

Kingdom of Cambodia

FY2016 Ex-Post Evaluation of Japanese ODA Loan Project

“Sihanoukville Port SEZ Development Project (E/S)”

“Sihanoukville Port SEZ Development Project”

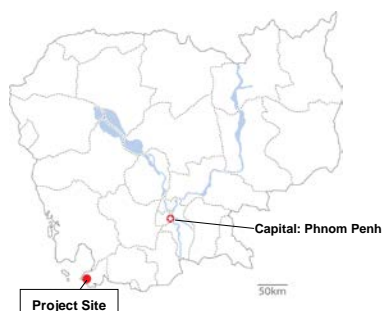
External Evaluator: Masumi Shimamura,
Mitsubishi UFJ Research and Consulting Co., Ltd.

0. Summary

This project developed a Special Economic Zone (hereinafter referred to as “SEZ”) next to the Sihanoukville Port with the aim of increasing direct investment flows into Sihanoukville region and to generate employment. The project is consistent with Cambodia’s development policy and with the development needs at the time of appraisal and ex-post evaluation, as well as Japan’s ODA policy at the time of appraisal. However, due to problems regarding ‘appropriateness of the project plan’ based on the needs assessment undertaken prior to the project appraisal and the ‘project approach’, inputs leading to the achievement of the project purpose were not implemented appropriately. Therefore, the relevance of the project is fair. Although the project cost was within the plan, the project period exceeded the plan; thus, efficiency of the project is fair. Operation and Effect Indicators set at the time of appraisal – amount of direct investment, number of relocating companies and jobs created, amount of exports, and volume of containers handled – resulted in much lower achievement than the target figures . In addition, it can be inferred that the project’s contribution to the macroeconomic growth data (GDP growth rate, amount of direct investment etc.) is very limited. Therefore, the project has generated its effects at a limited level compared with the plan; thus, effectiveness and impact of the project are low. Major problems have been observed in terms of the executing agency’s capacity on institutional and technical aspects of operation and maintenance; thus, sustainability of the project effects is low.

In light of the above, this project is evaluated to be unsatisfactory.

1. Project Description



Project Location



SEZ Administration Building

1.1. Background

Since the constitution was established in 1993, Cambodia has been moving from a planned economy to a market economy, and international integration and development have been proceeding at a swift pace. In addition, since Cambodia acceded to the World Trade Organization (WTO) in October 2004, it has taken steps to develop laws and regulations related to investment and economic activities. On the other hand, Cambodia's economic base was weak – as evidenced by the lack of industrial infrastructure and limited supply capacity due to the low level of manufacturing technology, coupled with the restrictive nature of the country's domestic industry (total population: 14.2 million; GDP per capita: about USD 512, as of 2006) – and the high percentage of the younger generation in its population highlighted the urgent necessity of generating employment. Therefore, in order to cover the shortage of domestic funds as well as to transfer production technology and create employment, the government of Cambodia planned to attract foreign investment further through promoting SEZ development, following successful examples of neighboring Asian countries. In addition, Japan-Cambodia Investment Agreement (“Agreement between Japan and the Kingdom of Cambodia for the Liberalization, Promotion and Protection of Investment”) was concluded in June, 2007, and Japanese companies increased attention to Cambodia, as well as raised voices for developing the investment environment immediately. It was expected that development of SEZ specialized in attracting foreign direct investment (hereinafter referred to as “FDI”) through this project would greatly contribute to the development of export related industries in the country as well as the generation of employment opportunities especially for the young.

1.2 Project Outline

The project aims to increase direct investment flows into the region and generate employment by developing an SEZ next to the Sihanoukville Port, thereby, contributing to the economic growth of Cambodia.

