation and support for career changes provided in accordance with Land Law 2003, Article 42, Decree No. 197/2004/ND-CP, Decree No. 84/2007/ND-CP and Circular No. 14/2009/TT-BTNMT. *(Land Law 2003, Articles 38 and 40)*	None (Land acquisition rights are granted by the government, and there are no provisions requiring avoidance of resulting resettlement. However, there are laws and regulations that aim to minimize the impact of land acquisition through measures such as granting equivalent land as the land acquired and providing financial compensation.)	Residents subject to resettlement are granted new housing in the area to which they resettle, and compensation for any lost assets (land, trees, livestock, etc.) determined upon deliberation with the residents, and will be given necessary support for a career change or employment. (Although residents subject to resettlement have already agreed on the areas to which they will resettle, the infrastructure construction at the resettlement site is behind schedule, and resettlement has been delayed as of September 2014.)	There are no resident subject for resettlement on this project site. Land acquisition and compensation amount has been agreed and completed as of September 8th, 2014. Given there are no resident subject for resettlement, it deems unnecessary for further measures.
3	People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels. (JICA GL)	The land to which residents will resettle must be as developed as or more developed than the land being acquired. If land to which residents will resettle cannot be prepared, financial compensation must be provided and residents must be granted preferential rights to purchase housing or residences. When the value of land granted as compensation is less than the land being acquired, the difference must be provided as financial compensation. Note that if the land to be acquired is used by residents for manufacturing activities, and they are not granted land at the place to which they will resettle with which to continue those activities, those residents may receive support for stabilizing their livelihoods in the form of preparing new jobs or training for changing careers, in addition to financial compensation. *(Land Law 2003, Article 42)*	None	・The land for resettlement will be provided after infrastructure construction. Therefore, the land for resettlement is believed to worth more than the acquired land. (In fact, resident subject to resettlement are wishing to move early to the land of resettlement.) ・For residents subject for compensation, a compensation amount calculated based on unit prices set by provincial PC as well as support for career changes and job seeking and early handover bonuses in amounts set by provincial PC have been paid for both land as well as crops and trees lost to the acquisition. ・Those eligible for compensation have been promised preferential hiring at industrial parks throughout Vin Phuc Province.	As above
4	Compensation must be based on the full replacement cost as much as possible. (JICA GL)	Same as above	If full replacement cannot be compensated, compensation for reacquisition may possibly be uncovered.	Same as above	If financial guarantees are given, it is required to confirm that the compensation accounts for the cost of reacquisition. The amount of compensation for this project must be calculated based on the compensation rate defined by

	JICA Guidelines	Vietnamese Legal System	Difference between Guidelines and Legal System	Project Land Acquisition and Resettlement Policy	Evaluation of Project Resettlement Policy
					the Vinh Phuc Province. These compensation rate has been confirmed with the local administration and real-estate, that the prices are of reasonable level for trade deals of farm lands. Given there has been no complaints concerning the amount of compensation, it deems unnecessary for further measures.
5	Compensation and other kinds of assistance must be provided prior to displacement. (JICA GL)	Compensation in the form of land of equal value to the land to be acquired or money equal to use fees and lease fees for that land must be provided prior to recovery to people impacted by resettlement or loss of means of livelihood. *(Land Law of 2003, Article 42)*	None	Same as above	Given that compensation subject to land acquisition for this project has already been paid, it deems unnecessary for further correspondence.
6	For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. (JICA GL)	Plans for compensation, support and resettlement due to land recovery are considered part of investment projects, and investors must cooperate with the Compensation and Land Acquisition Committee to create those plans, which must be approved by government organizations or PC. *(Circular No. 14/2009/TT-BTNMT, Article 20)* Organizations ordered by provincial PC to implement resettlement must inform all households subject to land recovery of the contents of provisional resettlement plans and officially announce and publicly discuss those contents with commune PC. *(Decree No. 197/2004/ND-CP, Article 34)*	Provisional resettlement plans must be created and publicized regardless of the scale of the resettlement.	・The Compensation and Land Acquisition Committee created phased compensation plans and publicized them throughout the target area. ・Upon deliberation with the eligible residents, Vina CPK will proceed with land acquisition and resettlement of residents based on the Vietnamese law.	Given there are no resident subject for resettlement on this project, and that the publicized compensation plan has not received any complaints, and that land acquisition and compensation has been agreed and completed as of September 8th, 2014, it deems unnecessary for further measures
7	In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. (JICA GL)	Organizations ordered by provincial PC to implement resettlement must inform all households subject to land recovery of the contents of provisional resettlement plans and officially announce and publicly discuss those contents with commune PC. *(Decree No. 197/2004/ND-CP, Article 34)*	None	Same as above	Same as above
8	When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people. (JICA GL)	Organizations ordered by provincial PC to implement resettlement must inform all households subject to land recovery of the contents of provisional resettlement plans and officially announce and publicly discuss those contents with commune PC. (Decree No. 197/2004/ND-CP, Article 34)	There are no provisions related to language.	・Sufficient information was publicized in advance of resettlement, and discussions based on this information were held with afflicted people and communities. Even though the language used in these discussions was the local language, there were no problems. ・Discussions are held in Vietnamese, the official language that people impacted by the Project understand, and explanations are made in Vietnamese.	Given that the discussions are held in Vietnamese, which is the official language of the area, it deems unnecessary for further measures.
9	Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans. (JICA GL)	Organizations ordered by provincial PC to implement resettlement must inform all households subject to land recovery of the contents of provisional resettlement plans and officially announce and publicly discuss those contents with commune PC. (Decree No. 197/2004/ND-CP, Article 34) Grievances from residents after resettlement has been implemented must be handled in accordance with Land Law 2003, Article 138 and	Publication and discussion of the contents of provisional resettlement plans are required. However, there are no provisions encouraging the participation of residents in the implementation or monitoring of the plans.	・The location to which residents will resettle was determined after studying and holding discussions about the resettlement desires of residents subject to resettlement. ・Residents subject to resettlement were surveyed before selecting the location to which they will resettle. ・Based on the results of the survey, a	Given there are no resident subject for resettlement on this project, and that land acquisition and compensation has been agreed and completed as of September 8th, 2014, it deems unnecessary for further

	JICA Guidelines	Vietnamese Legal System	Difference between Guidelines and Legal System	Project Land Acquisition and Resettlement Policy	Evaluation of Project Resettlement Policy
		Decree No. 181/2004/ND-CP, Articles 162-164. (Decree No. 197/2004/ND-CP, Article 49)		location three kilometers away from the land to be acquired was selected as the place to which residents will resettle (currently in the same province, district and commune). ・After resettlement, PC at the location of resettlement will manage and take responsibility of conducting the monitoring.	measures
10	Appropriate and accessible grievance mechanisms must be established for the affected people and their communities. (JICA GL)	Grievances from residents after resettlement has been implemented must be handled in accordance with Land Law 2003, Article 138 and Decree No. 181/2004/ND-CP, Articles 162-164. (Decree No. 197/2004/ND-CP, Article 49) The same law allows relevant entities to submit grievances to the People's Committee within 30 days of the announcement of the decision to acquire land. The People's Committee must decide how to handle the grievance and report its decision to the aggrieved party and publicize it. If dissatisfied with the committee's decision, the aggrieved party may file suit with the People's Court or submit the grievance to the provincial People's Committee within 45 days. (Decree No. 181/2004/ND-CP, Articles 162-164)	None	・The Binh Xuyen People's Committee and Vina CPK (the project manager) will cooperate and appropriately handle any dissatisfaction or requests submitted after resettlement. (according to an interview with Vina CPK on March 5, 2014)	Same as above
11	Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits. (WB OP4.12 Para.6)	DONRE or a land-use rights registry office designated by DONRE must use investment project approval documents prepared by provinces or District PC or land recovery guidelines to create a cadastral dossier for the target land to be acquired, and must send that dossier to the organizations that acquire the land and provide compensation. The cadastral dossier will include the names of those with use rights, sizes of the land, uses of the land, etc. (Decree No. 84/2007/ND-CP, Article 50)	After the investment project is approved, DONRE or a land-use rights registry office designated by DONRE creates a cadastral dossier for the target land to be acquired.	・Compensation was provided in accordance with the registered cadastral dossier. (according to an interview with Vina CPK on March 5, 2014)	Given there has been no complaints on compensation, and the amount of compensation has been agreed and completed as of September 8th, 2014, it deems unnecessary for further measures.
12	Eligibility of benefits includes, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying. (WB OP4.12 Para.15)	People from whom land is acquired by the government may receive compensation if they fulfill all conditions set forth in Article 8 of Decree No. 197/2004/ND-CP. People unable to satisfy all conditions must be granted support after examination by provincial PC. (Decree No. 197/2004/ND-CP, Article 6) People with certificates granting land-use rights under Article 42 of Land Law 2003 for land targeted for recovery, and people who satisfy the conditions for certification under Article 50 of the same law are eligible for compensation, except in the following cases. ・Organizations allotted land-use rights at no charge ・Organizations whose land-use rights fees were paid from the government budget ・Organizations that leased land from the government but dissolved, failed or relocated, and organizations that no longer need the land ・When the land is not being used effectively, or when the land is being used improperly ・When the user has intentionally destroyed the land ・When the land was allotted erroneously ・When the land is being used illegally ・When the entity holding use rights voluntarily returns the land ・When the entity holding use rights is not fulfilling its obligations to	Out of those people afflicted by land acquisition, the law does not set any compensation for those that do not have proper legal Land-use rights	・Compensation is only for those with legal Land-use rights, however will provide utmost care for the others as well. (according to an interview with Vina CPK on September 17th, 2014)	Given there are no resident subject for resettlement on this project, and that land acquisition and compensation has been agreed and completed as of September 8th, 2014, it deems unnecessary for further measures.

	JICA Guidelines	Vietnamese Legal System	Difference between Guidelines and Legal System	Project Land Acquisition and Resettlement Policy	Evaluation of Project Resettlement Policy
		the government ・When the period of use rights has expired and has not been renewed ・Arable land that has not been used for a set period of time ・Land that was allotted for implementing an investment project when project implementation is delayed for a set period of time without permission from the government ・Forest land that is protected or designated for special use ・Agricultural land used by a community ・Land leased from the government (Land Law, Article 42, Paragraphs 1-3) **Supplements** Land in Vietnam is common property of Vietnamese citizens, and the right to use it is allocated or leased under government management for a fee (land-use fee) or at no charge to individuals and organizations who require it. Land users eligible for compensation must be compensated through the new allotment of land equivalent to the land targeted for acquisition. If such a new allotment cannot be made, land users eligible for compensation must be compensated through the payment of an amount of money equivalent to land use fees. Compensation and resettlement must be implemented by PC prior to land acquisition, and the areas to which residents will resettle must be equivalent to or more developed than their original residences. When areas to which residents will resettle cannot be prepared, financial compensation must be provided, and residents must be granted preferential rights to purchase housing or residences. When the value of land granted as compensation is less than the land being acquired, the difference must be provided as financial compensation. (Land Law, Article 42, Paragraphs 1-3)			
13	Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based. (WB OP4.12 Para.11)	The land to which residents will resettle must be equivalent to or more developed than their original residences. When areas to which residents will resettle cannot be prepared, financial compensation must be provided, and residents must be granted preferential rights to purchase housing or residences. When the value of land granted as compensation is less than that of the land being acquired, the difference must be provided as financial compensation. Note that if the land to be acquired is used by residents for manufacturing activities, and they are not granted land at the place to which they will resettle with which to continue those activities, those residents may receive support for stabilizing their lives in the form of preparing new jobs or training for changing careers, in addition to financial compensation. (Land Law 2003, Article 42)	None	・All households that required resettlement were agricultural employees and have been paid compensation money for career changes because they are not able to engage in agricultural work in the new location. The total compensation for rent for the land where they currently reside (the resettlement area) and for career changes is three times the rent for land. ・Companies moving into the industrial park will hire resettled people preferentially. ・Residents who received compensation money are sending their sons to vocational training schools, starting new businesses, buying new cars and saving money in banks. (according to an interview with Vina CPK on March 5, 2014)	Same as above
14	Provide support for the transition period (between displacement and livelihood restoration). (WB OP4.12 Para.6)	If the land to be acquired is used by residents for manufacturing activities, and they are not granted land at the place to which they will resettle with which to continue those activities, those residents may receive support for stabilizing their livelihoods in the form of preparing new jobs or training for changing careers, in addition to financial compensation. (Land Law 2003, Article 42)	None	・Upon deliberation with the eligible residents, Vina CPK will proceed with land acquisition and resettlement of residents based on the Vietnamese law.	Same as above

	JICA Guidelines	Vietnamese Legal System	Difference between Guidelines and Legal System	Project Land Acquisition and Resettlement Policy	Evaluation of Project Resettlement Policy
		In addition, resettlement support is provided in accordance with Decree No. 197/2004/ND-CP Articles 17-23 and Circular No. 14/2009/TT-BTNMT Articles 14-17.			
15	Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc. (WB OP4.12 Para.8)	Article 28 of Decision No. 18/2011/QD-UBND on “Compensation, Support and Resettlement when Land is Recovered in Vinh Phuc Province” defines support for households eligible for social support measures or preferential treatment.	None	・Upon deliberation with the eligible residents, Vina CPK will proceed with land acquisition and resettlement of residents based on the Vietnamese law Also, social support measures will be provided in accordance to the Vietnamese law prepared separately.	Same as above
16	For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared. (WB OP4.12 Para.25)	The provision contains nothing related to resettlement.	There are no provisions for drafting resettlement plans based on the scale of the resettlement.	Although Resettlement plans has not been drafted, Vina CPK will carefully deliberate the desires of the eligible residents and proceed with land acquisition and resettlement based on the Vietnamese law.	Same as above

(Reference): JICA Policies on Resettlement

The key principle of JICA policies on involuntary resettlement is summarized below.

I. Involuntary resettlement and loss of means of livelihood are to be avoided when feasible by exploring all viable alternatives. (非自発的住民移転及び生計手段の喪失は、あらゆる方法を検討して回避に努めねばならない。)

II. When, population displacement is unavoidable, effective measures to minimize the impact and to compensate for losses should be taken. (このような検討を経ても回避が可能でない場合には、影響を最小化し、損失を補償するために、実効性ある対策が講じられなければならない。)

III. People who must be resettled involuntarily and people whose means of livelihood will be hindered or lost must be sufficiently compensated and supported, so that they can improve or at least restore their standard of living, income opportunities and production levels to pre-project levels.(移転住民には、移転前の生活水準や収入機会、生産水準において改善又は少なくとも回復できるような補償・支援を提供する。)

IV. Compensation must be based on the full replacement cost[19] as much as possible. (補償は可能な限り再取得費用に基づかなければならない。)

V. Compensation and other kinds of assistance must be provided prior to displacement. (補償やその他の支援は、物理的移転の前に提供されなければならない。)

VI. For projects that entail large-scale involuntary resettlement, resettlement action plans must be prepared and made available to the public. It is desirable that the resettlement action plan include elements laid out in the World Bank Safeguard Policy, OP 4.12, Annex A. (大規模非自発的住民移転が発生するプロジェクトの場合には、住民移転計画が、作成、公開されていなければならない。住民移転計画には、世界銀行のセーフガードポリシーの OP4.12 Annex A に規定される内容が含まれることが望ましい。)

VII. In preparing a resettlement action plan, consultations must be held with the affected people and their communities based on sufficient information made available to them in advance. When consultations are held, explanations must be given in a form, manner, and language that are understandable to the affected people. (住民移転計画の作成に当たり、事前に十分な情報が公開された上で、これに基づく影響を受ける人々やコミュニティとの協議が行われていなければならない。協議に際しては、影響を受ける人々が理解できる言語と様式による説明が行われていなければならない。)

VIII. Appropriate participation of affected people must be promoted in planning, implementation, and monitoring of resettlement action plans. (非自発的住民移転及び生計手段の喪失にかかる対策の立案、実施、モニタリングには、影響を受ける人々やコミュニティの適切な参加が促進されていなければならない。)

IX. Appropriate and accessible grievance mechanisms must be established for the affected people and their communities. (影響を受ける人々やコミュニティからの苦情に対する処理メカニズムが整備されていなければならない。)

Above principles are complemented by World Bank OP 4.12, since it is stated in JICA Guideline that "JICA confirms that projects do not deviate significantly from the World Bank's Safeguard Policies". Additional key principle based on World Bank OP 4.12 is as follows. (また、JICA ガイドラインには、「JICA は、環境社会配慮等に関し、プロジェクトが世界銀行のセーフガードポリシーと大きな乖離がないことを確認する。」と記載されていることから、上記の原則は、世界銀行 P 4.12 によって補完される。世銀 OP 4.12 に基づき追加すべき主な原則は以下のとおりである。)

[19] Description of "replacement cost" is as follows.

Land	Agricultural Land	The pre-project or pre-displacement, whichever is higher, market value of land of equal productive potential or use located in the vicinity of the affected land, plus the cost of preparing the land to levels similar to those of the affected land, plus the cost of any registration and transfer taxes.
	Land in Urban Areas	The pre-displacement market value of land of equal size and use, with similar or improved public infrastructure facilities and services and located in the vicinity of the affected land, plus the cost of any registration and transfer taxes.
Structure	Houses and Other Structures	The market cost of the materials to build a replacement structure with an area and quality similar or better than those of the affected structure, or to repair a partially affected structure, plus the cost of transporting building materials to the construction site, plus the cost of any labor and contractors' fees, plus the cost of any registration and transfer taxes.

X. Affected people are to be identified and recorded as early as possible in order to establish their eligibility through an initial baseline survey (including population census that serves as an eligibility cut-off date, asset inventory, and socioeconomic survey), preferably at the project identification stage, to prevent a subsequent influx of encroachers of others who wish to take advance of such benefits. (被影響住民は、補償や支援の受給権を確立するため、初期ベースライン調査(人口センサス、資産・財産調査、社会経済調査を含む)を通じて特定・記録される。これは、補償や支援等の利益を求めて不当に人々が流入することを防ぐため、可能な限り事業の初期段階で行われることが望ましい。)

XI. Eligibility of Benefits include, the PAPs who have formal legal rights to land (including customary and traditional land rights recognized under law), the PAPs who don't have formal legal rights to land at the time of census but have a claim to such land or assets and the PAPs who have no recognizable legal right to the land they are occupying. (補償や支援の受給権者は、土地に対する法的権利を有するもの、土地に対する法的権利を有していないが、権利を請求すれば、当該国の法制度に基づき権利が認められるもの、占有している土地の法的権利及び請求権を確認できないものとする。)

XII. Preference should be given to land-based resettlement strategies for displaced persons whose livelihoods are land-based.(移転住民の生計が土地に根差している場合は、土地に基づく移転戦略を優先させる)

XIII. Provide support for the transition period (between displacement and livelihood restoration.(移行期間の支援を提供する)

XIV. Particular attention must be paid to the needs of the vulnerable groups among those displaced, especially those below the poverty line, landless, elderly, women and children, ethnic minorities etc. (移転住民のうち社会的な弱者、得に貧困層や土地なし住民、老人、女性、子ども、先住民族、少数民族については、特段の配慮を行う。)

XV. For projects that entail land acquisition or involuntary resettlement of fewer than 200 people, abbreviated resettlement plan is to be prepared.(200 人未満の住民移転または用地取得を伴う案件については、移転計画(要約版)を作成する。)

In addition to the above core principles on the JICA policy, it also laid emphasis on a detailed resettlement policy inclusive of all the above points; project specific resettlement plan; institutional framework for implementation; monitoring and evaluation mechanism; time schedule for implementation; and, detailed Financial Plan etc. (上記の主要原則に加え、各事業の住民移転計画、実施体制、モニタリング・評価メカニズム、スケジュール、詳細な資金計画も必要である。)

(3) Requirements for Receiving Compensation for Lost Assets and Dupport for Restructuring Livelihoods

In this process, the Binh Xuyen District People's Committee issued a written approval of the compensation plan, and within the following 10 days the Compensation and Land Acquisition Committee paid compensation money to each household and provided support for displacement of residents. The date the written approval was issued was the cutoff date; the influx of new residents past the cutoff date was prohibited. Eligible beneficiaries of compensation for lost assets and support for restructuring livelihoods were those with legal rights to land prior to the cutoff date, specifically those ownership rights and land-use rights.