Loan Approved Amount/ Disbursed Amount	Sihanoukville Port SEZ Development Project (E/S): 318 million yen / 260 million yen Sihanoukville Port SEZ Development Project: 3,651 million yen / 3,504 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	Sihanoukville Port SEZ Development Project (E/S): March, 2006 / March, 2006 Sihanoukville Port SEZ Development Project: March, 2008 / March, 2008

Terms and Conditions	<p>Sihanoukville Port SEZ Development Project (E/S):</p> <p>Interest Rate 0.9%</p> <p>Repayment Period 30 years</p> <p>(Grace Period) 10 years</p> <p>Conditions for Procurement General Untied</p> <p>Sihanoukville Port SEZ Development Project:</p> <p>Interest Rate 0.01%</p> <p>Repayment Period 40 years</p> <p>(Grace Period) 10 years</p> <p>Conditions for Procurement General Untied</p>
Borrower / Executing Agency	The Royal Government of Cambodia / Port Authority of Sihanoukville (PAS)
Project Completion	<p>Sihanoukville Port SEZ Development Project (E/S):</p> <p>July, 2009</p> <p>Sihanoukville Port SEZ Development Project: April, 2012</p>
Main Contractor	Sihanoukville Port SEZ Development Project: Daiho Corporation (Japan)
Main Consultants	<p>Sihanoukville Port SEZ Development Project (E/S):</p> <p>Khmer Consultant Engineering Corporation Ltd. (Cambodia) / Nippon Koei Co., Ltd. (Japan) / Oriental Consultants Co., Ltd. (Japan) (JV)</p> <p>Sihanoukville Port SEZ Development Project: Key Consultants (Cambodia) / Nippon Koei Co., Ltd. (Japan) (JV)</p>
Feasibility Studies, etc.	<ul style="list-style-type: none"> • JICA, The Study on Regional Development for the Phnom Penh - Sihanoukville Growth Corridor (M/P, June, 2003) • JICA, Pilot Study for Knowledge Assistance for the Development Plan of Industrial Site in Sihanoukville (August, 2005)
Related Projects	<p>[Japanese ODA Loan] (Loan Agreement signing year and month in parentheses)</p> <ul style="list-style-type: none"> • Sihanoukville Port Urgent Expansion Project (November, 2004)

	<ul style="list-style-type: none"> • Greater Mekong Power Network Development Project (Cambodia Growth Corridor) (March, 2007) • Poverty Reduction and Growth Operation (October, 2007) <p>[Technical Cooperation Project]</p> <ul style="list-style-type: none"> • Development Study, The Study on Regional Development for the Phnom Penh - Sihanoukville Growth Corridor (2001-2003) • Development Study, Study on Economic Policy Support Program in Cambodia (2005-2007) • Dispatch of JICA Experts <ul style="list-style-type: none"> - Advisor for Sihanoukville Autonomous Port on Port Planning and Development (dispatched to PAS, 2005-) - ODA Loan Expert (2011-2013) - Advisor on Customs Policy and Administration (dispatched to the Ministry of Economy and Finance/General Department of Customs and Excise, 2007-) - Advisor on Improvement of Investment Environment (dispatched to the Japan Desk of Council for Development of Cambodia (CDC), 2007-) - Aid Coordination and Effectiveness Advisor (dispatched to CDC, Cambodian Rehabilitation and Development Board (CRDB), 2009-) - [World Bank] • Poverty Reduction and Growth Operation (PRGO) (2007-2008) <p>[Asian Development Bank]</p> <ul style="list-style-type: none"> • Greater Mekong Power Network Development Project (Cambodia Growth Corridor) (Co-finance with JICA)
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2. Outline of the Evaluation Study

2.1 External Evaluator

Masumi Shimamura, Mitsubishi UFJ Research and Consulting Co., Ltd.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: September, 2016 – September, 2017

Duration of the Field Study: November 15, 2016 – December 2, 2016, January 31, 2017 – February 10, 2017