Table 10-30: Requirements for Receiving Compensation for Lost Assets and Support for Restructuring Livelihoods

Type	Requirements for the Project
Compensation for lost assets	Vina CPK paid compensation money in accordance with compensation rate defined by Vinh Phuc Province. The compensation rate applied for the Project are as follows. ・ Table 2 (Trees) and Table 3 (Graveyards) from Decision No. 18/2011/QD-UBND dated April 20, 2011 on "Compensation, Support and Resettlement when Land is Recovered in Vinh Phuc Province". ・ Land values in Binh Xuyen District from Decision No. 55/2012/QD-UBND dated December 28, 2012 on "2013 Decisions Regarding Land Value in Vinh Phuc Province". ・Compensation was provided in phases, and by April 2014 at least 13 written approvals of compensation plans were issued. The specific cutoff dates for each are as shown below. The compensation amounts for land acquired for the Project have been approved by the following written decisions from the Binh Xuyen District People's Committee. □ 4215/QD-UBND dated December 24, 2010 on "Approval of Compensation Plan for Thien Ke and Trung My Communes" □ 4518/QD-UBND dated December 30, 2010 on "Approval of Compensation Plan for Thien Ke Commune" □ 2647/QD-UBND dated May 10, 2011 on "Approval of Compensation Plan for Thien Ke Commune" □ 2995/QD-UBND dated May 30, 2011 on "Approval of Compensation Plan for Thien Ke, Ba Hien and Trung My Communes" □ Decision No. 3282/QD-UBND dated June 17, 2011 on "Approval of Compensation Plan for Thien Ke and Trung My Communes" □ 4533/QD-UBND dated September 1, 2011 on "Approval of Compensation Plan for Thien Ke and Ba Hien Communes" □ 1985/QD-UBND dated May 24, 2012 on "Approval of Compensation Plan for Thien Ke Commune (Ngu Ho Village)" □ 3761/QD-UBND dated September 21, 2012 on "Approval of Compensation Plan for Thien Ke Commune (Ngu Ho Village)" □ 4171/QD-UBND dated November 15, 2012 on "Approval of Compensation Plan for Thien Ke, Ba Hien and Trung My Communes" □ 4480/QD-UBND dated December 21, 2012 on "Approval of Compensation Plan for Thien Ke Commune" □ 1172/QD-UBND dated April 10, 2013 on "Approval of Compensation Plan for Thien Ke, Ba Hien and Trung My Communes" □ 2400/QD-UBND dated July 19, 2013 on "Approval of Compensation Plan for Thien Ke Commune" □ 1024/QD-UBND dated April 22, 2014 on "Approval of Compensation Plan for Thien Ke Commune"
Requirements for receiving support for rebuilding livelihoods	・People subject to land acquisition will be hired preferentially at industrial parks throughout Vinh Phuc Province. ・People engaged in agricultural work on land to be acquired and who have ownership rights or land-use rights for that land are eligible to receive support for rebuilding livelihoods. The following compensation money has been paid for the Project. →Vocational training: Land value x 2 →Livelihood rebuilding: Average 15,000 VND/m^2 ・The cutoff date is the day on which the written approval of compensation plans for lost assets is issued.

(4) Actual Compensation for Lost Assets

Compensation for lost assets was calculated based on compensation rate issued by Vinh Phuc Province on January 1 each year. These compensation rate has been confirmed with the local administration and real-estate agency, that the prices are of reasonable level for trade deals of farm lands. Given there has been no complaints on the compensation, it appears that the compensation was accounted for reacquisition based on actual transactions and replacement cost.

Compensation rate used as references in the Project were set by law in accordance with the following written decisions:

Decision No. 55/2012/QD-UBND dated December 28, 2012 (2013 Land Values in Binh Xuyen District)

Decision No. 18/2011/QD-UBND dated April 20, 2011 (2013 Compensation Rate for Trees in Binh Xuyen District)

Land values for 2014 (Decision No. 42/2013/QD-UBND) were announced on December 31, 2013; however, these are currently subject to revision, and land values from the previous year is used to determine compensation rate. If land values for 2014 exceed those for 2013, additional measures required to accurately reflect the price of reacquiring lost assets, such as providing additional compensation to serve as a financial adjustment, can be undertaken at a later date.

Compensation money has been paid in accordance with provincial regulations for land acquisition and the relocation of graves. The Binh Xuyen District People's Committee established the Compensation and Land Acquisition Committee to handle payment of compensation money. Project manager Vina CPK pays all compensation costs.

As of September 2014, compensation for lost assets on Project Site for rental factories is complete.

(5) Actual Support for Rebuilding Livelihoods

Based on the findings of needs for a livelihood reestablishment measures, measures to help beneficiaries to improve or at least restore their household finances and standard of living prior to the resettlement has been implemented. The result indicates that the standard of living for residents has improved since their land was acquired. One example of measures for rebuilding livelihoods is measures taken to provide financial support for vocational training and preferential hiring in industrial parks throughout Vinh Phuc Province for residents who engaged in agricultural work prior to land acquisition but became unable to do so after the acquisition.

1) Measures for Restructuring Livelihoods

・People who made livelihoods from land targeted for acquisition received compensation money to cover the expense of vocational training and have been promised preferential hiring at industrial parks throughout Vinh Phuc Province.

・Although the Vietnamese legal system normally calls for compensation of equivalent land to substitute for land targeted for acquisition, there were not enough equivalent land in the region desired by eligible beneficiaries for the Project, and eligible beneficiaries preferred to receive financial compensation. Thus, compensation amounts were calculated based on the compensation

rate annually set by Vinh Phuc Province for each district according to the land use, and were paid to eligible beneficiaries.

・The total compensation amount for land and vocational training reached the equivalent of around three times the compensation rate of each land use.

Below is a detailed entitlement matrix based on the information above.

Table 10-31: Entitlement Matrix

No.	Type of Loss	Eligible Beneficiaries	Compensation Details	Standards and Guidelines	Responsible Organization
1.	Graves	Owners	Land, excavation, exhumation, relocation, restructuring and other related expenses	Decision No. 18/2011/QD-UBND	Vinh Phuc Province People's Committee
2.	Annual crops	"	Yieldability of harvests (derived from the average price at the time of land acquisition of the maximum yieldability of main crops over the past three years)	"	"
3.	Trees planted from the government budget, natural forests	Forestry employees	Amount equivalent to damage	"	"
4.	Agricultural crops, livestock and marine products (excluding those whose harvest seasons come prior to the land acquisition)	Owners	Financial compensation for losses resulting from early harvesting, and for the cost and relocation and damage caused by relocation for items that can be relocated	"	"
5.	Land for agricultural production or aquaculture	Households and individuals allotted agricultural land by decree* and other agricultural employees who satisfied the conditions of Decision No. 18/2011/QD-UBND	15,000 VND/m^2 *There is a maximum eligible land area	"	"
6.	Forest land	"	1,500 VND/m^2 *Maximum of 30 ha	"	"
7.	Suspension of manufacturing or	Organizations,	20% of average post-tax income over the past three years	"	"

No.	Type of Loss	Eligible Beneficiaries	Compensation Details	Standards and Guidelines	Responsible Organization
	operations due to land acquisition	households and individuals who must suspend manufacturing or operations due to land acquisition			
8.	Suspension of manufacturing or operations due to land acquisition	People who, prior to becoming SLLC, engaged in agricultural, forestry or aquaculture work on target land	Annual crops with lease contract of three or more years: 30% of rent for land Perennial crops or forestry work with lease contract of three or more years: 30% of rent for land Annual or perennial crops, or forestry work with lease contract of less than three years: 30% of rent for land * There is a maximum eligible land area	"	"
9.	Loss of employment	Households and individuals allotted agricultural land by decree* and other agricultural employees who satisfied the conditions of Decision No. 18/2011/QD-UBND	Double the value of the agricultural land or forest land acquired * There is a maximum eligible land area	"	"
10.	Annual or perennial crops, aquaculture or forest land allotted for 50 years	Households and individuals who hand over their land within the allotted time period	2,000 VND/m^2	"	"
11.	Forest land or land on which perennial crops are grown, which is managed by the government and worked on by	"	1,000 VND/m^2	"	"

No.	Type of Loss	Eligible Beneficiaries	Compensation Details	Standards and Guidelines	Responsible Organization
	individuals				
12.	Livelihood stability for wounded soldiers, etc.	People subject to land acquisition, and people eligible for social support measures or preferential treatment	・Revolutionary activists prior to 1945, heroes of the People's Army, family of war dead, wounded soldiers, people regarded as wounded soldiers or disabled soldiers who have lost 81% of working capacity, etc.: 7,000,000 VND/head of household ・Wounded soldiers, disabled soldiers, people regarded as wounded soldiers, and disabled soldiers who have lost 61% to 81% of working capacity: 6,000,000 VND/head of household ・Wounded soldiers, disabled soldiers, people regarded as wounded soldiers, and disabled soldiers who have lost 41% to 61% of working capacity: 5,000,000 VND/head of household ・Families of war dead, eligible beneficiaries of monthly subsidiary aid for their achievements in the revolution, and disabled soldiers who have lost 21% to 41% of working capacity: 4,000,000 VND/head of household ・Other households receiving subsidiary aid from the government: 3,000,000 VND/head of household If multiple conditions are met within a single household, only the compensation amount worth the highest value will be applied. ※ Presence of relevant losses at the Project site could not be confirmed.	"	"

*64/CP dated September 27, 1993, 02/CP dated January 15, 1994, 85/1999/ND-CP dated August 28, 1999, 163/1999/ND-CP dated November 16, 1999, 181/2004/ND-CP dated October 29, 2004

(6) Considerations for the Vulnerable Groups

Considerations for the vulnerable groups of society who require special support are not measures for resettlement but are the same as measures to consider these groups based on general laws and regulations. These laws and regulations provide for general preferential treatments for impoverished people, elderly people, people with disabilities, indigenous people and minority people. However, there is no systematic compensation for resettlement for these people. Vina CPK is providing compensation that considers the circumstances of the vulnerable groups to the extent possible on a case-by-case basis. As of October 2014, no grievances regarding considerations for these groups have been submitted, which could suggest that it is not likely for situations that cause substantial problems to occur.

(7) Process for Handling Grievances and Implementation Status of those Processes

・Overview of mechanisms for handling grievances

Existing administrative procedures and the judiciary system are the main mechanisms for handling grievances. Currently grievances pass in order from communes to districts, provinces and finally the central government. If a grievance filed by a resident is resolved at the commune level, the procedure ends there. The entity responsible for handling grievances differs depending on the nature of the grievance.

The district People's Committee and project manager Vina CPK will cooperate to handle grievances related to the Ba Thien 2 Industrial Park development project.

Table 10-32: Mechanisms for Handling Grievances

Overview	
Members of the organization responsible for handling grievances	In accordance with existing administrative procedures and the judiciary system, PC handle grievances.
Grievance handling procedure	It is possible to petition commune and district PC for arbitration, and it is also possible to file grievances with regional People's Courts.
Do any trustworthy arbitration organizations (independent from the judiciary system) or procedures exist on target Project land?	In accordance with existing administrative procedures and the judiciary system, they are not independent from the judiciary system.
Do they follow traditional conflict resolution mechanisms?	They do not follow traditional conflict resolution mechanisms.
Ease of filing grievances	
Is it possible to file grievances verbally?	In principle, grievances are filed in writing; however, for the Project the district People's Committee or Vina CPK can intervene.
Is it possible to file grievances in the local language?	It is possible to file grievances in the local language.
Convenience	
Is access easy?	Commune PC are located in the communes; thus, they are easily accessible.
Are there any fees for filing grievances?	Required fees are waived when afflicted residents file grievances.
Trustworthiness	
Are resident representatives, NGOs or legal expert members of the organizations responsible for handling grievances?	PC exist to represent residents. If residents are dissatisfied with the results of commune People's Committee arbitration, the Compensation and Land Acquisition Committee submits proposed resolutions to the People's Committee.
Are the results of grievance examinations publicized and highly transparent?	The process following the Compensation and Land Acquisition Committee's submission of proposed resolutions is recorded, stored, managed and publicized.

・Status of grievance handling

Land acquisition and compensation for land acquisition has been implemented as agreed to by residents subject to land acquisition, and no grievances have been filed (according to an interview with Vina CPK).

(8) Resettlement Responsibilities and the Organizations Responsible for them

The Project zone for Ba Thien 2 Industrial Park is located within Binh Xuyen District, thus the Binh Xuyen District Compensation and Land Acquisition Committee will provide compensation related to Ba Thien 2 Industrial Park. The committee will create a list of the areas of land targeted for acquisition and assets eligible for compensation, and calculate compensation amounts based on standard prices for each district issued by Vinh Phuc Province on January 1 each year. Then the Binh Xuyen District Natural Environment Office will approve these compensation amounts.

Currently neither consultants nor NGOs are directly involved in the resettlement. The resettlement is progressing smoothly and there does not seem to be any need for additional consulting services or support for environmental or social considerations in the implementation phase.

Table 10-33: Organization of Institutions Responsible for Resettlement

<table>
<tr><td>Numbers of employees and their roles</td><td>Binh Xuyen District Natural Environment Office
1 director
3 deputy directors (one each in charge of environment, land and certification)
2 Environment Division staff members
4 Land Division staff members
8 Certification Division staff members
(Total of 18 people)</td></tr>
<tr><td>Coordination of relevant organizations</td><td>PC and the Natural Environment Office will meet with the Compensation and Land Acquisition Committee and Vina CPK in an effort to resolve problems.
<table>
<tr><th></th><th>Organizations</th><th>Responsibilities</th></tr>
<tr><td>The Compensation and Land Acquisition Committee</td><td>Calculate compensation amounts for land targeted for acquisition and present them to the Natural Environment Office.</td><td>Calculation. The Natural Environment Office has the authority to approve compensation amounts.</td></tr>
<tr><td>Vina CPK (project manager)</td><td>The project management company operating under a private investment company, assists with gathering and providing information as needed.</td><td>Practical support for providing compensation, nevertheless, basically a land purchaser with no authority.</td></tr>
</table></td></tr>
</table>

(9) Implementation Schedule

Compensation payment for assets lost on Project implementation land was completed in September 2014. Below is the schedule to date.

Table 10-34: Payment Schedule for Compensation for Lost Assets

(1)	Binh Xuyen District People's Committee establishes the Compensation and Land Acquisition Committee
(2)	The Compensation and Land Acquisition Committee visits each household subject to resettlement and creates lists of assets
(3)	The Compensation and Land Acquisition Committee estimates values of assets and compensation amounts for each asset
(4)	Binh Xuyen District Natural Environment Office approves compensation amounts

(5)	The Compensation and Land Acquisition Committee notifies compensation amounts to each household subject to settlement after the Natural Environment Office approved that
(6)	When residents accept, agreements formed with resident signatures

(10) Expenses and Finances

Vina CPK has already paid "compensation money" for lost assets, "support needed for physical resettlement (moving allowances, etc.)" and expenses for restructuring livelihoods in the course of acquiring land. As the project manager, Vina CPK is responsible for the cost of compensation for land acquisition. The total cost of compensation for the acquisition of Project Site is equivalent to 14% of the budget for compensation for all of Ba Thien 2 Industrial Park.

(11) Implementing Organization Monitoring System and its Implementation Status

A monitoring framework (monitoring and reporting procedures, system for reporting results, independent oversight, a framework for encouraging residents subject to land acquisition to participate in the monitoring process, monitoring of the implementation status of various types of livelihood support, methods for monitoring the results of land acquisition and compensation projects, methods for assessing the impact of land acquisition, methods for using monitoring results, etc.), monitoring plans and monitoring form for land acquisition will be examined in the near future. Monitoring organizations are as follows.

Table 10-35: Monitoring Organizations

Monitoring Organization	Overview
Binh Xuyen District People's Committee	Prior to land acquisition, the Binh Xuyen District Compensation and Land Acquisition Committee conducts a survey of residents subject to resettlement regarding their desires for replacement land and compensation details, discusses these matters with them and then determines replacement land and compensation details. For the Project, the committee decided to provide financial compensation due to the lack of replacement land and the desires of residents subject to resettlement.
Ministry of Labour, Invalids and Social Affairs, Bureau of Labour, Heath, and Social Welfare	The Bureau of Labour, Health, and Social Welfare of the Ministry of Labour, Invalids and Social Affairs monitor employment circumstances throughout the province in order to fully understand the condition of livelihood restructuring.
Vinh Phuc Province	Job fairs for residents of the province are held twice per month to promote employment and restructuring of livelihoods.
Vina CPK	Monitor the lives of those afflicted by this project through complaints, and if there are any problems with rebuilding their livelihood, prompt an official for a consultation.

(12) Results of Discussing Initial Design and Alternative Plans for Livelihood Restructuring Measures with Residents

Initial design and livelihood restructuring measures were discussed with residents from the initial phase, and as a result no grievances have been filed as of September 2014. The method of discussions with residents was the same as the method summarized in Section 10.1.2 (9) Discussions with stakeholders.

(13) Results of Relevant Studies Implemented during the Study for Verifying the Implementation Status of Involuntary Land Acquisition

As described in the previous items, the results of the study for verifying the implementation status of involuntary land acquisition have confirmed that procedures for land acquisition are progressing appropriately.

(14) Tracking Study of Current Livelihoods of Residents Afflicted by Past Land Acquisitions

Acquisition of Project Site was complete as of September 2014, and residents will be displaced from the entire industrial park in the near future. The province and Vina CPK are responsible for appropriately handling any grievances that arise.

Note that a specific study of "livelihoods of residents afflicted by the land acquisition" from the Project has not been planned. However, that the content will be covered by studies of employment status in the province conducted by the Bureau of Labour, Health, and Social Welfare.

10.2.2 Divergence between Study for Verifying the Implementation Status of Involuntary Land Acquisition and JICA Environmental Guidelines

(1) Analysis of the Divergence between Past Examinations of Validity of Compensation and Support, and "JICA Guidelines for Resettlement"

・Land acquisition policies for the Project

Vina CPK emphasizes absolute respect for the laws of Vietnam its policy for past compensation and support for land acquisition and resettlement from Project Site, and believes that "JICA Guidelines for Resettlement" sufficiently comply with the provisions of Vietnamese laws. However, Vina CPK has closely investigated items set forth in JICA Guidelines for Resettlement but not clearly set forth in Vietnamese laws, and items that differ significantly from JICA guidelines.

(2) Considering and Assessing Measures for Resolving Divergence from JICA Guidelines

There is no significant divergence regarding past compensation and support between "JICA Guidelines for Resettlement" and "Land Acquisition Policies for the Project", and there is probably no need to take measures to resolve divergence from JICA guidelines. Therefore, the approach of past compensation and support is largely considered to be appropriate.

(3) Considering the Establishment of Mechanisms for Handling Grievances

At present no arbitration organizations or procedures for handling grievances independent from the judiciary system have been established. Information about existing grievance handling mechanisms was used to consider the need for establishment of a grievance handling mechanism.

The common method for handling grievances is as described in Section 10.2.1 (7), where the grievance handling mechanism for afflicted residents is Vina CPK as liaison cooperating with the province, which implements the system for receiving grievances. These procedures for handling grievances are excellent in terms of ease of filing and convenience.

The World Bank Safeguard Policy, OP4.12, Annex A, Paragraph 17 defines grievance procedures as "affordable and accessible procedures for third-party settlement of disputes arising from resettlement; such grievance mechanisms should take into account the availability of judicial recourse and community and traditional dispute settlement mechanisms". Grievance reception with the provincial People's Committee serving as liaison, in addition to the current conflict resolution mechanisms provided by the judiciary system, is thought to be an affordable and accessible procedure.

The fact that there are no unresolved problems as of September 2014 also could suggest that there is currently no need to establish a new grievance handling mechanism. However, if a large number of grievances from afflicted residents arise in the future, it is considered to be necessary to establish a separate mechanism based on grievance redress mechanisms in the World Bank Involuntary Resettlement Sourcebook (2004), JICA environmental guidelines, etc.

(4) Conclusions and Recommendations

The study results described in the previous items, as of September 2014, did not show any matters within Project Site that conflict with JICA environmental guidelines and could cause problems during execution of the Project. However, there is still a need to analyze the results of various types of monitoring and continue to verify that the Project is not causing any problems.

(5) Other Matters

(List of relevant personnel, sources of information)

- EIA report
- Vietnam environmental and social consideration profile
- Vietnamese laws and ordinances
- Interviews with relevant personnel

Table 10-36: Sources of Information

Organization	Main Relevant Personnel
Vinh Phuc Province DONRE	Chu Quac Hai (Vice Director, Department of Natural Resources and Environment), Vice Director Khuoc, Environmental Management Division Director Cuong, Environmental Monitoring Manager Dung, Resettlement and Compensation Manager Luyun
Vina CPK	Hoang Tieu Son (General Director)
Vinh Phuc Province IPA	Nguyen Tien Hanh (Deputy Head), Nguyen Thi Huyen Trang
Binh Xuyen District People's Committee	
JICA Hanoi Office	Takashi Matsushita (Senior Project Formulation Adviser)

Chapter 11 Considered Project Planning

11.1 Considered Operation and Maintenance Systems

11.1.1 Manner of Providing Services

The maintenance and operational services SPC provides to tenant companies are divided into two types: basic services and additional services.