3. Results of the Evaluation (Overall Rating: D¹)

3.1 Relevance (Rating: ②²)

3.1.1 Consistency with the Development Plan of Cambodia

At the time of appraisal, the government of Cambodia placed “Private Sector Development and Employment” as the important area in *Rectangular Strategy-Phase I* and *National Strategic Development Plan* (hereinafter referred to as “NSDP”) (2006-2010), and aim to achieve its objective, expand a base for growth by promoting investment and strengthening competitiveness through strengthened governance. In addition, the government clearly indicated to investors that it would introduce SEZ and strengthen governance as measures to achieve the objectives stipulated in Rectangular Strategy. Furthermore, based on the issues stated below (“3.1.2 Consistency with the Development Needs of Cambodia”), the government of Cambodia planned to attract foreign investment further through promoting SEZ development for the purpose of covering shortage of domestic funds as well as transferring production technology and creating employment. The project purpose aiming to increase direct investment flows by developing an SEZ is consistent with the above policies.

At the time of ex-post evaluation, the government of Cambodia places “Private Sector Development and Employment” as one of priorities in *Rectangular Strategy-Phase III* and NSDP (2014-2018), and endeavors to achieve improvements of the legal framework for efficient management of SEZs. In addition, the government indicated to transform/evolve Cambodia’s industry from a labor intensive structure to a technology driven structure by 2025 in its *Industrial Development Policy (2015-2025)*. In order to realize this vision, the government aims to achieve sustainable and inclusive high growth, employment generation, enhancement of value addition and improvement of income etc. Furthermore, as one of priority measures to be taken by 2018, developing and transforming Sihanoukville Province into a multi-purpose SEZ has been addressed as an objective. As quantitative targets in the *Industrial Development Policy*, the followings are clearly indicated: increasing the GDP share of industrial sector from 24.1% of GDP in 2013 to 30% in 2025, increasing the export of non-textile manufacturing products from 1% in 2013 to 15% of all exports by 2025, increasing export of processed agricultural products from 7.9% in 2013 to 12% of all exports by 2025 etc. Although policy change of “transformation from labor intensive industries to technology driven industries” has taken place, the importance of this project to promote SEZ is unchanged at the time of ex-post evaluation; thus, consistency with the development plan is maintained.

¹ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

² ③: High, ②: Fair, ①: Low

3.1.2 Consistency with the Development Needs of Cambodia

At the time of appraisal, Cambodia's economic base was extremely vulnerable as seen in its underdeveloped industrial base, very small manufacturing capacity due to low production technology, and limited domestic market (total population was 14.2 million and GDP per capita was about USD 512 in 2006). In addition, since the ratio of the youth³ in overall population was high, generation of employment was a pressing challenge (while the unemployment rate of the population aged 15-64 in 2007 in Cambodia was low; 0.7% (source: National Institute of Statistics, the Cambodia Socio-Economic Survey 2007), it was anticipated at the time of appraisal that new work force of more than 250,000 would flow into the labor market every year until 2010). The project, by establishing SEZ, was expected to contribute to FDI attraction, development of export related industries as well as generation of employment especially for the youth; thus, it was consistent with the development needs of Cambodia.

At the time of ex-post evaluation, Cambodia has been maintaining high economic growth rate of 7% with total population of 15.7 million and GDP per capita of about USD 1,220 (predicted figure for 2015), which is more than double the GDP per capita compared with that at the time of appraisal. In addition, the ratio of the youth⁴ in overall population is high and generation of employment continues to be a challenge just as in the situation at the time of appraisal. (Although the unemployment rate of the population aged 15-64 in 2014 in Cambodia is low; 0.1%, the Cambodia Socio-Economic Survey clearly states that this figure does not adequately capture the real situation of Cambodia since it includes the figures on underemployment (for example, even if a person works for a short time about one hour during the survey period, the person is considered as being employed) (source: National Institute of Statistics, the Cambodia Socio-Economic Survey 2014).) While Cambodian economy has been supported by industries including textile, agriculture and construction so far, the government has addressed policy transition in order to realize its vision stipulated in *Industrial Development Policy (2015-2025)*. To this end, diversification of industrial structure, reinforcement of industrial base infrastructures, creation and fostering of high value-added industries with international competitiveness as well as strengthening collaboration among industries have become issues to be tackled. In addition, in recent years, Japanese companies have been moving into Cambodia – its characteristics are that these companies have been utilizing SEZs which the government of Cambodia promotes to develop. With the establishment of ASEAN Economic Community in the late 2015, division of labor in the region has been advancing and Cambodia has been drawing

³ The ratio of population below the age 25 in total population was 56.0%. (Source: General Population Census of Cambodia, 2008)

⁴ The ratio of population below the age 25 in total population is 50.3%. (Source: CIA World Fact Book 2016)

increased attention as part of international supply chain development – as a manufacturing base for Thai-plus-one and Vietnam-plus-one. (Refer to Attachment 1 for situation of other SEZs in Cambodia.) Regarding areas of investment, Cambodia function as a production base and investments in not only light industries such as textile and shoemaking, but also automotive components industries utilizing international supply chain have been taking place. On the other hand, problems have been pointed out such as shortage of economic infrastructures, underdeveloped legal framework and lack of enforcement, cumbersome approval procedures, necessity of human resource development for engineers who will serve as critical industrial actors etc. For these reasons, development of both hard infrastructures (physical infrastructures) and soft infrastructures (legal, institutional and technical aspects) is critical in order to accelerate direct investment.

3.1.3 Consistency with Japan's ODA Policy

The *Country Assistance Program for Cambodia (February, 2002)* placed Mekong Regional development as priority area and introduced a policy for active support both in terms of hard infrastructure and soft infrastructure. In addition, it also stipulated a policy to support the legal system etc. which would contribute to promotion of private investment. This project, aiming to increase direct investment flows by developing SEZ, is consistent with the above policy.

The *Medium-Term Strategy for Overseas Economic Cooperation Operations (September, 2005)* regarded “infrastructure development and policy and institution improvement to activate private economic activities in growth corridor area (Phnom Penh, Sihanoukville etc.)” as a pillar for assistance in Cambodia. Furthermore, the *Country Assistance Strategy for Cambodia (October, 2004)* placed priority on promotion of growth corridor in Phnom Penh and Sihanoukville, integration of economic cooperation, trade and investment, and assistance based on development partnership. This project, aiming to increase direct investment flows by developing an SEZ next to the Sihanoukville Port, thereby, contributing to the economic growth of Cambodia, is consistent with the above policy.

3.1.4 Appropriateness of the Project Plan and Approach

As mentioned later in “3.3 Effectiveness”, the actual figures of the operation and effect indicators set at the time of appraisal – amount of direct investment, number of relocating companies and jobs created, amount of exports and volume of containers handled – are significantly below the target. In addition, as indicated in “3.4 Impacts”, contribution of this project to the macroeconomic growth indicators (GDP growth rate, amount of direct investment etc.) is very limited and the project purposes (increasing direct investment flows to this SEZ and generating employment) have not been realized. The fact that

reflection of the results of JICA's needs survey to the project inputs was inappropriate, in other words, recommendations indicated in the needs survey were not fully reflected as inputs of this project, and this can be considered as a factor for this project not attaining its purpose.

Prior to appraisal of the project, JICA conducted a study and identified target industries, sorted out their needs and provided recommendation for marketing strategy etc. The results of the study showed that expected targeting industries were export-oriented and labor-intensive industries in the areas of garments, textile, shoes, toys, machinery, food-processing etc. and the following recommendations were made; (1) develop high quality SEZ in terms of both infrastructure and services⁵, (2) clarify focus on targeting industries and countries, (3) set competitive leasing price (at USD25-USD30 per square meter), and (4) implement proactive promotions to attract companies. As regards promotion activities and provision of services to tenants, it was the first experience for the Port Authority of Sihanoukville (hereinafter referred to as "PAS"), a public institution and executing agency, to undertake SEZ operation. Since operation and management of SEZ were not a specialty of PAS, promotion activities were carried out by the JICA ODA loan expert and the project consultants, and capacity development of PAS was implemented based on the results of the study.