Basic services are A. Services provided directly to tenant companies by SPC; and B. Services subcontracted to specialized companies by SPC and provided to tenant companies by those specialized companies. Additional services are C. Services provided to tenant companies by companies comprised of SPC or subcontracted partners (referred to throughout this section as "entities such as companies comprised of SPC") after SPC introduces those entities to tenant companies.

Table 11-1: Manner of Providing Services

	Basic services		Additional services
What tenant companies pay	Rent, administrative fees	Rent, administrative fees	Individual fees (different for each service)
Target services	-Rental factory maintenance and operation -Common facility maintenance and operation	-Expansion assistance *If the building permit services, fire permit services and EIA assistance of individual companies differ from one another, they will be charged separately.	- Operational assistance -Introduction to possible tie-up partner companies, business matching support -Meals, vehicles, IT, logistics, insurance -Assistance with securing a workforce -Serviced apartments next to industrial parks
System for providing services	A. Provided directly to tenant companies by SPC	B. Subcontracted to specialized companies by SPC and provided to tenant companies by those specialized companies	C. Provided to tenant companies by entities such as companies comprised of SPC introduced to tenant companies by SPC.

(Prepared by the study team)

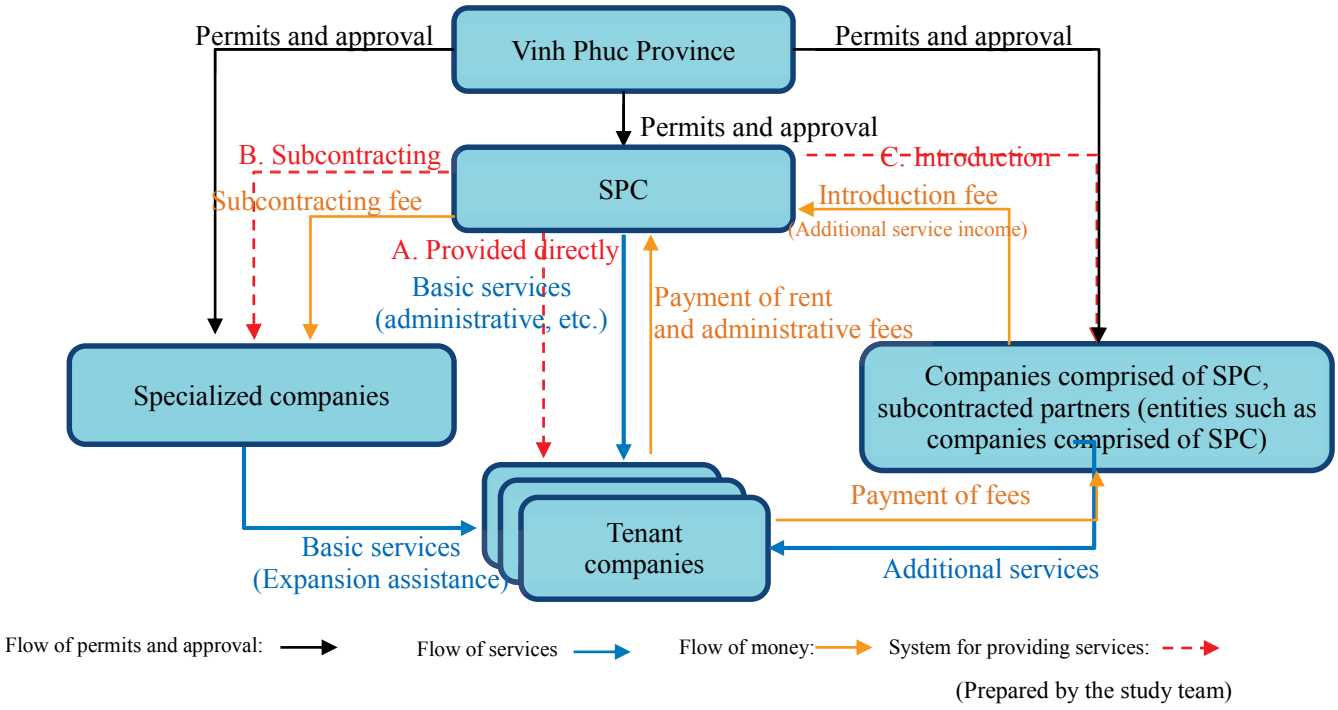


Figure 11-1: Proposed Operation and Maintenance Systems

11.1.2 Approaches to Fees for Provided Services and SPC Revenue

For basic services, tenant companies will pay rent and administrative fees, and SPC will collect that rent and those administrative fees. For additional services, tenant companies will pay fees for each service separately from rent and administrative fees, and entities such as companies comprised of SPC will pay introduction fees to SPC. Details are as follows.

(1) Basic Services

Fees for basic services are set at 5.5 USD/m^2 per month for rent and 1.0 USD/m^2 per month for administrative fees (a total of 6.5 USD/m^2 per month). As described in Section 4, the average rent at the five factories exclusively for rental factories in industrial parks in Northern Vietnam similar to the rental factories for the Project is 5.0 to 5.2 USD/m^2 per month, and the average administrative fees are 0.43 USD/m^2 per month. As the occupancy rate at those factories is 100%, the fees are generally considered to be appropriate. The fees for these rental factories were set in light of the fact that fees at Dai An Industrial Park, which is an example of a competitor, are 6.8 to 7.8 USD/m^2 per month for rent and are 0.2 USD/m^2 per month for administrative fees (total of 7.0 to 8.0 USD/m^2 per month).

Expansion assistance services should be provided as part of basic fees at or approximately at cost, but services for business permit acquisition, fire permit acquisition and EIA assistance will cost extra, depending on the tenant's type of business.

Table 11-2: Rent and Administrative Fees from Similar Rental Factories in Northern Vietnam, and Settings for the Project

Factories in Northern Vietnam that are exclusively rental factories	Rent (USD/m^2/mo.)	Administrative fees (USD/m^2/mo.)	Occupancy rate (Japanese companies)
Viet Phap in Dai Dong-Hoan Son Industrial Park	6.0	-	0%
Fuji Precision Co., Ltd. in Yen Phong Industrial Park	4.0	0.5	100%
IDE International Co., Ltd. in Pho Noi A Industrial Park	4.0	0.5	100%
Forval Vietnam Co., Ltd. in Dai An Industrial Park	6.8-7.8	0.2	Surveying
IDE International Co., Ltd. in Hoa Mac Industrial Park	4.0	0.5	25%
Average	5.0-5.2	0.43	-
Setting for these rental factories	5.5	1.0	

(Prepared by the study team)

(2) Additional Services

Fees for additional services are different for each service. The table below shows basic fee settings in light of the considered services in Section 9. Under consideration is the payment to SPC of a commission fee from part of fees collected by entities such as companies comprised of SPC. In other words, SPC will receive these fees as additional service revenue separate from rent and administrative fee revenue.

Table 11-3: Proposed Additional Service Fees

Additional services	Fees (per company)
Operational assistance services (employment, legal, accounting)	600 to 1,000 USD/month
Business matching support	From 100,000 JPY
Meal services	(150 JPY per meal) x (number of meals)
Vehicle services	Approx. 150,000 JPY/month
IT services	Different for each service
Logistics services	Depends on the range of work and volume
Insurance services	Differs for individual and group insurance

(Prepared by the study team)

11.2 Proposed Division of Member Company Roles

The division of roles between member companies (consortium member companies) and additional companies for the Project was considered.

11.3 Setting Operation and Effect Indicators

The indicators on the table below will be measured periodically to evaluate how the various benefits envisioned during the planning phase have contributed since Project operation began.

Table 11-4: Operation and Effect Indicators

Indicator	Operation indicator	Effect indicator
Number of companies occupying rental factories	○	
Number of local employees		○
Number of users of provided services	○	
Sales	○	
Total added value		△

○: Measured periodically, △: Measured as information is obtained

(Prepared by the study team)

11.4 Devising a Project Implementation Schedule (including permits and approval)

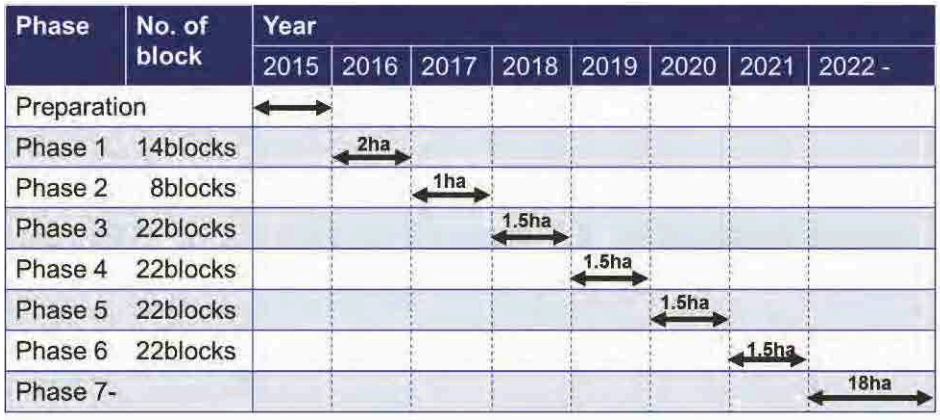
11.4.1 Establishing SPC, Acquiring Permits and Approval

SPC is scheduled to be established in 2015. Once established, SPC will acquire permits and approval required to construct and operate rental factories for Japanese SMEs, and will begin construction of Phase 1 in 2016. Operation of Phase 1 will start in January 2017 and will be complete in 2052.

11.4.2 Phased Development Planning

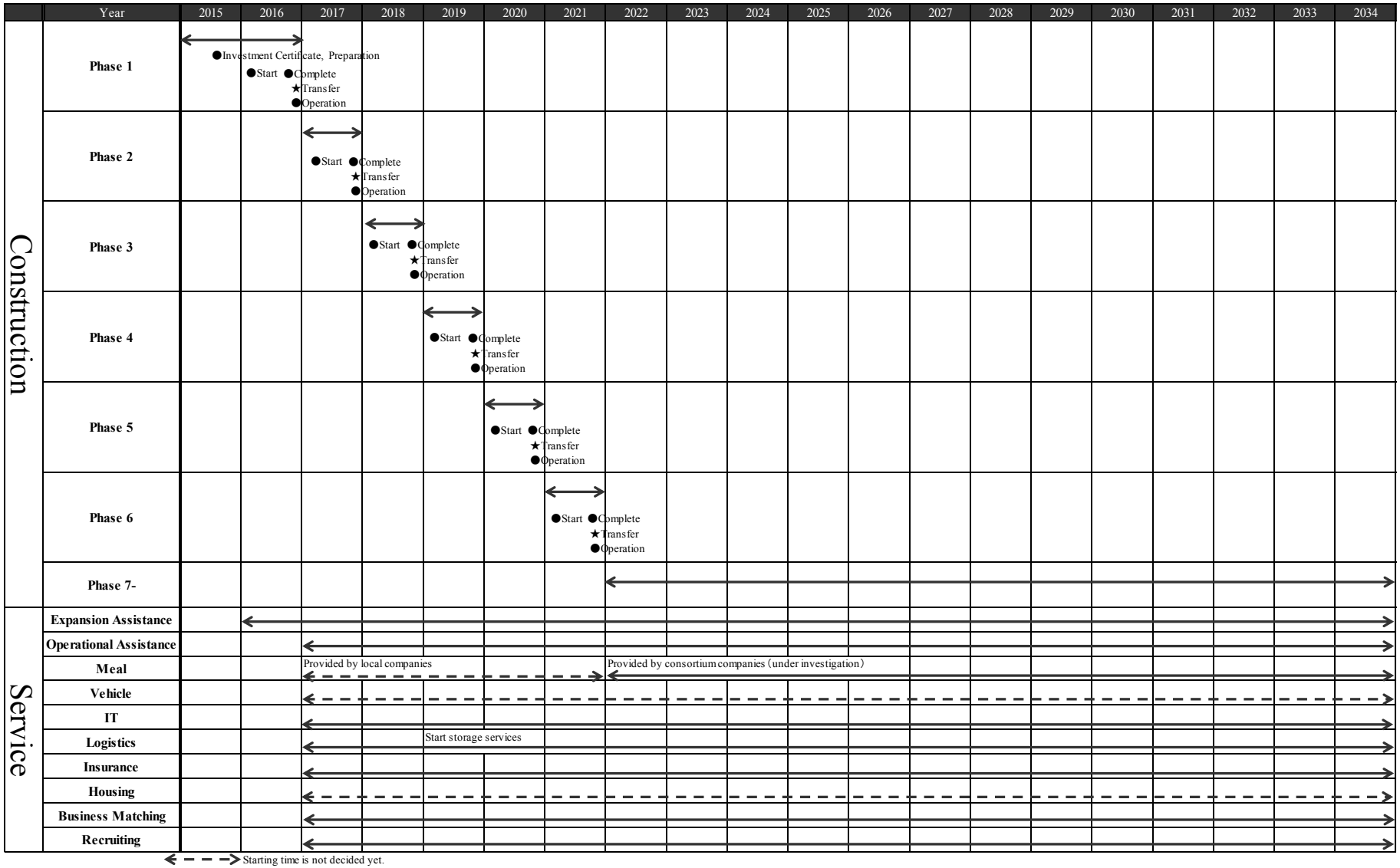
From 2016 to 2021, a total of 9.0 ha of land will be developed: 2.0 ha in Phase 1; 1.0 ha in Phase 2; and 1.5 ha in each of Phases 3 through 6. Phase 7 and onward involve phased development based on demand and intent to occupy rental factories in Phases 1 through 6. Thus, the content will be determined in light of factors such as deliberations with Vina CPK and progress to that point. However, as of now, plans call for the development of approximately 18 ha of the land in Phase 7 (2022) and onward. Below are the current proposed number of blocks to be developed and proposed project implementation schedule.

Table 11-5: Proposed Number of Blocks to be Developed



(Prepared by the study team)

Table 11-6: Proposed Project Implementation Schedule



11.5 Considered Project Implementation System

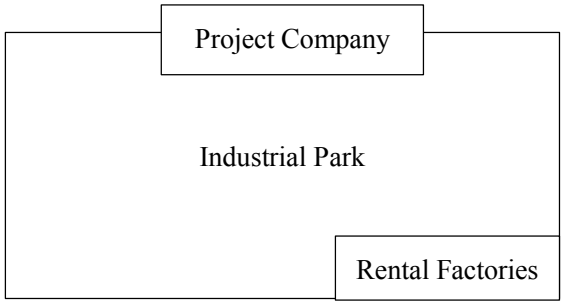
11.5.1 Examples of Project Implementation Systems

(1) Project Entities

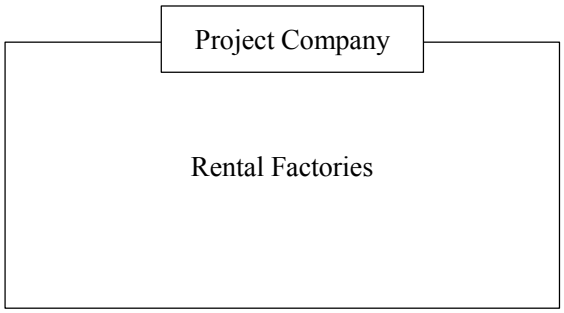
Industrial park operation companies were established in each of the similar projects studied. Most of those operation companies did not establish a separate entity for operating rental factories, but some did, including Amata Summit by Amata in Thailand. In addition, there are cases where entities engage mainly in the construction and operation of rental factories, as does Ticon Industrial Connection in Thailand.

Kizuna Rental Factories in Vietnam was established to operate individual rental factories, but in terms of management it is currently not recognized as an SPC that does not conduct any business other than factories.

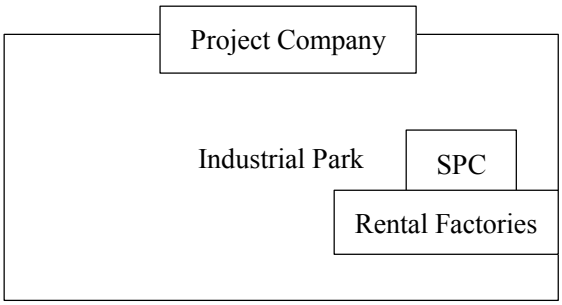
1) Existing industrial parks (that have not established separate companies for operating rental factories)



2) Single rental factory operator (Kizuna JV Corporation, etc.)



3) Separate entity established (Amata Summit)



(Prepared by the study team)

Figure 11-2: Rental Factory Operation System Patterns

(2) Operations Covered by Project Entities

The following three examples of operations covered by project entities were noted in the similar projects studied, and the approaches of investors and attributes of tenant companies were probably different in each one.

(1) Outsourcing used and project entities providing a wide range of services (Sumitomo Thang Long Industrial Park, TT Techno-Park Indonesia (Indonesia))

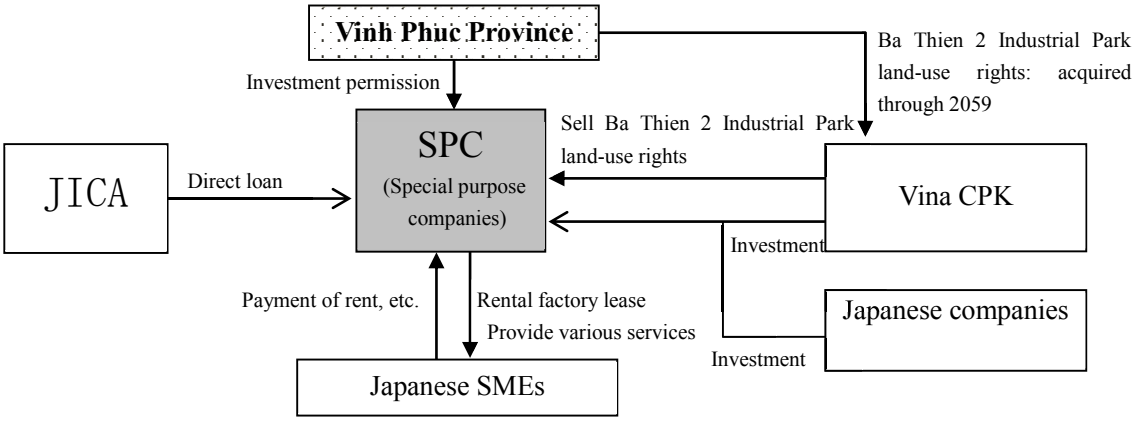
(2) Procuring services left to tenant companies, project entities concentrated on real property business (managing and operating facilities) (Nomura Hai Phong Industrial Park, Ticon Industrial Connection (Thailand)

(3) Examples that fell between the (1) and (2) (other examples)

11.5.2 Project Implementation System for the Project

(1) System Using SPC

Although there are few examples of SPC established solely to operate rental factories within industrial parks, the following system premised on the need for the establishment of such SPC to serve as vessels for procuring funds and possibilities for official investment from Japan. The following system is envisioned:



(Prepared by the study team)

Figure 11-3: Proposed Project Implementation System for the Project

(2) SPC Scope of Perations

1) Consortium member company participation method

The following configuration is envisioned for the Project because the intertwining of project risks for real property services (the main services) and other services necessitates the clarification of project risks in terms of investment and funding procurement, because the targets for individual services can extend into the entire industrial park, and because there are limits to the services that can be provided in the initial phase of phased development due to lack of advantages from scale.

(1) Limit the scope of SPC operations to facility administration for the time being
(2) Have SPC serve as the overall consultation service for tenant companies, and have SPC provide services on their own and have the capacity to introduce tenant companies to partner companies for various services
(3) Consortium member companies will strive to provide services on their own or through partner companies

2) Considering the levels of services

SMEs represent an extremely wide range of sizes and needs, and services must be provided at the following three levels. This diversity lends importance to building relationships with good, local partners.

(1) Japanese quality service from coordinating with major Japanese companies
(2) Best quality of service available from coordinating with major local companies
(3) Inexpensive services from local companies

(3) Approaches to Phased Development and SPC

As phased development progresses, SPC must take action as follows.

- Increase capital, change funding procurement methods (including determining whether or not to use institutional financing)
- Restructure services to be provided (focusing initially on providing facilities and equipment)
- Change shareholder distribution along with the above changes

(4) Assistance from SPC Personnel System, Shareholder Companies, etc.

As demonstrated in similar projects studied, there is a significant need for consultation services in Japanese.