Although needs study was conducted and supports were provided to PAS, such initiatives were not embodied as sufficient inputs which would lead to achieving project purpose, thus it can be said that they did not lead to generate outputs. As regards (1), although the specification of infrastructures is high, as recommended by the needs survey, level of service cannot be regarded as sufficient to the point that would cater the private sector's sense of speed, cost awareness, and profit making; thus, further improvement is necessary. In other words, recommendations from the survey were not sufficiently reflected as project inputs. Regarding (2), while the target of the SEZ is export-oriented, labor-intensive industries as recommended by the survey, problems remain in appealing about the SEZ externally as mentioned in (4) below. With regards to (3), although competitive leasing price of USD25-USD30 per square meter, compared to that of other SEZs, were recommended as a result of the needs survey, the Cambodian side, in need of recovering

⁵ According to local hearing survey, this SEZ and Phnom Penh SEZ were the only SEZs which have developed waste water treatment plans from the beginning of development, among SEZs in Cambodia. In other SEZs, facilities which should have been developed for environmental consideration were not developed. Hence, it should be noted that leasing price of this SEZ is relatively high because that of other SEZs do not reflect such development costs. For example, a Chinese SEZ – Sihanoukville SEZ – located near this SEZ (refer to Attachment 1) has not developed waste water treatment facilities at the time of opening in June 2012, and it has been pointed out that environmental consideration was insufficient. However, according to the Chinese SEZ management office, waste water treatment facilities have been developed, targeting completion in the end of February, 2017. (It was under construction when the evaluation mission observed the Chinese SEZ during field study.) In addition, there are many SEZs without their own generating facilities and it was pointed out that some SEZs were encountering serious problem of power shortage.

the cost, set the initial standard of actual leasing price higher than that of the other SEZs. The needs survey has pointed out that the project cost was high and therefore, a part of project scope was expected to be deleted. However, result of the preliminary calculation was still high as USD77.4 per square meter, and it was pointed out in the needs survey that setting a leasing price at this standard was not realistic⁶. (Refer to BOX 1 for comparison of leasing prices.) Considering the business environment surrounding enterprises, companies need to reduce costs in a trend of wage level going upward, thus, business judgment may well be made that it would be difficult to move into SEZs with high leasing price. As a result, it can be regarded that the number of tenants to this SEZ stagnated. In addition, when considering the fact that leasing price did not decrease after opening of the SEZ, it can be considered that price competition principle, based on leasing price of other SEZs, did not work. As regards (4), PAS is passive and only has pamphlets as a tool for advertisement, thus, it cannot be said that PAS has been carrying out proactive promotion activities. In other words, although needs survey was conducted and various supports were provided to strengthen capacity of PAS, it cannot be said that inputs were appropriately carried out. Therefore, these initiatives did not lead to necessary outputs for generating outcomes that this SEZ aimed for. In addition, the fact that a Chinese SEZ was developed in a place just 12km away from this SEZ and that there were companies which decided to relocate themselves to this Chinese SEZ with cheap leasing price can be regarded as one of factors that the project purpose was not achieved. (Refer to Attachment 1 regarding the Chinese SEZ.)

This project has been highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. However, problems have been observed regarding appropriateness of the project plan and approach – changing plans based on the needs survey and taking measures during implementation were insufficient, and inputs indispensable for achieving project purpose were not injected appropriately. Therefore the relevance of the project is fair.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

The project developed an SEZ next to the Sihanoukville Port. Table 1 and 2 show the comparison between the planned and actual project outputs.

⁶ However, it was recommended not to reflect costs of water supply, waste water treatment plant, power generation facilities etc. since such facilities can generate income from sale of services (possible to recover the costs). (In this way, it was pointed out that leasing price could be kept to the level around USD 30 per square meter.) However, (while a part of project scope was deleted, based on the needs survey) the actual leasing price was set at a level necessary to recover input costs of this project including water supply, waste water treatment and power generating facilities etc.