SPC aims to employ Japanese or people who understand Japanese, but given the financial constraints against hiring permanent Japanese staff members, particularly in the initial phase of phased development, the following can be considered.

- The Vietnamese headquarters of consortium member companies correspond in Japanese
- Local partner Vina CPK shares correspondence in Japanese in the interest of the entire industrial park

(5) Division of Roles with Vinh Phuc Province and Local Partners

- The potential of introductions to human resources in Vinh Phuc Province must be built into the Project implementation system.
- Local partner Vina CPK must coordinate the relationship between (planned) services that can be provided to the entire industrial park and those to be provided to tenant companies in rental factories and select the most efficient method for providing services.

(6) Legal Standing of SPC

The amount of funds is expected to fluctuate and be transferred throughout Project phases, and the multi-member limited liability company (MLLC) designation since fluctuations are possible and since investor rights, the internal organization and restrictions on equity transfers can be freely defined in the articles of incorporation.

Currently, a great many Japanese and other non-Vietnamese companies are formed as limited liability corporations or joint-stock corporations, and over 90 percent of Japanese companies in Vietnam have elected the MLLC designation when establishing local corporations. Thus, the MLLC designation is appropriate.

11.5.3 Coordinating with Municipalities

(1) Examples of National and Municipal SME Overseas Expansion Assistance

Ota Techno Park in Thailand is an example of coordination with rental factories by the national government and municipalities for the expansion of SMEs into countries other than Japan. The Kansai Supporting Industry Collective Assistance Model Project, “Kansai Support Industry Complex” currently in progress and led by METI Kinki Bureau of Economy, Trade and Industry is a recent example of such a project in Vietnam.

In this highly meaningful model project, The Kinki Bureau of Economy, Trade and Industry and 10 other assistance institutions in Kansai coordinate with Dong Nai Province, industrial park operating companies and local support agencies to assist the expansion of SMEs from Kansai into Vietnam.

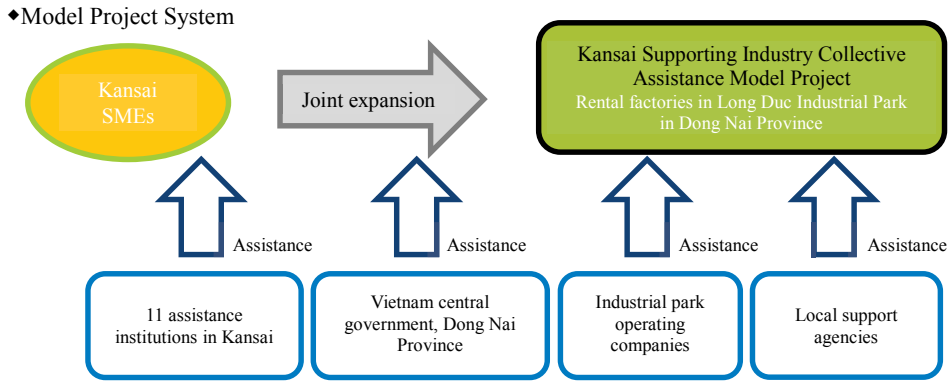


Figure 11-4: Model Project System Based on Kansai Supporting Industry Assistance Model Project

(Source: METI Kinki Bureau of Economy, Trade and Industry news release)

(2) Negotiations for Coordinating with Municipalities

The above examples notwithstanding, municipalities believe the promotion of SMEs within their borders is more closely linked to clarification of their responsibilities and roles in the support of SME expansion into Vietnam. That objective matches SPC Project concepts (see Chapter 5) and philosophies.

Municipal investment in SPC, master leases for certain spaces and enhancement of municipal help desks are some Project schemes to achieve that objective.

11.6 Procurement Package Proposals

The Project concept requires overall designs and construction focused on maintenance and operation work to strive to make the cost of services to be provided affordable to tenant SMEs.

In order to counter the high percentage and liability for Project construction costs and eliminate the risk of inventory (open spaces), the lead time for every process from design to the final stage of construction and handing over to tenants must be optimized, and factory construction costs and maintenance costs must be minimized.

In light of these points, procurement packages that allow for the consolidated order of design and construction of rental factories have been proposed. Note that related construction facilities are separate and can themselves comprise a package.

All services related to vehicles and logistics are to be outsourced, and SPC is not to procure materials and other items.

Table 11-7: Procurement Package Proposals

Name	Item	Range	Package details
Package A	Rental factory	Design, procurement, construction	・Construction of architecture, electrical facilities, water supply and wastewater facilities, air conditioning facility, etc. ・Ordering design and construction from Japanese construction companies
	Administrative building	Design, procurement, construction	・Construction of architecture, electrical facilities, water supply and wastewater facilities, air conditioning facility, office furniture, etc. ・Ordering design and construction from Japanese construction companies
	Outer wall	Design, procurement, construction	・Security building, roads on property, automobile parking space, bicycle parking space, trees and other factory area facilities ・Ordering design and construction from Japanese construction companies
Package B	Emergency generator facilities	Design, procurement, construction	・Construction of emergency generator facilities and related electrical facilities (Consolidated order with Package A envisioned)
Package C	Water supply facilities	Design, procurement, construction	・Water tanks and other water supply facilities, pipes, etc. (Consolidated order with Package A envisioned)
Package D	Wastewater facilities	Design, procurement, construction	・Wastewater treatment facilities (Consolidated order with Package A envisioned)
Package E	Information infrastructure	Design, procurement	・Communications environment, server and client PCs Order from Japanese IT vendors

Name	Item	Range	Package details
Package F	Factory cafeteria	Design, procurement, construction	・Kitchen equipment, appliances, etc. (Kitchen facilities to be located within administrative buildings)

*Major points as to whether or not to involve Japanese companies in the construction of factories are understood from the results of interviews with Japanese SMEs that have already expanded outside Japan.

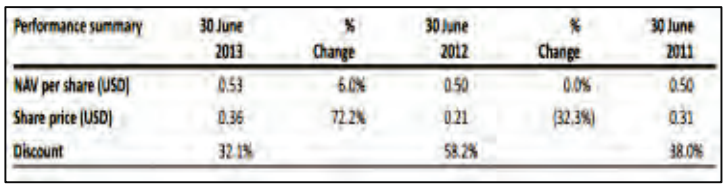
(Prepared by the study team)

Chapter 12 Risk Analysis

12.1 Identifying Project Risks and Problem Areas

The following risks were identified to determine problem areas on which to focus.

Table 12-1: Risk Types and Problem Areas

<table>
<tr><th>No.</th><th>Risk Type</th><th>Risks and Problem Areas</th></tr>
<tr><td rowspan="2">1</td><td colspan="2">Sponsor Risk</td></tr>
<tr><td>・Financial situation of stakeholders and other information</td><td>1. VinaCapital (VNI)
・An investment and real estate fund established in 2003. Owns VOF, VNL, VNI and DFJV (explained in detail in Chapter 13). NAV of 196.9 million USD and NAV per share of 0.53 USD as of June 30, 2013, which is 6.0% higher than they were on June 30, 2012.
・Has a 97.2% stake in Vina CPK.
・Actual figures for June 30 in 2011 and 2012 from the VNI Annual Report 2013 show a 6% year-over-year increase in the NAV per share and a 72.2% year-over-year increase in the share price. The discount rate decreased from 58.6% in 2012 to 32.1% in 2013.
・VNI is not performing as well as it could be, but it is developing consistently. Thus, the sponsor risk is assessed as low.
 
Performance summary | 30 June 2013 | % Change | 30 June 2012 | % Change | 30 June 2011
NAV per share (USD) | 0.53 | 6.0% | 0.50 | 0.0% | 0.50
Share price (USD) | 0.36 | 72.2% | 0.21 | (32.3%) | 0.31
Discount | 32.1% | | 58.2% | | 38.0%

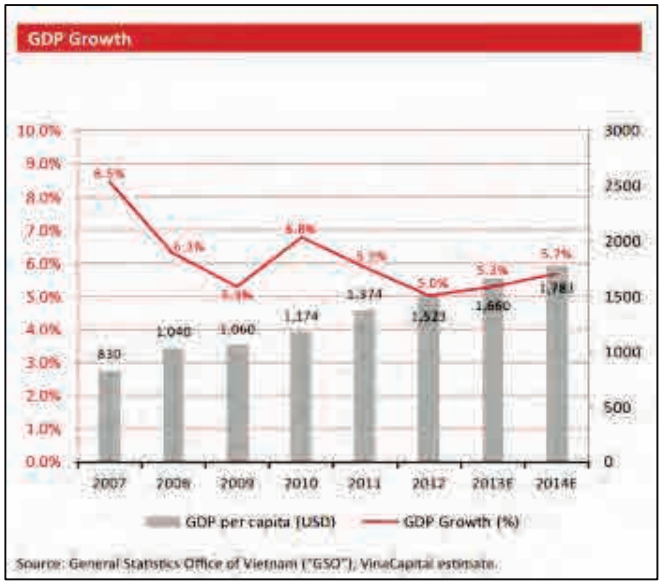
2. CPK Vinh Phuc Joint Stock Company
・A company established in Vinh Phuc Province in 2007.
・Has a 2.8% stake in Vina CPK.
・As a minor investor, the sponsor risk is assessed as low.</td></tr>
<tr><td>2</td><td colspan="2">Investor/Project Approval System Risk</td></tr>
</table>

No.	Risk Type	Risks and Problem Areas
	・Government/ ministry systems, treatment	・Lease projects are not open to foreign investment. Companies involved in dedicated machinery in Japan cannot be used.[20] ・There is an operation period restriction of 50 years for foreign investment that is not applied to domestic capital.[21] ・It is difficult to obtain an investment license for foreign investment.[22] ・It is difficult to decrease contributed capital.[23] ・Various tax incentives for foreign investment have been abolished.[24] ・Companies that invest need to acquire local shares and register investments.[25] ・Business license categories are too strict; new categories need to be created any time there is a misfit. ・Even when investment certificates clearly specify the eligibility of foreign investment for preferential treatment, approval from other agencies is still required.[26] ・Watch parts and steel products are subject to high tariffs and frequent tariff increases.[27] ・Tariff classification and the process for tariff refunds differ for each agent. ・Time is required for inspections during customs procedures. ・An IPA that provides various services has been organized in Vinh Phuc Province. However, most services involve the approval process and approval periods and do not significantly resolve the aforementioned problem areas of investment and project approval systems.
3	Money Transfer System Risk	
	・Foreign remittance risk, etc.	・Tax authorities must be notified seven business days in advance of transferring profits from foreign investment, resulting in a loss of seven days' interest.[28] ・There are restrictions on currency trading because of the confirmations of actual demand trade.[29] ・There are constraints on exchange rates when remitting foreign currency.[30] ・There are restrictions against taking out foreign currency.[31]
4	Funding Risk (Exchange Risk)	

[20] Decree No. 59/2006/ND-CP
[21] Article 53, Investment Law 2005
[22] Common Investment Law
[23] Legal use of increases and reductions, Article 60, Law on Enterprises
[24] Abolition of tax incentives for industrial zones, etc. (Decree No. 108/2006/ND-CP, Decree No. 87/2010/ND-CP, Decree No. 29/2008/ND-CP, Decision No. 50/2005/QD-TTg, Decision No. 25/2010/QD-TTg)
[25] Directive 1617/CT-TTg
[26] Article 32 -39, Part 2, Chapter V, Investment Law 2005, Decree No. 108/2006/ND-CP
[27] Law on Customs
[28] Circular No. 186/2010/TT-BTC
[29] It is not possible to send or receive funds to or from foreign banks when executing a settlement of exchange, even if the foreign bank is a member of the group (SBC exchange system)
[30] Document regarding SBC exchange system and corporate income tax (Circular No. 130/2008, Decree No. 160/2006/ND-CP)
[31] 2011/8/12 State Bank of Vietnam Notification 15/2011TT-NHNN

No.	Risk Type	Risks and Problem Areas
	・Lease fees in USD, dividends in VND or JPY, financing or repayment from local financial institutions in VND	・There are restrictions on currency trading because of the confirmations of actual demand trade.[28] ・There are constraints on exchange rates when remitting foreign currency.[29] ・As a condition for borrowing foreign currency for import products or to pay for services, the borrower either needs to have foreign currency revenue equivalent to the amount to be repaid, or if the borrower does not have such revenue, the borrower needs to obtain a letter from the lending bank in which it promises to provide the foreign currency by the repayment deadline. Vietnam suffers a perpetual deficiency of foreign currency financing, and it may become particularly difficult for companies with no foreign currency revenue (companies that import and sell within Vietnam) to procure foreign currency. ・Separate approval from the State Bank of Vietnam is required when borrowing USD. VND are volatile and difficult to use due to high interest rates. ・Companies with little foreign currency revenue cannot borrow foreign currency.[32] ・The State Bank of Vietnam's rates do not reflect market rates; it has created a dual exchange rate. This results in exchange rate loss for transactions involving foreign currencies.

[32] Circular No. 07/2011/TT-NHNN, State Bank of Vietnam Notification, Circular No. 37/2012/TT-NHNN

<table>
<tr><th>No.</th><th>Risk Type</th><th>Risks and Problem Areas</th></tr>
<tr><td rowspan="2">5</td><td>Market (Macroeconomic) Risk</td><td></td></tr>
<tr><td>・ Macroeconomic situation</td><td>・GDP per capita and GDP growth rate are showing healthy growth.
・The inflation rate grew worse in 2011 but has since stabilized, fluctuating between 5% and 7% in 2012 and 2013.
 

Changes in Vietnam GDP Per Capita and GDP Growth Rate
(Source: VNI Annual Report 2013)
 

Changes in Vietnam Inflation Rate
(Source: VNI Annual Report 2013)</td></tr>
<tr><td rowspan="2">6</td><td>Operational (Commercial) Risk</td><td></td></tr>
<tr><td>・Demand fluctuation risk in light of the macroeconomic situation</td><td>・At this time, there is no danger of operational risk in light of the macroeconomic situation described in 5 above.</td></tr>
</table>

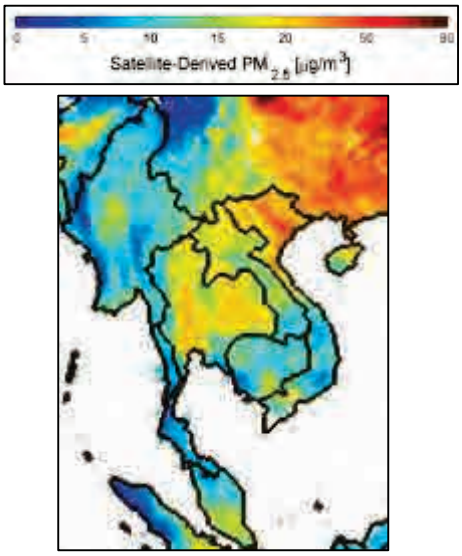
<table>
<tr><th>No.</th><th>Risk Type</th><th>Risks and Problem Areas</th></tr>
<tr><td rowspan="2">7</td><td colspan="2">Social Situation Risk</td></tr>
<tr><td>・Safety and security</td><td>・According to the Willis Atlas map of terrorism and political unrest, Vietnam is stable and secure.
 

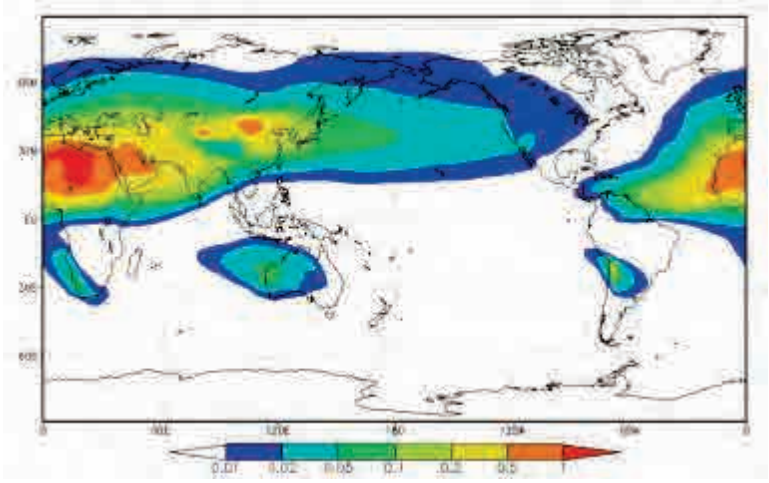
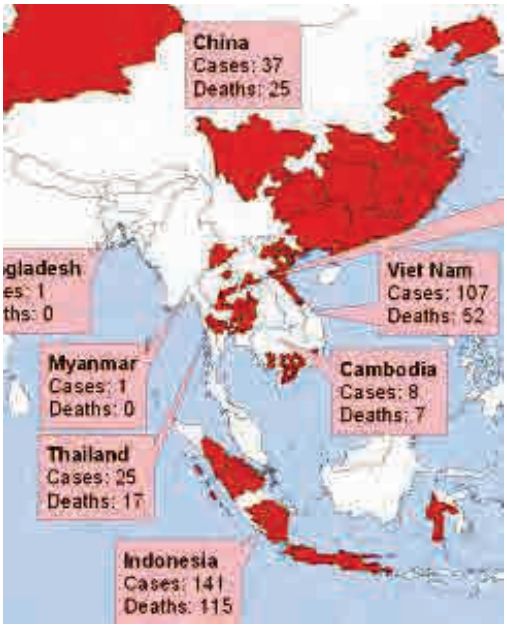
Color-coded Degree of Risk from Willis Atlas Map of Terrorism and Political Unrest

・ 44,033 crimes were committed in Vietnam in 2013, an 18.6% increase over 2012. A total of 28,543 people were arrested on drug-related offenses, and 64 kg of heroin and 110 kg of synthetic drugs were seized. There is an organized crime network in Vietnam, and 2,643 people were arrested in connection with it. In addition, AIDS is rampant.[33]
・The population of drug users in Vinh Phuc Province is approximately 2,000 people, and those 2,000 people are said to have contracted HIV.[34]
・The crime rate in Vietnam is low compared to other Asian nations (the crime rate in Japan in 2002 was 2.3%).

Crimes Rate in Vietnam in 2000
<table>
<tr><td>Population of Vietnam</td><td>78,300,000</td></tr>
<tr><td>Crime rate</td><td>0.08%</td></tr>
<tr><td>Arrest rate</td><td>64%</td></tr>
<tr><td>Most common crime</td><td>Theft</td></tr>
<tr><td>Crimes/100,000 people</td><td>12.77</td></tr>
</table>
(Source: 2000 crime rate statistics from ICPO Study)</td></tr>
<tr><td rowspan="2">8</td><td colspan="2">Technical/Completion Risk</td></tr>
<tr><td>・ Technical/delay risk, precedents</td><td>・No particular technical/delay risks have been observed in existing industrial parks in which local construction companies did construction work.</td></tr>
</table>

[33] *Safety Guide* for staying in Vietnam, March 1, 2014, Embassy of Japan in Vietnam
[34] Takvietnam article, March 11, 2014

No.	Risk Type	Risks and Problem Areas
9	Environmental Risk	
	・Soil environment	・The target properties were previously pasture lands, fields and forests. Thus, there are no particular environmental risks. ・The herbicide Agent Orange was not sprayed in Northern Vietnam during the Vietnam War. Thus, there are no risks associated with herbicides.  Cleaveland.com OHIO, USA
	・Air pollution	・The target properties for this project are located in the suburbs of Hanoi. Other than the risks of PM 2.5 and Asian Dust, there are no air pollution problems. 1. PM 2.5 ・The PM 2.5 levels in the suburbs of Hanoi are somewhat high (50μg/m^3).  Global satellite-derived map of PM2.5 averaged over 2001-2006. Credit: Dalhousie University, Aaron van Donkelaar

		2. Asian Dust ・There is a low (0.01~0.02 g/㎡) risk of Asian Dust in Northern Vietnam.  Distribution of Asian Dust in the Atmosphere in Spring (average spring from 1974–2001) Reproduced from a Global Asian Dust Model (Source: Japanese Meteorological Agency, cumulative volume in g/m^2 within the atmosphere)
	・Epidemics	1. Avian influenza ・Cases of avian influenza originate in Northern Vietnam; there were 107 cases and 52 deaths from 2003 to 2009.  Avian Influenza Map (Source: WHO statistics from 2003–2009) 2. Other ・There are risks of cholera (occurred in Hanoi in 2008), food poisoning, dengue fever (epidemic in 2008), parasites and others. ・As many as 206,000 people in Vietnam have contracted HIV.[35]

[35] 2013 statistics from the HIV/AIDS Prevention Office of the Vietnamese Ministry of Health

	・Industrial waste	・The industrial waste from rental factories is expected to be common industrial waste (plastic, metal, glass) and should be collected and recycled by recycling companies. Thus, there are no problems.
	・Water contamination	・It is difficult to imagine the use of particular chemicals at rental factories that would cause environmental contamination. ・Wastewater passes through industrial park drainage facilities and public wastewater treatment facilities before being discharged into the nearest river (the Song Tranh). Thus, water contamination risk is low.
10	Relevant Infrastructure and Utility Risk	
	・Water supply risk (information not included in the industrial park pamphlet)	・As explained below, the BA Hien WPP Distribution Pump Station is the main facility for supplying water to the industrial park, and two other facilities supply water in emergencies: (1) 350-mm pipes from the BA Hien WPP Distribution Pump Station (main water supply) (2) 160-mm pipes from the PHUC Yen WPP Distribution Pump Station/Dai Lai Booster Pump ST Relay Pump Station (emergency water supply) (3) 160-mm pipes from the VIET XUAN WPP Distribution Pump Station (emergency water supply) ・As there are two emergency supply facilities, the water supply is highly reliable. However, all pumps are powered by electric motors. Thus, a widespread power failure could cut off the water supply. ・The BA Hien and PHUC Yen facilities connect to each other at a 160-mm grid located about 1.8 km away from the industrial park. ・All water is filtered and can be used as drinking water. There are no distribution facilities for industrial water. ・To prevent damage to water pipes from water hammer, appropriate concrete fixtures have been installed at critical points. ・Water is drawn from Dai Lai Lake and other large lakes, filtered and then distributed from pump stations. It is difficult to imagine the depletion of these water sources. ・Other than minor water pipe repairs, there have been no accidents in the past five years. ・The water department is run by 30 employees. A special repair team of eight workers is always available, and the team is equipped with sufficient instruments and vehicles for repairs. There is also an emergency hotline that connects to a network of mobile phones. ・Through daily drills, the water department has the ability to repair cracks in 350-mm water pipes inside their jurisdiction within eight hours. ・Wastewater passes through treatment facilities at each plant to industrial park drainage facilities and public wastewater treatment facilities before being discharged into the nearest river (the Song Tranh).

No.	Risk Type	Risks and Problem Areas
10	・Electrical power supply risk (information not included in the industrial park pamphlet)	・Two power plants that are relatively nearby are Phalai 2 Coal Fire Plant (about 100 km) and Son La Hydraulic Power Plant (about 200 km). ・Vietnam has one nuclear power plant, Ninh Thuan Power Plant, that is located over 1,000 km from Ba Thien 2 Industrial Park. ・Vietnam has a 110-kV national power grid. Power is relayed to Ba Thien 2 Industrial Park through transformer stations in two locations, Vinh Yen and Thien Ke, thus forming a highly reliable, looped power supply system. ・The power department is run by 30 employees, and several monitors are always monitoring the power supply situation at a control center. A hotline that connects to a network of mobile phones is used in emergencies to enable repair teams to reach the sites of accidents within two hours. The team is equipped with sufficient instruments and vehicles for repairs. ・In an effort to maintain instruments and equipment, infrared testing is performed once per month at the large transformer, switchboards and other facilities owned by the power department. ・Other than normal power line maintenance, there have been no accidents in the past five years. ・Residential and other areas experience scheduled blackouts, but the Vietnamese government's policy is to exempt industrial parks from blackouts. ・In 2013, the SON LA Hydraulic Power Plant began operating, further increasing the reliability of the power supply.
	・Industrial park management risk	・Preventive, compulsory, predictive and other types of maintenance are planned. Machinery is to be inspected twice per year. Implementation of 5S (sort, set in order, shine, standardize, sustain) is also planned. ・Common areas of the industrial park will be cleaned every day. Trash will be sorted, and picked up once per week by a waste management company. ・There are no planned controls on smoking. ・There are no plans to use authorization documentation for cutting and welding work, but they will be used if samples can be obtained. ・A dedicated fire brigade will be stationed in the industrial park. ・The management company will have a staff of approximately 25 people. ・Fire evacuation drills will be implemented once per year. ・Water pressure for fighting fires will be checked once every six months. ・Depending on how the project progresses, the implementation of safety, close call analysis and emergency planning as well as ISO certification will be considered.

No.	Risk Type	Risks and Problem Areas
	Risk of Accidents/Disasters	
11	・Fires, etc. caused internally	1. Potential fire hazards ・Different types of fires could start at rental factories. Paper, wood and other material can cause common fires. Plastics (including commonly used PVC electrical cables) can cause plastic fires. Lubricants, cutting fluids, hydraulic fluid and other substances used for industrial work can cause oil fires. ・There is also a risk of electrical fires caused by electrical equipment and machinery facilities. 2. Fire extinguishing equipment and fire stations ・Vietnam fire code requires the installation of fire extinguishers, indoor and outdoor fire hydrants, automatic and manual fire alarm systems and the like. ・Vietnam fire code requires the installation of sprinklers where dangerous work is being done. ・Regular fire brigade drills and regular maintenance of firefighting equipment will continue so that initial firefighting activities can be counted on to extinguish fires at incipient stages. ・The closest fire station is the PCS PCCC Dluric Yen Fire Station (a substation located at Phuory Doiy Xuan – TX Phuc Yen) located 5 km away from the industrial park. Another fire station with the same name (the main station located at 2 Phuory Khai Quay – TP. Vinl Yen) is located about 9 km away from the industrial park. Since the main fire station is 9 km away from the industrial park, the time between the start of the fire and the arrival of the fire fighters is estimated to be about 15 minutes, which is a rather long time to wait to fight the fire. Each station has one pump truck and one hazardous material truck. ・There are 16 outdoor fire hydrants within the industrial park as well as three public fire hydrants along public road Durong Tinh 310, which connects to the main gate of the industrial park. ・Water pipes within the industrial park are 250 mm in diameter while the pipes outside the industrial park are 160 mm in diameter (there are plans to switch to larger pipes in the future). ・There are no fire cisterns within the industrial park. 3. Access roads ・The main road on the south side of the industrial park is Duron Tinh 310. ・There are plans to add an access road on the north side, but the progress of the project may push back the start of construction. ・The construction of an access road on the east side has not yet been determined. ・There are no plans for an access road on the west side. ・The maximum truck weight is 45 tons. Plans call for a speed limit of 30-km/hr. and speed bumps to prevent accidents. As the road is wide, there is a low risk of collisions.

No.	Risk Type	Risks and Problem Areas
		4. Other ・There are no plans to build a heliport. The closest airfield is Gia Lain Military Airfield about 30 km away. Thus, there is a low risk of helicopters or airplanes crashing into the industrial park. ・Four security guards will be permanently stationed at the industrial park. Security guards will be available from their own staff or from a private security company. One security guard will be stationed at each of the four guard stations, including the guard station at the main gate. All guards will participate in regular emergency response drills. ・There are no plans to install a police box. ・The areas to the north, east and west of the industrial park are largely residential. The area to the south is currently open land, and across the road from the open land is Ba Thien 1 Industrial Park. Thus, there is a low risk of the industrial park catching fire from its surroundings.
	・Disasters	・Other than typhoons, floods and droughts, no major accidents are caused by natural disasters. Asia Disaster Reduction Center, Report on Vietnam, 1999 Since 1954, a total of 212 typhoons have made landfall in and directly impacted Vietnam. On average, 30 typhoons start over the Western Pacific Ocean per year, with 10 of them originating over the East China Sea. On average, four to six of those 10 strike Vietnam and cause damage. In many years, at least 10 strike Vietnam, most recently in 1964 (18 typhoons), 1973 and 1978 (12 each), and 1989 and 1996 (10 each). The areas impacted most by typhoons are the provinces on the coast of Northern Vietnam and central regions. While typhoons do not strike Southern Vietnam as often, there is still concern that they could become extremely dangerous. Typhoons frequently impact 62% of the population and 44% of the territory of Vietnam and are responsible for an average of 250 deaths per year. The worst typhoons of this century were the typhoon in Southern Vietnam in 1904, in which 5,000 people were killed or injured, and the typhoon that struck Binh Tri Thien Province in 1985, in which 900 people were killed. Typhoons cause storm surges. Over the past 30 years, half of typhoons have caused storm surges over 1 m, 30% have caused storm surges over 1.5 m and 11% have caused storm surges over 2.5 m. These typhoons rise up again and again, flooding lowlands in coastal areas and frequently destroying seawalls. As in other countries around the world, the damage caused by floods and typhoons in Vietnam appears to be growing worse. For example, between 1985 and 1989 approximately 540 people per year died because of typhoons and floods, compared to 225 per year between 1976 and 1979.

<table>
<tr><th>No.</th><th>Risk Type</th><th>Risks and Problem Areas</th></tr>
<tr><td></td><td></td><td>Asia Disaster Reduction Center, Vietnam Report, 2006
<table>
<tr><th>Year</th><th>Disaster</th><th>Deaths</th><th>Injuries</th><th>Afflicted people</th><th>Financial damage (US$1,000)</th></tr>
<tr><td>2005</td><td>Drought</td><td>0</td><td>0</td><td>410,000</td><td>42,120</td></tr>
<tr><td>2005</td><td>Flood</td><td>19</td><td>0</td><td>30,000</td><td>-</td></tr>
<tr><td>2005</td><td>Flood</td><td>67</td><td>0</td><td>33,800</td><td>-</td></tr>
<tr><td>2005</td><td>Wind damage</td><td>13</td><td>0</td><td>6,500</td><td>-</td></tr>
<tr><td>2005</td><td>Wind damage</td><td>75</td><td>28</td><td>337,660</td><td>219,250</td></tr>
<tr><td>2004</td><td>Infectious disease</td><td>21</td><td>0</td><td>43</td><td>-</td></tr>
<tr><td>2004</td><td>Flood</td><td>53</td><td>18</td><td>18</td><td>8,000</td></tr>
<tr><td>2004</td><td>Flood</td><td>34</td><td>0</td><td>30,000</td><td>-</td></tr>
<tr><td>2004</td><td>Landslide</td><td>23</td><td>0</td><td>-</td><td>-</td></tr>
<tr><td>2004</td><td>Wind damage</td><td>56</td><td>0</td><td>500,000</td><td>23,000</td></tr>
</table>
(Source: EM-DAT: The OFDA/CRED International Disaster Database, www.em-dat.net, Katholieke Universiteit Leuven, Brussels Campus (Belgium))

・Recent disasters
December 13, 2007: Typhoon No. 5 struck Da Bac District in Hoa Binh Province and caused total financial damage of 160 million JPY.
November 11, 2013: Typhoon No. 31 caused flood damage in Central Hoi An, killing 34 people.</td></tr>
<tr><td></td><td>・Natural disasters</td><td>See Section 12.2 Natural Dangers.</td></tr>
</table>

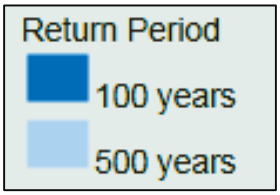
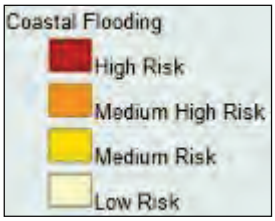
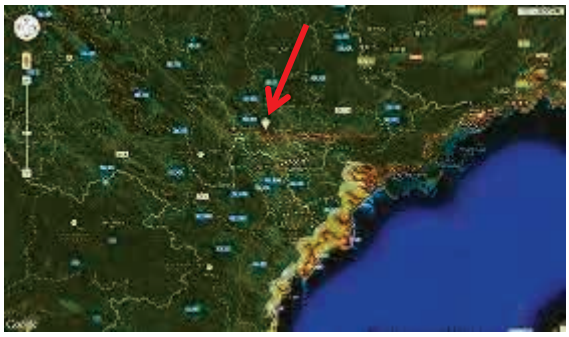
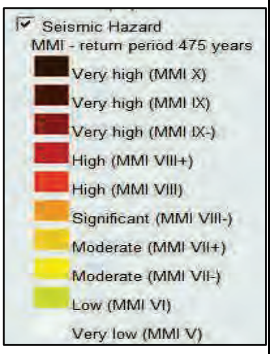
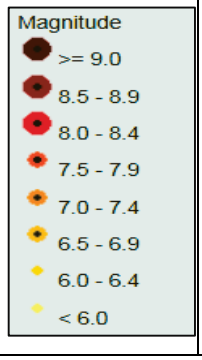
12.2 Natural Dangers

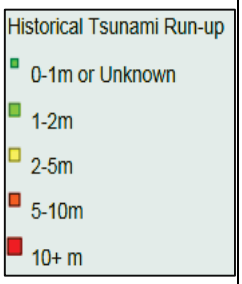
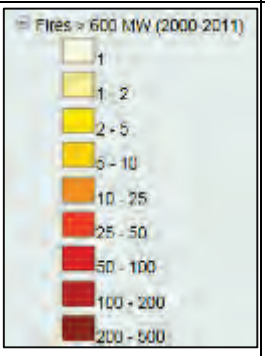
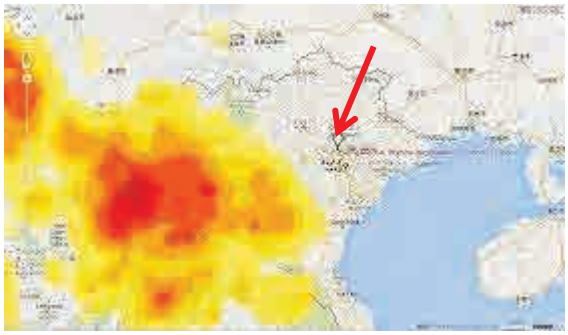
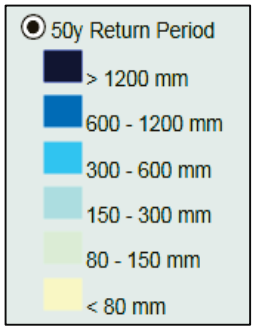
The degree of risk for each natural danger was analyzed based on Swiss Re's CatNet hazard maps.

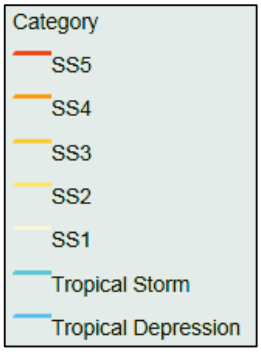
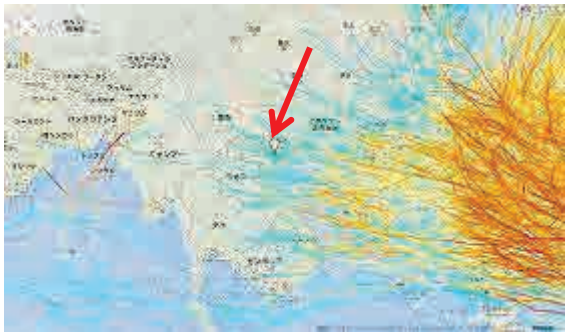
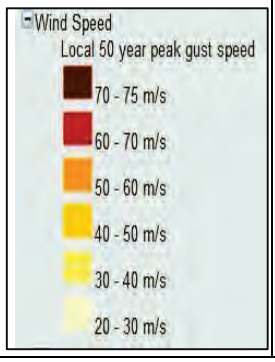
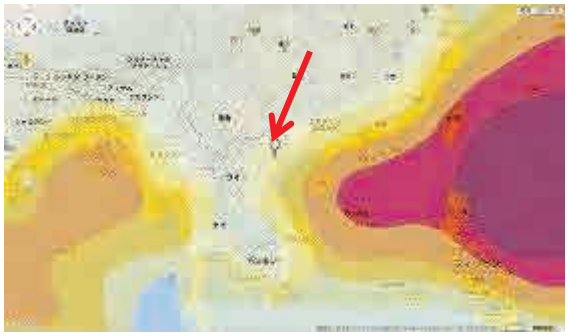
Table 12-2: Analysis of Degree of Risk for Natural Dangers

Natural Danger	Risk	Comments
1. Flood	Low	The industrial park is not located in an area at risk for floods.
2. Storm surge	Low	There is no danger from storm surges.
3. Earthquake	Low	There is a low risk of earthquakes. Different bases for calculation make it difficult to properly apply the MMI or the Japanese Meteorological Agency seismic scale used in Japan, but a simple conversion to MMI using acceleration indices yields the equivalent of a seismic intensity of 3 in Japan.
4. Seismic origin	Low	As there are no past seismic origins nearby, the risk is low.
5. Tsunami	Low	As the industrial park is far from the ocean, there is no risk of tsunami.
6. Volcano	Low	As there are no volcanoes nearby, the risk is low.
7. Brush fire	Low	As there have not been any brush fires nearby in the past, the risk is low.
8. Rainfall	Low	The annual three-day rainfall (50-year rainfall) at the site is 150–300 mm; the site is in an area with low rainfall.
9. Typhoon	Low	Not many typhoons pass through the area; most of the ones that do are categorized as tropical depressions or tropical storms. Thus, the typhoon risk is low.
10. Strong wind	Low	The 50-year maximum wind velocity is 20–30 m/s. Thus, there is a low risk of wind damage.

Table 12-3: Breakdown of Assessment and Potential Dangers in Target Area
(comments in red type and shaded parts)

No	Assessed Disaster	Degree of Risk	Hazard Map Source: Swiss Re's CatNet
1	Flood	The 100-year flood area is dark blue, and the 500-year flood area is light blue. 	
2	Storm surge	Red is the highest risk, followed by orange, yellow and light yellow. 	
3	Earthquake	Dark brown is the highest risk. The lighter the color, the lower the risk. The figures in parentheses are Modified Mercalli Intensities. 	
4	Seismic origin	Dark brown is the highest risk. The lighter the color and the smaller the circle, the lower the risk (magnitude). 	

No	Assessed Disaster	Degree of Risk	Hazard Map Source: Swiss Re's CatNet
5	Tsunami	Red is the highest risk. The smaller the square, the lower the risk (tsunami height). 	
6	Volcano	Red is volcanic activity in the last 100 years, followed by orange, light green and grey in order from most to least recent. 	
7	Brush fire	Dark red is the highest risk. The lighter the color, the longer ago the fires occurred. MW stands for megawatts. 	
8	Rainfall	Dark navy blue is the highest risk. The lighter the color, the lower the risk. Based on a 50-year return period. 	

No	Assessed Disaster	Degree of Risk	Hazard Map Source: Swiss Re's CatNet
9	Typhoon	SS stands for Saffir-Simpson Hurricane Scale. Blue is atmospheric depression. 	
10	Strong wind	Brown is the highest risk. The lighter the color, the lower the risk. Based on a 50-year return period. 	

12.3 Considering Methods for Hedging Risks and Security Packages

12.3.1 Methods for Hedging Risks

This is a consideration of methods for hedging each of the risks assessed in the previous section.

Table 12-4: Consideration of Methods for Hedging Risks

No.	Risk	Countermeasures[36]	Method of Hedging
1	Sponsor risk	Avoid Reduce	・Obtain and analyze supplementary materials, etc. related to the financial condition of Vina CAPITAL and Vina CPK and the actual operation of the industrial park to assess the sponsors' qualifications as partners. ・Thoroughly study and analyze relevant information about CPK Vinh Phuc Joint Stock Company, which has a minor stake in Vina CPK, to assess whether or not sponsor risk exists.
2	Investor/project approval system risk	Reduce	・Hold discussions with Vinh Phuc Province to clarify the procedures for obtaining investment certificates; applying for building, fire and environmental permits; and other approval regarding the implementation of the Project, and appeal for support for streamlined approval acquisition. ・Appeal to shorten the time required for procedures. ・Hold discussions with Vinh Phuc Province to clarify incentives applicable to the Project, and appeal for those incentives to be granted without fail.
3	Foreign remittance risk	Reduce	・Appeal to Vinh Phuc Province and the government of Vietnam for the softening or elimination of regulations.
4	Funding risk	Reduce Avoid	・Use the JICA investment and loan system, to procure funding at low interest rates. ・Reduce funding risk with corporate financing on the strength of the creditworthiness of partner company Vina CAPITAL.
5	Market (macroeconomic) risk	Reduce	・Make an effort to gather information about factors such as the market environments surrounding Asian nations and industrial trends related to the ASEAN economic integration in 2015 in order to recognize signs of market risk as soon as possible.

[36] Countermeasures to take against risks are separated into four categories: Avoid, Reduce, Maintain and Shift.