Table 1: Comparison of Planned and Actual Project Outputs for Sihanoukville Port SEZ Development Project (E/S)

Plan	Actual
Consulting Services	
(1) Basic design, detailed design, preparation of bid documents, assistance in tendering	(1) As planned
(2) Assistance in preparation of rules and regulations (decrees, implementing regulations, laws etc.)	(2) As planned
(3) Assistance in establishing implementation system (establishment of a committee on conflict resolution and One-Stop-Service office, preparation of draft service agreement on SEZ management, training of Council for Development of Cambodia (hereinafter referred to as “CDC”) and PAS staffs etc.)	(3) As planned
(4) Assistance in investment promotion activities	(4) As planned

Source: Results from questionnaire survey to executing agency

Regarding Sihanoukville Port SEZ Development Project (E/S), Consulting Services were implemented as planned.

Table 2: Comparison of Planned and Actual Project Outputs for Sihanoukville Port SEZ Development Project

Plan	Actual
Civil Works and Procurement of Facilities	
(1) Development of industrial premises (70ha)	(1) As planned
(2) Development of roads, water supply facilities, waste water treatment plants, drainage, private power generators, communication facilities etc.	(2) Scope was changed < Additional scope > • Development of rental factory building (1 lot x 2,700m ²) • Procurement of private power generators (2units) < Complete deletion from the project scope > • Deletion of detour road connecting to National Road No.4 and flyover bridge connecting the SEZ and Sihanoukville Port site < Change of location > • Change of location of service apartment and dormitory construction (the location was shifted from outside the SEZ to inside the SEZ site)
Consulting Services	
(3) Construction supervision	(3) As planned
(4) Assistance in preparation of rules and regulations	(4) As planned
(5) Assistance in establishing implementation system	(5) As planned

(6) Assistance in investment promotion activities	(6) As planned
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Source: Results from questionnaire survey of executing agency

Development of rental factory building (1 lot x 2,700m²) and procurement of private power generators (2units) were added to the project scope for Sihanoukville Port SEZ Development Project. Private power generators were installed because it became clear that the power supply from the originally planned Electricity Authority of Cambodia (hereinafter referred to as “EDC”) would not be sufficient. The additional scope is judged to be appropriate considering that development and procurement were carried out utilizing the unused balance of Japanese ODA loan from the perspective of facilitating investment promotion.

On the other hand, detour road connecting to National Road No.4 and flyover bridge connecting the SEZ and Sihanoukville Port site were deleted from the project scope. According to PAS, construction of detour road was deleted to avoid effects of land acquisition and relocation on neighboring residents. Flyover bridge was deleted as a result of considering its economic viability based on traffic volume. Both measures are deemed appropriate in light of their reasons. In fact, traffic volume at site was not so much and it was confirmed that construction of a bridge is not necessary.

Change of location of service apartment (residence for managers of tenants (such as foreign managers etc.)) and dormitory construction was due to security problems, and it is considered appropriate that the location was shifted to inside the SEZ site. However, the location within the SEZ had room for reconsideration. The development site is separated by a fence and adjacent to a so called red-zone, a nightlife district, and the place is hardly regarded as having a good living environment. Thorough examination of effects of such situation on living environment of service apartment and dormitory could have been conducted, and it was necessary to construct these residences in an environment where residents can live comfortably.