No.	Risk	Countermeasures[36]	Method of Hedging
6	Operational (commercial) risk	Reduce	・Make an effort to gather information about factors such political and economic situations and industrial trends in Asian nations in order to recognize signs of risk as soon as possible.
7	Social situation risk	Reduce	・The Project site was assessed as stable and secure, but events such as anti-China demonstrations could erode that stability and security. The demonstrations are calming down, but observe trends in Vietnam, China and other Asian nations in order to recognize signs of worsening situation as soon as possible.
8	Technical/completion risk	Reduce	・Appropriately supervising and monitoring construction companies prevents risks from materializing. ・Project costs are estimated after obtaining quotes from multiple companies, including both Japanese and local construction companies. However, reviewing project costs and observing trends in markets related to construction as the project is being implemented prevents risks from materializing.
9	Environmental risk	Reduce	・Make an effort to promptly and continuously gather information about the risks of air pollution and epidemics in order to recognize signs of risk occurring or spreading as soon as possible. ・Observe environmental laws and regulations in order to prevent environmental risks from materializing.
10	Relevant infrastructure and utility risk	Reduce	・Install emergency household power generators on the grounds of the Project site to mitigate the risk of power outages and water supply interruptions due to widespread power outages. ・Draft plans to continue the Project during water supply interruptions, power outages and other emergencies.
11	Risk of accidents/disasters	Shift	・Enroll in various insurance plans (construction, fire, automobile, accident, liability, workers' compensation, etc.) in an effort to shift damage from accidents and disasters.

(Prepared by the study team)

12.3.2 Proposed Security Packages

The table below shows proposed security packages based on methods for hedging the risks assessed in the previous section.

Table 12-5: Proposed Security Packages

No	Risk	Contents	Status
1	Sponsor risk	・Fully understand information about sponsor companies	○
2	Investment/project approval system risk	・Clarify procedures for project approval ・Appeal for support from Vinh Phuc Province	○
3	Foreign remittance risk	・Appeal to Vinh Phuc Province and the government of Vietnam for the softening or elimination of regulations	○
4	Funding risk	・Use JICA investment and loan system ・Use corporate financing	○ Under consideration
5	Market (macroeconomic) risk	・Gather information about factors such as the market environments of Asian nations and industrial trends	○
6	Operational (commercial) risk	・Gather information about factors such as the political and economic situations and industrial trends in Asian nations	○
7	Social situation risk	・Observe trends in Asian nations regarding anti-China demonstrations	○
8	Technical/completion risk	・Supervise and monitor construction companies ・Review project costs and observe trends in markets related to construction during project implementation	○
9	Environmental risk	・Promptly and continuously gather information about environmental risks ・Observe environmental laws and regulations	○
10	Relevant infrastructure and utility risk	・Install emergency household power generators ・Draft plans for continuing the Project during emergencies	○ Under consideration
11	Risk of accidents/disasters	・Enroll in various insurance plans	○

(Prepared by the study team)

Chapter 13 Financing Plan

13.1 Stakeholder Analysis

13.1.1 Overview of Stakeholders

(1) VinaCapital

VinaCapital, established in 2003, is a Vietnamese investment and real estate fund and owned assets of USD 1.5 billion as of March 2014. The headquarters is in Ho Chi Minh, and branch offices in Hanoi, Da Nang, and Singapore. The workforce is about 130, of whom 50 are investment professionals.

VinaCapital manages three closed-end funds listed on the London Stock Exchange's Alternative Investment Market (AIM), as well as a venture capital fund called DFJ VinaCapital (DFJV).

Table 13-1: Three Funds Listed by VinaCapital

Fund name	Investment area	Major investment sector	Target asset allocation
VinaCapital Vietnam Opportunity Fund Limited (VOF)	・ Vietnam and neighboring countries (China, Cambodia and Lao PDR)	・ Retails, consumable goods, financing, tourism, industrial and construction materials, real estate, infrastructure, etc.	60-75%
VinaLand Limited (VNL)	・ Vietnam and neighboring countries (China, Cambodia and Lao PDR) ・ Major investment areas include Ho Chi Minh and major leisure areas such as Hanoi, Nha Trang, Hoi An and Da Nang.	・ Housing, retails, tourism, offices and industry	25% (maximum)
Vietnam Infrastructure Limited (VNI)	・ Vietnam and neighboring countries (China, Cambodia and Lao PDR) ・ Major investment areas include Ho Chi Minh, Hanoi and other major economic regions such as Da Nang and Can Tho.	・ Energy, transport, industrial parks, communication, and water and environment utilities	10% (maximum)

(Sources: VinaCapital Vietnam Opportunity Fund Limited Annual Report 2013, VinaLand Limited Annual Report 2013, Vietnam Infrastructure Limited Annual, http://www.vinacapital.com/, and Nikko Vietnam Fund (from SMBC Nikko Securities Inc.)

(2) Vietnam Infrastructure limited (VNI)

1) Summary

VNI is a closed-end fund of VinaCapital. Through this fund, VinaCapital has a stake of 97.2% in Vina CPK, the owner of Ba Thien 2 Industrial Park.

The following table outlines VNI, its major shareholders and fund management status.

Table 13-2: Summary of Vietnam Infrastructure Limited (VNI)

Item	Descriptions
Investment objective	・ Medium to long term capital gains recurring income through investment in such sectors as energy, transportation, industrial parks, telecommunication, and water and environmental utilities.
Area	・ Seventy percent or more of the fund is invested in Vietnam. ・ The remaining is in Cambodia, Lao PDR and southern China.
Net asset value (NAV)	・ USD 218 million (approx. JPY 22 billion) ・ Of which, cash and the equivalent totals USD 18.6 million (approx. JPY 1.9 billion)
Maximum investment	・ The maximum amount of investment in one project is 30% of the NAV at the time of investment, and the maximum amount of investment in any other fund is 10% of the NAV at the time of investment.
Distribution policy	・ A large part of income is reinvested.
Base fee	・ Management fee of 2% annual rate of the NAV.
Performance fee	・Performance fee of 20% of total NAV increase over the higher of an 8% compound annual return and the high water mark.
Fund type	・Closed-end exempted company established in Cayman Islands
Exchange market	・ Listed on the London Stock Exchange's Alternative Investment Market (AIM)
Term of fund	・ The fund was launched on July 5, 2007 ・ No expiration date is set. But the shareholders vote for continuation of every five years after 2017 at shareholders' meetings.
Settling day	・ June 30 each year

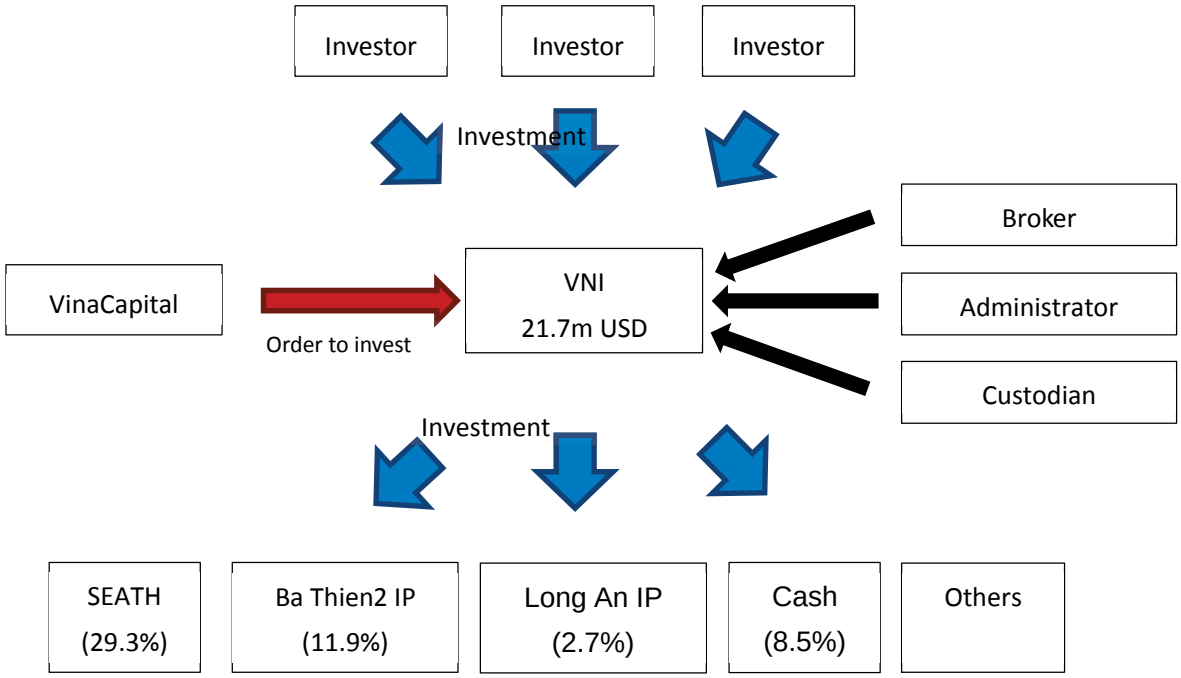
Table 13-3: Major Shareholders of VNI (as of June 26, 2014)

主要株主 （Investor Name）	保有株式 （Number of shares）	保有比率 (% holding)
IRONSIDES	82,491,350	23.46%
THE BANK OF NEW YORK MELLON	52,442,896	14.91%
CITIBANK NA	37,800,000	10.75%
KBL EUROP	22,475,000	6.39%
MORGAN STANDLEY	21,596,500	6.14%
JP MORGAN BK	20,333,000	5.78%
GOLDMAN SACHS CO CL AC,NY	19,860,000	5.65%
JULIUS BAER BK	19,813,600	5.63%
JP MORGAN LDN	17,345,000	4.93%
VIETNAM MASTER HOLDING	12,050,000	3.43%
GOLDMAN SACHS INT	11,775,290	3.35%
EUROCLEAR	11,777,120	3,34%

(Source: website of VinaCapital)

Table 13-4: Management of Vietnam Infrastructure Limited (VNI)

Title	Trustee	Responsibility
Investment Manager	VinaCapital Investment Management Ltd	Instructions
Auditor	PricewaterhouseCoopers (Hong Kong)	Auditing
Nominated Adviser	Grant Thornton UK LLP	Decision on listing the fund on the AIM and advice after listing
Custodian	Standard Chartered (Singapore)	Asset management
Administrator		Trading and calculation of NAV
Brokers	Edmond de Rothschild Securities (Bloomberg: LCFR), Numis Securities(Bloomberg: NUMI)	Transaction execution, settlement, valuable securities and loan
Lawyers	Lawrence Graham (UK), Maples and Calder (Cayman Islands)	Legal advice



Note: The NAV and the proportions are as of the end of February 2014.
(Prepared by the Study Team based on publications of VinaCapital)

Figure 13-1: Scheme of VNI

2) Portfolio

Ba Thien 2 Industrial Park accounted for 11.9% of the VNI investment portfolio, and Long An Industrial Park for 2.7% (as of the end of February, NAV).

By sector, VNI invests in three agribusiness projects, two general infrastructure projects, five industrial parks and commercial projects, four oil and gas projects, two power plants, 4 communication projects, two transport and logistics, and three other projects. The largest destination of the fund money is a communication project, Southeast Asia Telecommunications Holding Pte. Ltd. (SEATH), accounting for 29.3% of all the NAV.

The decision to invest in Ba Thien 2 Industrial Park – that is, the establishment of Vina CPK – was made in March 2008, and the investment license was acquired in February 2009. The 100% rights to Lon An Industrial Park was acquired in March 2008.

As of December 2013, funds of VNI were directed to the industrial park itself (37.5%), industrial projects (50%), and harbors and ports (37.5%) of all the funds invested in Long An Industrial Services and Residential. These projects are currently on sale.

3) Business and financial status

The following table shows the financial status of VNI in the previous three years.

The financial position of VNI seems stable on the grounds that the equity ratio, fixed ratio and current ratio hovered at high levels. On the other hand, the return on asset and return on equity were approximately -25 - 26% in 2011, approximately 6% in 2012 and approximately 0% in 2013.

Recurring profits were negative in 2011 due to the selloff of three matters from the investment project that did not perform well in 2007 and 2008.[37]

Table 13-5: Financial Indicators of VNI 1 (in the previous three years) (unit: USD 1,000)

Item	2013	2012	2011
Current assets	120,814	126,537	144,963
Non-current assets	84,402	74,641	68,495
Liabilities	7,756	6,368	9,377
Current liabilities	5,737	4,285	9,068
Non-current liabilities	2,019	2,083	309
Equity	197,460	212,158	204,081
Revenue	10,801	8,071	1,168
Cost of sales	-3,951	-585	-559
Gross profit	6,850	7,486	609
Net accounting loss before tax	532	15,124	-54,686
Profit for the year	-386	12,716	-54,718

(Prepared by the Study Team based on publications on the website of VNI)

Table 13-6: Financial Indicators of VNI 2 (in the previous three years)

Indicator	2013	2012	2011
Equity ratio	96%	97%	96%
Fixed ratio	43%	35%	34%
Current ratio	2106%	2953%	1599%
Return on asset (ROA)	0.3%	6.9%	-25.6%
Return on equity (ROE)	-0.2%	6.0%	-26.8%
Gross profit ratio	63.4%	92.8%	52.1%
Total asset turnover (TAT)	0.05	0.04	0.01

(Prepared by the Study Team based on publications on the website of VNI)

(3) CPK Vinh Phuc Joint Stock Company

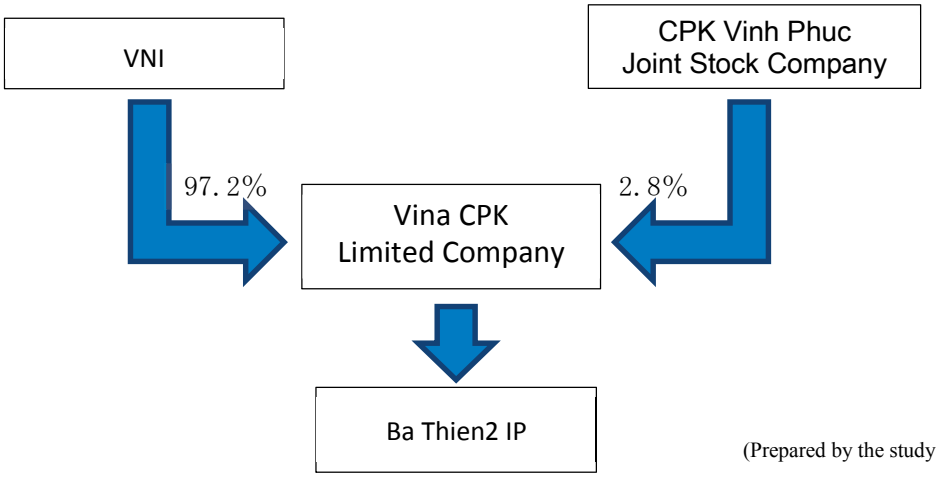
CPK Vinh Phuc Joint Stock Company is a private company established in 2007 and has a stake of 2.8% in Vina CPK, the owner of Ba Thien 2 Industrial Park.

[37] Vina Capital. ”Vietnam Infrastructure Limited Annual Report 2011” (2011)

(4) Vina CPK Limited Company

Vina CPK Limited Company, established in 2009, is in charge of sales and management of Ba Thien 2 Industrial Park. It has a stake of 97.2% in VinaCapital, and CPK Vinh Phuc Joint Stock Company has a stake of 2.8%. A total of USD 600,000 (approx. JPY 60 million) is for minority stakes, and capital fund totals approximately USD 21 million (approx. JPY 2.1 billion).

According to publications of Vina CPK, the company was presided by Mr. Thieu Son as of April 2014. The workforce was 30, of which male employees totaled 19 and female employees 11.



(Prepared by the study team)

Figure 13-2: Stakeholders of Ba Thien 2 Industrial Park

Land of 40ha has been developed on the entire site of Ba Thien 2 Industrial Park. The development of land of another 40ha started in the second quarter of 2014 as Phase 2. Two Japanese companies as well as a South Korean IT company, are building their factories.

Table 13-7: Information about Ba Thien 2 Industrial Park

Item	Q'ty	Unit
Asset value	25.9	USD million
(Proportion to the NAV of VNI)	11.9	%
Total area	308	ha
Industrial area	221	ha
Proportion of land whose right to use has already been sold	4	%
No. of tenant companies	3	companies

(Sources: Vietnam Infrastructure Limited Interim results for the six months ended 31 December 2013
: Investment Manager's monthly update 28 February 2014)

13.1.2 Operation and Maintenance Capacity of Industrial Parks

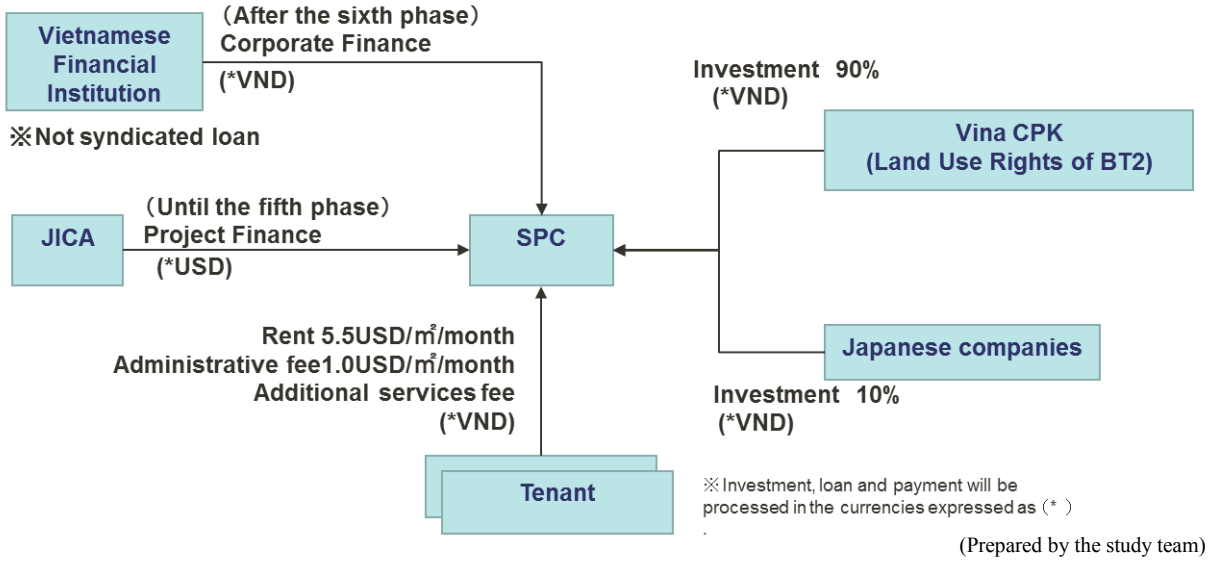
The president and construction director of Vina CPK, the project partner, have a great deal of experience and work records in industrial park projects in Vietnam and abroad. Their experience and work record will be highly useful for the project, and it can be said that Vina CPK has good capacity to operate and manage industrial parks.

13.2 Deliberation and Coordination with Vina CPK

13.2.1 Results of Deliberation and Coordination with Vina CPK

The figure below shows the results of deliberation with Vina CPK as well as investment ratios, amounts and other information.

Vina CPK, a partner company of the Project and the Japanese companies comprising the consortium jointly invest in and establish an SPC which implement the rental factory project for Japanese SMEs. The SPC procures construction cost by capital and loan. Investment ratio is 90% for Vina CPK and 10% for the Japanese companies comprising the consortium. The first five years of loans will come directly from JICA PSIF and Vietnamese financial institutions will provide corporate financing from the sixth year on.



(Prepared by the study team)

Figure 13-3: Project Scheme

SPC will implement the rental factory project by revenue from rent, administrative fees and additional services fees paid from tenants.

The services SPC provides to tenant companies are divided into two types: basic services and additional services. Basic services are those for rental factory maintenance and operation and expansion assistance. SPC will collect fees from rent and administrative fees by tenant companies. Additional services are operational assistance services, meals, vehicles, IT, logistics, insurances, housing, introduction of candidate companies for tie-ups, and business matching, etc. Tenant companies will pay fees for each service separately from rent and administrative fees to companies providing additional services, and SPC will collect introduction fees from those companies.

13.2.2 Proposed Term Sheet for Main Conditions for Shareholders Agreements

Based on the results of the Study, a term sheet for the main conditions for shareholders agreements for the Project was considered.

13.3 Coordinating with Vietnamese Financial Institutions

Three banks were interviewed in the course of selecting an intermediary bank for two-step loans in order to use JICA's overseas investment system: the Joint-Stock Commercial Bank for Foreign Trade of Vietnam (Vietcombank), the Vietnam Bank for Industry and Trade (Vietinbank) and the Vietnam Export-Import Bank (EXIM Bank).

13.3.1 Results of Coordinating with Vietnamese Financial Institutions

Interviews with three Vietnamese financial institutions revealed that a loan scheme premised on two-step loans would be difficult. The main reasons for this difficulty are problems with project risk, exchange and interest rates, and loan periods as well as the institutions' lack of experience with project financing. Therefore, it is envisioned that the first five years of loans will come directly from JICA PSIF, and that Vietnamese financial institutions will provide corporate financing from the sixth year on. However, the trend of PSIF and the possibility of its application are continued to be explored because procurement by JICA two-step loans can be possible when the conditions are satisfied by resolution of problems presented by local financial institutions that would become intermediary banks in the future.

13.3.2 Proposed Term Sheet of Main Conditions Related to Loan Agreements

A term sheet of main conditions related to loan agreements for the Project was considered, reflecting deliberations with Vina CPK and the results of coordination with Vietnamese financial institutions. Note that conditions related to loan contracts with Vietnamese financial institutions will be discussed and determined with JICA as they come up when the Project expands in the sixth year and beyond.

Chapter 14 Economic and Financial Analysis

14.1 Organization of Prerequisites

This section will calculate revenue and expenditure of the project, and analyze the financial standing of the SPC. To this end, the financial analysis will use such indicators as net present value (NPV), project internal rate of return (PIRR), economic internal rate of return (EIRR), debt-service coverage ratio (DSCR) and loan life coverage ratio (LLCR).

The financial analysis defines the "base case" as a case where the entire area of the industrial park is developed in a step-by-step manner from Phase 1 to Phase 7. To clarify the sensitivity to risk of demand fluctuations with a number of uncertain elements, the financial analysis will also deal with a "medium-term development case", where the industrial park is developed in Phases 1 to 6. In addition, to clarify the project feasibility, the financial analysis will also deal with on a "start-up case", the development under Phase 1 only, because the initial development is considered to be particularly important for financing organizations

It is envisioned that funds for the first five years will be procured from direct loans from JICA using JICA PSIF, and through corporate financing from Vietnamese financial institutions from the sixth year on. Foreign currency risk is expected because JICA direct loans are procured and repaid in USD and SPC income and payments are in VND. However, the cash flow will be evaluated through sensitivity analysis of demand fluctuation risk because future exchange rate fluctuations cannot be predicted and because there is room for the fluctuation of occupancy rates, inflation rates and interest rates from procuring JICA PSIF.

(1) Project Schedule and Development Area

Table 14-1: Project Schedule and Development Area

Phase	Construction	Inauguration of business	Land area	Building area	Grounds, etc.
Phase 1	2016	January 2017	20,000 ㎡	10,438 ㎡ (of which the administrative building: 500m²)	・ Developing approximately two thirds of all the model units of 30,820m², and the administrative building
Phase 2	2017	January 2018	11,820 ㎡	6,182 ㎡	・ Developing approximately one third of all the model units of 30,820m²
Phase 3	2018	January 2019	15,410 ㎡	8,060 ㎡	・ Developing a half of all the model units of 30,820m²
Phase 4	2019	January 2020	15,410 ㎡	8,060 ㎡	・ Developing a half of all the model units of 30,820m²
Phase 5	2020	January 2021	15,410 ㎡	8,060 ㎡	・ Developing a half of all the model units of 30,820m²
Phase 6	2021	January 2022	15,410 ㎡	8,060 ㎡	・ Developing a half of all the model units of 30,820m²
Phase 7	2022	January 2023	184,850 ㎡	89,861 ㎡ (of which the administration building: 500m²)	・ Calculated by multiplying the entire land area minus areas for rental factories/administrative building/paving by 52.3% ・ In reality, developing the area in accordance with the project progress
Total are			278,310 ㎡	138,721 ㎡ (of which the administration building: 1,000m2)	

(2) Operation Period

Table 14-2: Operation period

Base case	Medium-term development case	Start-up case
36 years (2017 – 2052)	30 years (2017 – 2046)	30 years (2017 – 2046)

(3) Financing

Table 14-3: Financing

Item		Grounds, etc.
Own capital	Investment	・ 30% of the entire investment
Borrowing	JICA PSIF	・First five years, 70% of total investment ・Project financing ・Procurement and repayment in USD ・Interest rate: 8% (Set with consideration for foreign currency risk) ・Loan period: 20 years (five-year deferment period)
	Vietnamese Financial Institutions	・From sixth year on, 70% of total investment ・Corporate financing ・Procurement and repayment in VND ・Interest rate: 8% (Set with consideration for VNIBOR as of November 2014, Vietnamese financial institution short-term loan interest rates, and project risks. Envisioning discussion from sixth year on as necessary.) ・Loan period: 20 years (five-year deferment period)

(4) Revenue from Operation

Table 14-4: Revenue from Operation

Item		Grounds, etc.
Revenue from operation	Rents	・ Rent: USD 5.5/m^2/month[38] ・ Rent is calculated by multiplying the building area by unit rent and by occupancy rate.
	Administrative fees	・ Administrative fee: USD 1.0/m^2/month[38] ・ Administrative fee is calculated by multiplying the building area by unit administrative fee and by occupancy rate.
Additional service fees		・ Handling charges from agencies to which additional service is re-commissioned, and intermediate agencies

(5) Occupancy Rate

Based on the preceding cases and the results of the interview, occupancy rates were set for each phase and account for the time required for tenant companies to move out or switch.

(6) Initial Cost

Based on the outline design of rental factories and project planning, initial costs were caluculated.

[38] See Chapter 11 for more details.

(7) Operating Cost

Based on the factory maintenance plans, operational plans and project planning, operational costs were caluculated.

(8) Depreciation

Depreciation periods were set in 45 years for the land and 30 years for the buildings. Both of the depreciation of the property were calculated under the straight-line method.

(9) Taxation

Table 14-5: Taxation

Item		Base case	Medium-term development case	Start-up case	Grounds, etc.
Tax type	Corporate income tax (national tax)	20%	20%	20%	・ Corporate income tax exemption is available for investment in preferential sectors and regions under the Common Investment Law. The project is a real estate project, which is categorized as a sector with conditioning, and is not eligible for the tax exemption. ・ Loss carry-forward period: 5 years

(10) Inflation Rate

Table 14-6: Inflation Rate

Item	Base case	Medium-term development case	Start-up case	Grounds, etc.
Inflation rate	6.0%	6.0%	6.0%	In 2013, CPI grew at the rate of 6.6%.

(11) Dividend Policy

Based on the project planning, dividend policies were set.

14.2 Financial Analysis of the Private Sector

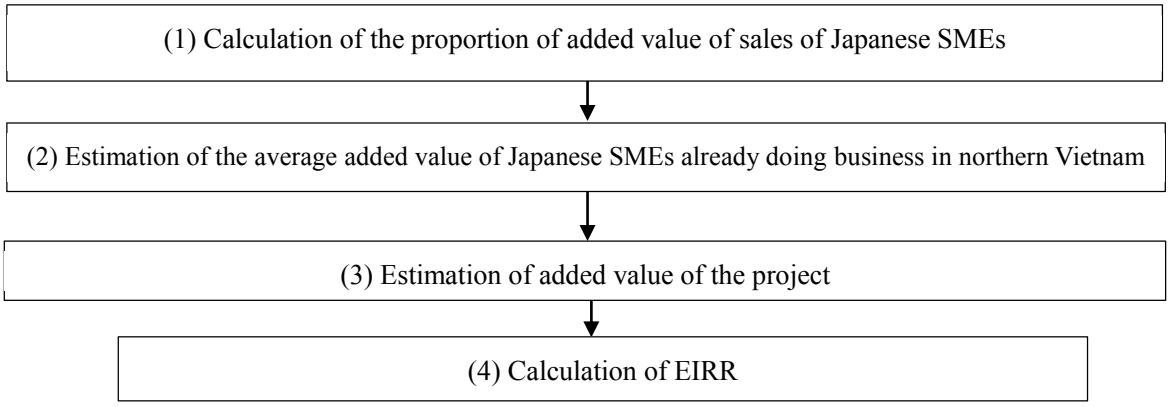
As a result from financial analysis based on the above preconditions, the rental factory has the potential to be a profitable project.

14.3 Economic Analysis of the Project

This section gives an account of the economic analysis of the entire project that has been conducted to assess the validity of the project.

14.3.1 EIRR Analysis

After Japanese SMEs rent factories at the Industrial park, a number of new factories start production. This is expected to increase the factory production and added value (GDP) in Vinh Phuc Province. An EIRR analysis has been conducted in accordance with the following flowchart.



(Prepared by the Study Team)

Figure 14-1: Flow of the EIRR Analysis

(1) Calculation of the Proportion of Added Value of Sales of Japanese SMEs

The proportions of sales to sales per worker, sales per company and sales of SMEs classified in terms of workforce have been calculated based on the number of employees, sales and added value of the manufacturing sector in the FY2014 Basic Survey on Small and Medium Enterprises published by Japan's Small and Medium Enterprise Agency. The following table shows the proportions of added values to sales.

Table 14-7: Proportions of Added Values to Sales of Japanese SMEs (annual amount)

Category	5 or less workers	6 – 20 workers	21 – 50 workers	51 or more workers	Average
Average workforce per company (people)	4.3	14.0	37.1	156.8	53.1
Sales per worker (JPY million/worker)	9.8	12.5	14.4	21.2	14.5
Sales per company (JPY million/company)	43	176	534	3,303	1,014
Proportion of added value to sales	0.37	0.35	0.33	0.27	0.33

(Prepared by the Study Team based on the FY2014 Basic Survey on Small and Medium Enterprises (the Small and Medium Enterprise Agency of Japan))

(2) Estimation of the Average Added Value of Japanese SMEs Already Doing Business in Northern Vietnam

The annual added value per company has been estimated by multiplying sales of Japanese SMEs that are in the manufacturing or automobile industry and has already been doing business in northern Vietnam[39] by the proportion of value added to sales calculated in the previous section. The following table shows the results.

Table 14-8: Added Value of Japanese SMEs Already Doing Business in Northern Vietnam (annual amount)

Category	5 or less workers	6 – 20 workers	21 – 50 workers	51 or more workers
Total number of SMEs doing business in northern Vietnam (companies)	1	3	6	24
Total sales (JPY million)	78	294	1,915	37,626
Total added value (JPY million)	29	104	625	10,287
Added value per company (JPY million/company)	29	35	104	429

(Prepared by the Study Team based on "Data Bank Series for Research & Analysis: Comprehensive Guide for Japanese Companies Operating Overseas" (Toyo Keizai Inc.))

(3) Estimation of Added Value of the Project

The project plans to build apartment-type, two-in-one and stand-alone factories to create a total of 202 rental factory units. The number of tenants varies depending on the composition of units, but the EIRR analysis has assumed that one company will rent one rental factory unit. It has also assumed that companies renting apartment-type factories have 10 workers each; that those renting two-in-one factories have 50 workers each; and that those renting stand-along factories have 100 workers each. Based on these assumptions, the added values for various possible numbers of tenant companies have been calculated with the average added value per company estimated in the previous section.

Table 14-9: Prerequisite for Estimation of Added Value of the Project

Item	Apartment type	Two-in-one	Stand-alone
Workforce per company	10 workers	50 workers	100 workers
Average added value per company (annual)	JPY 35 million	JPY 104 million	JPY 429 million
No. of rental factory units to be created (total during the entire project period)	129 units	55 units	18 units
Possible number of tenants (total during the entire project)	129 companies	55 companies	18 companies

(Prepared by the Study Team)

[39] The source material lists Japanese SMEs (the number of employees is under 300) that are in the manufacturing or automobile industry and doing business in northern Vietnam. But the added value per company was estimated for 34 companies, whose data on sales and workforce were available.

The accumulated added value during FY2016-2022 has been estimated at JPY 38.8 billion when the occupancy rate is 100%; JPY 31.0 billion when the occupancy rate is 80%; and JPY 23.3 billion when the occupancy rate is 60%.

Table 14-10: Added Value during FY2016 and FY2022

Year	2017	2018	2019	2020	2021	2022	2023	Total
Project plan								
Building area (m^2)	10,438	6,182	8,060	8,060	8,060	8,060	89,861	138,721
Land area (m^2)	20,000	11,820	15,410	15,410	15,410	15,410	184,850	278,310
No. of rental factory units								
Apartment type	9	5	7	7	7	7	87	129
Two-in-one	4	2	3	3	3	3	37	55
Stand-alone	1	1	1	1	1	1	12	18
Total	14	8	11	11	11	11	136	202
If the occupancy rate is 100%								Unit: JPY million
Apartment type								
Added value (additional)	312	174	243	243	243	243	3,020	4,479
Added value (single year)	312	486	729	972	1,215	1,458	4,479	9,651
Two-in-one								
Added value (additional)	417	208	313	313	313	313	3,856	5,732
Added value (single year)	417	625	938	1,251	1,563	1,876	5,732	12,401
Stand-alone								
Added value (additional)	429	429	429	429	429	429	5,143	7,715
Added value (single year)	429	857	1,286	1,714	2,143	2,572	7,715	16,716
Total								
Added value (additional)	1,158	811	984	984	984	984	12,019	17,925
Added value (single year)	1,158	1,969	2,953	3,937	4,921	5,906	17,925	**38,768**
If the occupancy rate is 80%								Unit: JPY million
Apartment type								
Added value (additional)	250	139	194	194	194	194	2,416	3,583
Added value (single year)	250	389	583	778	972	1,167	3,583	7,721
Two-in-one and stand alone								
Added value (additional)	333	167	250	250	250	250	3,085	4,585
Added value (single year)	333	500	750	1,000	1,251	1,501	4,585	9,921
Stand-alone								
Added value (additional)	343	343	343	343	343	343	4,115	6,172
Added value (single year)	343	686	1,029	1,372	1,714	2,057	6,172	13,373
Total								
Added value (additional)	926	648	787	787	787	787	9,616	14,340
Added value (single year)	926	1,575	2,362	3,150	3,937	4,724	14,340	**31,014**
If the occupancy rate is 60%								Unit: JPY million
Apartment type								

Year	2017	2018	2019	2020	2021	2022	2023	Total
Added value (additional)	187	104	146	146	146	146	1,812	2,687
Added value (single year)	187	292	437	583	729	875	2,687	5,791
Two-in-one and stand alone								
Added value (additional)	250	125	188	188	188	188	2,313	3,439
Added value (single year)	250	375	563	750	938	1,125	3,439	7,441
Stand-alone								
Added value (additional)	257	257	257	257	257	257	3,086	4,629
Added value (single year)	257	514	771	1,029	1,286	1,543	4,629	10,029
Total								
Added value (additional)	695	486	591	591	591	591	7,212	10,755
Added value (single year)	695	1,181	1,772	2,362	2,953	3,543	10,755	**23,261**

(Prepared by the Study Team)

(4) Calculation of EIRR

The gross added value and EIRR have been calculated based on the added value estimated in the previous sections. The EIRR for the initial seven years after the commencement of the operation (2017-2023) has been estimated at 27-43%.

Table 14-11: Gross Added Value and EIRR

Item	The occupancy rate		
	100%	80%	60%
Gross investment (JPY million) *	6,752	6,752	6,752
Gross added value (JPY million) (2017-2023)	38,768	31,014	23,261
EIRR（2017-2023）	43%	36%	27%

* USD 66.2 million x JPY102/USD = JPY 6,752 million

(Prepared by the Study Team)

14.3.2 Employment Creation Effect

As stated in Chapter 2, there are 53 vocational training schools in Vinh Phuc Province, which produce 50,000 or more new workers each year. This project will be able to create employment opportunities for local workers including graduates from the vocational and training schools. As stated in the previous section, the project plans to build apartment-type, two-in-one and stand-alone factories to create a total of 202 rental factory units. Assuming that companies renting apartment-type factories have 10 workers each; that those renting two-in-one factories have 50 workers each; and that those renting stand-along factories have 100 workers each, the project will create 5,840 jobs if the occupancy rate is 100%, 3,950 jobs if the occupancy rate is 80%, or 2,910 jobs if the occupancy rate is 60%. This will have a considerable positive impact on the economy of Vinh Phuc Province.

Table 14-12: Employment Creation Effect

Year	2017	2018	2019	2020	2021	2022	2023	Total
Project plan								
Building area (m^2)	10,438	6,182	8,060	8,060	8,060	8,060	89,861	138,721
Land area (m^2)	20,000	11,820	15,410	15,410	15,410	15,410	184,850	278,310
No. of rental factory units								
Apartment type	9	5	7	7	7	7	87	129
Two-in-one	4	2	3	3	3	3	37	55
Stand-alone	1	1	1	1	1	1	12	18
Total	14	8	11	11	11	11	136	202
No. of jobs created (at the occupancy rate of 100%)								
Apartment type	90	50	70	70	70	70	870	1,290
Two-in-one	200	100	150	150	150	150	1,850	2,750
Stand-alone	100	100	100	100	100	100	1,200	1,800
Total	390	250	320	320	320	320	3,920	**5,840**
No. of jobs created (at the occupancy rate of 80%)								
Apartment type	70	40	50	50	50	50	690	1,000
Two-in-one	150	50	100	100	100	100	1,450	2,050
Stand-alone	0	0	0	0	0	0	900	900
Total	220	90	150	150	150	150	3,040	**3,950**
No. of jobs created (at the occupancy rate of 60%)								
Apartment type	50	30	40	40	40	40	520	760
Two-in-one	100	50	50	50	50	50	1,100	1,450
Stand-alone	0	0	0	0	0	0	700	700
Total	150	80	90	90	90	90	2,320	**2,910**

(Created by the Study Team)

Chapter 15 Overall Evaluation of Project Potential

15.1 Summary of the Study

This study has discussed the feasibility of a rental factory project for Japanese SMEs in the view of private investment by confirmation of private investment environment, demand forecasting, consideration of the scope of project, financial analysis, risk analysis and verification and implementation of environmental and social consideration. A draft term sheet of principal conditions of loan agreement has been also prepared.

Apartment-type of 360-540 ㎡ par lot, two-in-one type of approximately 1,000 ㎡ and stand-alone type of 2,000 ㎡ and over have been planned based on the demand forecasting and the market survey as the Project mainly targets at SMEs.

The scheme that Vina CPK and the Japanese companies comprising the consortium jointly invest in and establish an SPC which implement the rental factory project for Japanese SMEs has been developed. The SPC procures the entire construction cost by capital for 30% and loan for 70% and the investment ratio is 90% for Vina CPK and 10% for the Japanese companies comprising the consortium. The first five years of loans will come directly from JICA PSIF and Vietnamese financial institutions will provide corporate financing from the sixth year on. SPC will implement the rental factory project by revenue from rent, administrative fees and additional services fees paid from tenants.

The services SPC provides to tenant companies are divided into two types: basic services and additional services. Basic services are those for rental factory maintenance and operation and expansion assistance. SPC will collect fees from rent and administrative fees by tenant companies. Additional services are operational assistance services, meals, vehicles, IT, logistics, insurances, housing, introduction of candidate companies for tie-ups, and business matching, etc. Tenant companies will pay fees for each service separately from rent and administrative fees to companies providing additional services, and SPC will collect introduction fees from those companies.

SPC is scheduled to be established in 2015. Once established, SPC will acquire permits and approval required to construct and operate rental factories for Japanese SMEs, and will begin construction of Phase 1 in 2016. Operation of Phase 1 will start in January 2017 and will be complete in 2052.

From 2016 to 2021, a total of 9.0 ha of land will be developed: 2.0 ha in Phase 1; 1.0 ha in Phase 2; and 1.5 ha in each of Phases 3 through 6. Phase 7 and onward involve phased development based on demand and intent to occupy rental factories in Phases 1 through 6. Thus, the content will be determined in light of factors such as deliberations with Vina CPK and progress to that point. However, as of now, plans call for the development of approximately 18 ha of land in 2022 and onward.

As a result of financial analysis based on the above project plan, the rental factory has the potential to be a profitable project.

15.2 Future Subjects of Discussion

(1) JICA Two-step Loans

Each Vietnamese financial institution indicated that it would be difficult to accommodate JICA two-step loans as an intermediary bank. This is due to the problems related to initial project risk, interest and exchange rates, and loan periods. Another major factor is the institutions' lack of experience with project financing. Thus, a Project scheme with direct loans from JICA PSIF is proposed. However, the trend of JICA PSIF and the possibility of its application are continued to be explored because procurement by JICA two-step loans can be possible when the conditions are satisfied by resolution of problems presented by local financial institutions that would become intermediary banks in the future.

(2) Relationship between Vina CPK and Vina Capital

Rental factory projects are not as profitable as the business of buying and selling land-use rights, but local partners Vina CPK and Vina Capital have decided to participate in the Ba Thien 2 Industrial Park rental factory project and continue to prepare for construction of a pilot factory because they have determined a need from Japanese SMEs and because rental factories can increase the added value of industrial parks in their own right.

An investment ratio of approximately 90% for Vina CPK is preliminarily determined, and final discussions about SPC governance and land-use rights acquisition prices are continuing toward that end.

APPENDIX

APPENDIX A

Comparison of Alternative Plans

Appendix A: Comparison of Alternative Plans

Alternative 1　Develop rental factories within an existing industrial park (Ba Thien 2)

Alternative 2　Develop and operate rental factories independently of existing industrial parks.

Alternative 3　Do not implement development of the rental factories

Item	General		Environmental/Social Impact		Evaluation
	Advantages	Disadvantages	Advantages	Disadvantages	
【Alternative 1】 Development rental factories within an existing industrial park (Ba Thien 2)	・ Through the intermediary of Industrial Zone Management Board, licensing procedures and establishment of the company can proceed smoothly. ・ Already equipped with Infrastructures, ready for immediate start of the rental factory business. ・ Information can be accessed through locally stationed employees of existing Japanese-tenant companies.	・ Lease fees are relatively high.	・ Negative impacts (such as livelihood, health, landscapes) on residents, and environmental burden due to acquisition and levelling of new land can be avoided by developing land for which the development and EIA has already been approved, and acquisition and levelling has already been completed. ・ Can utilize infrastructures which will be facilitated in Ba Thien 2 industrial park, such as the effluent treatment facility, etc. ・ Can receive support from local counterpart (Vina-CPK) well-versed in the local policies, such as the social and environmental consideration, and can anticipate thorough consideration on socio-environment.		◎

【Alternative 2】 Develop and operate rental factories independently of existing industrial parks	・ Lease fees are relatively high.	・ May face challenges in obtaining investment permits, establishing a company, tax affairs, labor services, etc., due to vertically divided structure of local government agencies. ・ Needs to build infrastructures from zero, which will require a large sum of money and time for investigation and construction. ・ Needs to collect local information in order to attract new Japanese tenants.		・ Supposed impact on residents (livelihood, health, landscape, etc.) and environmental burden by acquisition and levelling of new land. ・ Needs development of infrastructure such as waste water treatment facility etc., to reduce environmental burden.	×
【Alternative 3】 Do not implement development of the rental factories		・ Risks of missed business opportunity for Japanese small and medium enterprises.	・ Environmental and social impact by the execution of the project can be avoided.	・ Lost opportunity on job creation, and regional revitalization by the implementation of the project. ・ Lost opportunity to improve the environment by development of infrastructures (waste water treatment facility, etc.) for the implementation of the project.	△

Reference: Vietnam Judicial Handbook (2013)

APPENDIX B

Proposed Environmental Checklist

Appendix B: Proposed Environmental Checklist

Checklist Number 19 "Other Infrastructure Projects" of JICA's environmental checklist was used for the proposed environmental checklist. Details are as follows.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
1. Permits and Explanation	(1) EIA and Environmental permits	(a) Have EIA reports been already prepared in official process? (b) Have EIA reports been approved by authorities of the host country's government? (c) Have EIA reports been unconditionally approved? If conditions are imposed on the approval of EIA reports, are the conditions satisfied? (d) In addition to the above approvals, have other required environmental permits been obtained from the appropriate regulatory authorities of the host country's government?	(a) Y (b) Y (c) Y (d) N	(a) Vina CPK has already prepared an EIA report for all of Ba Thien 2 Industrial Park. In the course of rental factory development, EIA reports are required for some of the tenant companies' lines of business. (b) MONRE approved the EIA report for Ba Thien 2 Industrial Park in December 2011. (c) As a condition of the EIA report approval for Ba Thien 2 Industrial Park, tenant companies must observe environmental standards (provided on pages 36 and 37 of the EIA report), and tenant companies under the Project also must satisfy that condition. (d) As explained previously, some tenant companies' lines of business obligate them to create and submit EIA reports to operate in rental factories. Tenant companies must also meet environmental standards to obtain approval for their EIA reports. Vina CPK must obtain the approval of the provincial DONRE for the wastewater treatment facility under construction, and is currently preparing to apply for the approval.
	(2) Explanation to the Local Stakeholders	(a) Have contents of the project and the potential impacts been adequately explained to the Local stakeholders based on appropriate procedures, including information disclosure? Is understanding obtained from the Local stakeholders? (b) Have the comment from	(a) Y (b) Y	(a) The EIA report, which includes a Project overview, environmental impact, alleviation measures and environmental management plans, was presented to the People's Committee (a government organization) and the Fatherland Front (an organization representing local citizens). The People's Committee and Fatherland Front provided a document with recommendations and proposals made in both their names. Residents subject to resettlement were surveyed, and individual conditions were adjusted. In light of the above, local stakeholders understand and have cooperated with the Project.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		the stakeholders (such as local residents) been reflected to the project design?		(b) Local resident opinions and proposals have been carefully considered and reflected during every phase of the Project.
	(3) Examination of Alternatives	(a) Have alternative plans of the project been examined with social and environmental considerations?	(a) Y	(a) Ba Thien 2 Industrial Park as a whole has been developed based on industrial park development plans described in the Master Plan on Socio-Economic Development of Vinh Phuc Province through 2020. The drafting of development plans was based on a selection between several proposed industrial parks (alternative plans) after the consideration of many points of view; thus it appears that alternative plans were considered in the process of drafting plans to development of the industrial park. Development plans for Ba Thien 2 Industrial Park were discussed with residents from an early stage, and plans were drafted in light of the results of those discussions.
2. Pollution Control	(1) Air Quality	(a) Do air pollutants, (such as sulfur oxides (SO_x), nitrogen oxides (NO_x), and soot and dust) emitted from the proposed infrastructure facilities and ancillary facilities comply with the country's emission standards and ambient air quality standards? Are any mitigating measures taken? (b)Are electric and heat source at accommodation used fuel which emission factor is low?	(a) Y (b) Y	(a) Air pollutants emitted from target infrastructure facilities, auxiliary facilities, etc. have been designed so that they satisfy the standards set forth in Vietnamese law. In addition, each factory is required to satisfy emission limits set forth in Vietnamese standards. (b) Vietnam Electricity (EVN) supplies electricity to Ba Thien 2 Industrial Park; electricity is not generated independently in either the industrial park or the Project Site. A high percentage of electricity supplied by EVN is hydropower and gas power, thus the emission coefficients are low.
	(2) Water Quality	(a) Do effluents or leachates from various facilities, such as infrastructure facilities and the ancillary facilities comply with the country's effluent standards and ambient water quality	(a) Y	(a) All Ba Thien 2 Industrial Park effluent is treated at an on-site wastewater treatment facility to the water quality standard set forth in QCVN 24:2009/BTNMT, and then discharged offsite. Effluent from Project Site is treated at the on-site wastewater treatment facility and then discharged offsite as described previously, and the industrial park is obligated to satisfy the distinct effluent

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		standards?		standards set forth in QCVN 24:2009/BTNMT for this effluent as well.
	(3) Wastes	(a) Are wastes from the infrastructure facilities and ancillary facilities properly treated and disposed of in accordance with the country's regulations?	(a) Y	(a) Each tenant company enters a contract with a waste treatment company to properly treat and dispose of waste. Each type of waste (general waste, hazardous waste) generated from Project Site is disposed of according to contracts with each tenant company. SPCs support and otherwise facilitate agreements between tenant companies and waste treatment companies and make sure that waste is being properly managed. If SPCs find that waste is not being properly managed, they will provide suggestions for improvement to the tenant companies and waste treatment companies, and will levy fines or take other measures if the management does not improve.
	(4) Soil Contamination	(a) Are adequate measures taken to prevent contamination of soil and groundwater by the effluents or leachates from the infrastructure facilities and the ancillary facilities?	(a) Y	(a) During the operation phase, soil contamination from waste and damage to water pipes is expected, thus measures to properly manage waste are being taken, and a response team has been established to deal with any environmental problems that arise.
	(5) Noise and Vibration	(a) Do noise and vibrations comply with the country's standards?	(a) Y	(a) Trees will be planted on industrial park grounds to strive to reduce noise to help tenant companies on Project Site manage noise in a way that satisfies Vietnamese standards.
	(6) Subsidence	(a) In the case of extraction of a large volume of groundwater, is there a possibility that the extraction of groundwater will cause subsidence?	(a) N	(a) As Vinh Phuc Water Supply Joint Stock Company provides clean water to Ba Thien 2 Industrial Park, there are no plans to use groundwater. Penalties will be applied to any factories that use groundwater. Therefore, it is considered that ground subsidence due to pumping groundwater will not occur.
	(7) Odor	(a) Are there any odor sources? Are adequate odor control measures taken?	(a) N	(a) Any tenant company on Project Site that may produce offensive odors is obligated to take the utmost measures to conceal the source of offensive odors, etc. Tenant companies are required in particular to take measures against offensive odors arising from waste and effluent, and fines will be levied and other measures taken against tenant companies that do not satisfy this

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
				requirement.
3. Natural Environment	(1) Protected Areas	(a) Is the project site or discharge area located in protected areas designated by the country's laws or international treaties and conventions? Is there a possibility that the project will affect the protected areas?	(a) N	(a) The land planned for the industrial park is located outside protected areas, which could suggest that the Project should not impact any protected areas.
	(2) Ecosystem	(a) Does the project site encompass primeval forests, tropical rain forests, ecologically valuable habitats (e.g., coral reefs, mangroves, or tidal flats)?(b) Does the project site encompass the protected habitats of endangered species designated by the country's law or international treaties and conventions? (c) Is there a possibility that changes in localized micro-meteorological conditions, such as solar radiation, temperature, and humidity due to a large-scale timber harvesting will affect the surrounding vegetation? (d) Is there a possibility that the amount of water (e.g., surface water, groundwater) used by the project will adversely affect aquatic environments, such as rivers? Are adequate measures taken to reduce the	(a) N (b) N (c) Y (d) N	(a) The Project Site was originally zoned for man-made forests and rice fields, and does not fit the definition of a virgin forest, natural forest or ecologically important habitat. (b) The land planned for the industrial park (including Project Site) does not include habitats for rare species that require protection under Vietnamese law or international treaties. (c) No endangered species requiring protection and listed in Vietnam's Red Data Book live on the land planned for the industrial park (including Project Site), and green spaces have been prepared in part to protect ecosystems. Thus, the Project is considered not to have any significant impact on ecosystems. (d) As water used in Ba Thien 2 Industrial Park comes mainly from the public water supply, there are no plans to directly use surface water or groundwater. Wastewater will be purified and then used to water plans, clean road surfaces and put out fires and should not significantly impact rivers or other aquatic environments as it is treated by the wastewater system on industrial park grounds. Thus, it is considered that the impact to aquatic organisms would be limited.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		impacts on aquatic environments, such as aquatic organisms?		
	(3) Hydrology	(a) Is there a possibility that hydrologic changes due to the project will adversely affect surface water and groundwater flows?	(a) N	(a) Plans call for surface water from Project Site and treated effluent to be discharged into the May River; however, it is an extremely small volume compared to the flow of the Mei River and thus is not expected to impact the river's hydrology.
	(4) Topography and geology	(a) Are there any places in poor geological condition, where mudslides or landslides are likely to occur on (electrical transmission and distribution, roadway, etc.) routes? If so, have appropriate construction methods and other measures been taken? (b) Has banking, earth cutting and other earth work caused mudslides or landslides? Have appropriate measures been taken to prevent mudslides and landslides? Was ground stability considered in plans for banking, earth cutting and other ground transformation work? (c) Is there a possibility the project will cause large-scale alteration of the topographic features and geologic structures in the project site and surrounding areas?	(a) N (b) N (c) N (d) N	(a) There are no places in poor geological condition where mudslides or landslides are likely to occur on (electrical transmission and distribution, roadway, etc.) routes. (b) There is no possibility that banking, earth cutting and other earth work will cause mudslides or landslides. (c) Plans make use of the soil and geography, which could suggest that the plans should not significantly be modified. (d) Sediment runoff from banked areas, cut earth, soil dumps and borrow pits is not expected.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		(d) Does sediment run from banked areas, cut earth, soil dumps or borrow pits? Have appropriate measures been taken to prevent sediment runoff?		
4. Social Environment4	(1) Resettlement	(a) Is involuntary resettlement caused by project implementation? If involuntary resettlement is caused, are efforts made to minimize the impacts caused by the resettlement? (b) Is adequate explanation on compensation and resettlement assistance given to affected people prior to resettlement? (c) Is the resettlement plan, including compensation with full replacement costs, restoration of livelihoods and living standards developed based on socioeconomic studies on resettlement? (d) Is the compensations going to be paid prior to the resettlement? (e) Is the compensation policies prepared in document?? (f) Does the resettlement plan pay particular attention	(a) N (b) N/A (c) N/A (d) N/A (e) Y (f) Y (g) N/A (h) Y (i) N/A (j) Y	The construction of Ba Thien 2 Industrial Park as a whole involved the relocation of 41 households; however, there are no residences in the Project Site and thus did not cause any involuntary resettlement. Although_65 landowners (excluding land owned by the Thien Ke and Trung My PC) are subject to acquisition of the Project Site none of them are minority or indigenous people. (a) No involuntary resettlement occurred from Project Site. (b) Project Site was explained to people subject to land acquisition, and they agreed to compensation and measures for rebuilding livelihoods. (c) Financial compensation through a reacquisition payment and measures for livelihood recovery through financial compensation for vocational training have been implemented based on the results of studies of land targeted for acquisition. (d) Owners of Project Site and local residents agreed to compensation for land subject to acquisition, which was paid prior to the acquisition. (e) Policy for compensation is carried out in accordance with the documented Vietnamese legal system and as prescribed by Vietnamese law. (f) Relevant laws for the women, children, elderly people, impoverished people, minority people, indigenous people and other vulnerable groups resettled from the land planned for the industrial park have been sufficiently observed.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		to vulnerable groups or people, including women, children, the elderly, people below the poverty line, ethnic minorities, and indigenous peoples? (g) Are agreements with the affected people obtained prior to resettlement? (h) Is the organizational framework established to properly implement resettlement? Are the capacity and budget secured to implement the plan? (i) Are any plans developed to monitor the impacts of resettlement? (j) Is the grievance redress mechanism established?		(g) The consent of people subject to acquisition of the land planned for the industrial park was obtained. (h) The People's Committee carried out the resettlement implementation system and Vina CPK paid compensation money, thus sufficient implementation capabilities and budget measures have been carried out. (i) Monitoring specific to owners of land subject to acquisition will not be implemented. (j) Official administrative procedures and a judiciary system have been built according to Land Law. If grievances arise, the People's Committee and the local office of Vina CPK will correspond as a mechanism specific to this industrial park.
	(2) Living and Livelihood	(a) Is there a possibility that the project will adversely affect the living conditions of inhabitants? Are adequate measures considered to reduce the impacts, if necessary?	(a) Y	(a) Land has already been acquired for 233 spaces in the course of building rental factories. These spaces were mainly agricultural land owned by 65 people (excluding land owned by the Thien Ke and Trung My PC). Compensation was provided according to compensation unit prices determined by the government in the course of land acquisition. However, agricultural income was lost because new agricultural land was not provided unless residents indicated that they wanted to be compensated with agricultural land. Measures to alleviate the impact of these losses include the provision of compensation money equivalent to the cost of vocational training, and preferential hiring for local residents.

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	(3) Heritage	(a) Is there a possibility that the project will damage the local archeological, historical, cultural, and religious heritage? Are adequate measures considered to protect these sites in accordance with the country's laws?	(a) N	(a) The land planned for the industrial park does not contain cultural heritage, etc.
	(4) Landscape	(a) Is there a possibility that the project will adversely affect the local landscape? Are necessary measures taken? (b) Is there a possibility that landscape is spoiled by construction of highrise buildings such as huge hotels?	(a) N (b) N	(a) The land planned for the industrial park does not include landscape that warrants special consideration. (b) There are no plans to build large lodging facilities or high-rise buildings.
	(5) Ethnic Minorities and Indigenous Peoples	(a) Are considerations given to reduce impacts on the culture and lifestyle of ethnic minorities and indigenous peoples? (b) Are all of the rights of ethnic minorities and indigenous peoples in relation to land and resources respected?	(a) N (b) N	(a) No ethnic minorities or indigenous peoples live on Project Site. (b) No ethnic minorities or indigenous peoples live on Project Site.
	(6) Working	(a) Is the project proponent	(a) Y	(a) The Vietnamese labor code has been

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
	conditions	not violating any laws and ordinances associated with the working conditions of the country which the project proponent should observe in the project? (b) Are tangible safety considerations in place for individuals involved in the project, such as the installation of safety equipment which prevents industrial accidents, and management of hazardous materials? (c) Are intangible measures being planned and implemented for individuals involved in the project, such as the establishment of a safety and health program, and safety training (including traffic safety and public health) for workers etc.? (d) Are appropriate measures taken to ensure that security guards involved in the project not to violate safety of other individuals involved, or local residents?	(b) Y (c) Y (d) Y	observed. In addition, safety measures for laborers have been taken to mitigate risks throughout the development of Ba Thien 2 Industrial Park. (b) The EIA report mentions that construction subcontractors are required to prepare prevention strategies and rescue measures to prevent work-related accidents, fires, electrical accidents, traffic accidents, food poisoning and illness and mitigate other risks. In addition, plans call for measures such as publication of emergency contact information, an equipment inspection system, provision of safety equipment, and the establishment of medical facilities, procedures for loading containers and rules for operating machinery to be taken to prevent work-related accidents. (c) Plans call for measures such as publication of emergency contact information, an equipment inspection system, provision of safety equipment, and the establishment of medical facilities, procedures for loading containers and rules for operating machinery to be taken to prevent work-related accidents. In addition, promotional and educational activities for traffic safety, road signage and other strategies to prevent traffic accidents have been considered. (d) SPCs hire security guards for the Project. SPCs will hire security guards introduced by trustworthy personnel dispatch services, run background checks of guards to be hired and take other measures prior to hiring, in addition to rigorously training guards after hiring, so that the guards do not compromise the safety of rental factory personnel or local residents.
5. Other	(1) Impact during Construction	(a) Are adequate measures considered to reduce impacts during construction (e.g.,	(a) Y (b) N (c) Y	(a) Environmental measures to alleviate pollution from construction (noise, vibration, turbid water, dust, exhaust, waste, etc.) have been prepared. Soil contamination from effluent including

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		noise, vibrations, turbid water, dust, exhaust gases, and wastes)? (b) If construction activities adversely affect the natural environment (ecosystem), are adequate measures considered to reduce impacts? (c) If construction activities adversely affect the social environment, are adequate measures considered to reduce impacts?		sewage produced by workers and oils produced by construction machinery, and soil erosion from surface water flow are expected. However, measures to minimize the impact of effluent by restricting its production have been considered. The EIA report mentions Vietnamese standards for noise and vibrations and that noises and vibrations created during the construction phase are being checked. (b) There are no reports of rare species on the land planned for the industrial park, thus there is no specific mention of measures to alleviate impact to the natural environment or ecosystems. (c) The EIA report mentions the need to pay attention to traffic congestion from a concentration of workers and other pressures on social infrastructures as well as impacts to safety in the area. In response, strategies to alleviate traffic congestion, regular patrols to combat theft, and disclosure of information to prevent crimes have been implemented.
	(2) Monitoring	(a) Does the proponent develop and implement monitoring program for the environmental items that are considered to have potential impacts? (b) What are the items, methods and frequencies of the monitoring program? (c) Does the proponent establish an adequate monitoring framework (organization, personnel, equipment, and adequate	(a) Y (b) Y (c) Y (d) Y	(a) The EIA report includes plans for environmental management and monitoring for the entire Ba Thien 2 Industrial Park. Proposed plans for environmental management and monitoring have also been drafted for the Project Site. (b) They are included in monitoring plans shown in the EIA report for Ba Thien 2 Industrial Park. For the Project, the items, methodology and frequency has been set forth in the proposed monitoring plans in this report. (c) The DONRE dedicated center will monitor Ba Thien 2 Industrial Park under the budget of Vina CPK. Tenant companies or SPCs will monitor rental factories according to the contents of the contracts with tenant companies. (d) Industrial park monitoring results are reported to the Vinh Phuc Province DONRE twice per year. As with EIA

Category	Environmental Items	Main Check Items	Yes: Y No: N	Confirmation of Environmental Considerations (Reasons, Mitigation Measures)
		budget to sustain the monitoring framework)? (d) Are any regulatory requirements pertaining to the monitoring report system identified, such as the format and frequency of reports from the proponent to the regulatory authorities?		reports, some tenant companies' lines of business obligate them to report the results of rental factory monitoring. SPCs report rental factory monitoring results to Vina CPK as necessary.