The consulting services of Sihanoukville Port SEZ Development Project have included construction supervision, assistance in preparation of rules and regulations, assistance in establishing implementation system, and assistance in investment promotion activities, and they were implemented as planned. As regards operation, management and promotion of the SEZ, assistance in establishing the SEZ Department within PAS and recruiting its personnel, assistance in preparation of regulations on SEZ operation and management (preparation of rules within the SEZ, operation and management guidance for PAS, and formats of various contracts including lease agreement and management services agreement), and assistance in preparation of marketing plans were carried out. In addition,

training for staff of PAS regarding basic practical business actions – preparing PR documents, communicating with investors (manners to interact with them through emails and telephones), giving presentations to investors, implementing administrative procedures etc. were also conducted. The inputs of international consultants for these services were 16MM as planned, whereas those of local consultants decreased by 3MM – from the original plan of 7MM to 4MM. According to PAS, this was because necessary services were covered by international consultants. Interviews with relevant stakeholders revealed that the contents of training for PAS staffs remained basic, and it cannot necessarily be considered as sufficient to realize implementation of effective promotion activities and service provision that would satisfy tenants.



Rental Factory



Inside the SEZ Site



Service Apartments



Dormitory

3.2.2 Project Inputs

3.2.2.1 Project Cost

The project cost (total cost for Sihanoukville Port SEZ Development Project (E/S) and Sihanoukville Port SEZ Development Project) was initially planned to be 4,240 million yen (out of which 3,969 million yen was to be covered by Japanese ODA loan). In actuality, the total project cost was 4,121 million yen (out of which 3,764 million yen was covered by Japanese ODA loan), which is within the plan (97% of the planned amount) (Refer to Table 3).

Table 3: Comparison of Planned and Actual Project Cost

	Plan	Actual	Difference
Sihanoukville Port SEZ Development Project (E/S)	Total project cost: 318 million yen (ODA loan portion: 318 million yen) Foreign currency: 294 million yen Local currency: 24 million yen	Total project cost: 260 million yen (ODA loan portion: 260 million yen) Foreign currency: 185 million yen Local currency: 75 million yen	-58 million yen
Sihanoukville Port SEZ Development Project	Total project cost: 3,922 million yen (ODA loan portion: 3,651 million yen) Foreign currency: 2,579 million yen Local currency: 1,343 million yen	Total project cost: 3,861 million yen (ODA loan portion: 3,504 million yen) Foreign currency: 1,021 million yen Local currency: 2,840 million yen	-61 million yen
Total	4,240 million yen (ODA loan portion: 3,969 million yen) Foreign currency: 2,873 million yen Local currency: 1,367 million yen	Total project cost: 4,121 million yen (ODA loan portion: 3,764 million yen) Foreign currency: 1,206 million yen Local currency: 2,915 million yen	-119 million yen (97% of the planned amount)

Source: Results from questionnaire survey of executing agency

While there was additional scope (total additional cost for additional scope was about 506 million yen), due to deletion of scope (the concrete amount of reduced cost due to deletion of scope is unknown), reduction of construction cost as a result of contract negotiation, and depreciation of local currency riel to yen during project implementation, total project cost was within the plan.

3.2.2.2 Project Period

The overall project period (from the start of Sihanoukville Port SEZ Development Project (E/S) to the completion of Sihanoukville Port SEZ Development Project) was planned as 59 months, as opposed to 74 months in actuality, which is longer than planned (125% of the initial plan). (Refer to Table 4)

Table 4: Comparison of Planned and Actual Project Period from the Commencement of Sihanoukville Port SEZ Development Project (E/S) to the Completion of Sihanoukville Port SEZ Development Project

Plan	Actual	Difference
March 2006 (Loan Agreement date of Sihanoukville Port SEZ Development Project (E/S)) ~ January 2011 (completion of construction work)	March 2006 (Loan Agreement date of Sihanoukville Port SEZ Development Project (E/S)) ~ April 2012 (completion of construction work)	

59 months (4 years and 11 months)	74 months (6 years and 2 months)	+15 months (+1 year and 3 months) (125% of the initial plan)
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Source: Prepared by the evaluator based on the information provided by JICA and results from questionnaire survey of executing agency

Comparison between planned and actual project period for Sihanoukville Port SEZ Development Project (E/S) and Sihanoukville Port SEZ Development Project is shown in Table 5 and 6, respectively.

Table 5: Comparison of Planned and Actual Project Period for Sihanoukville Port SEZ Development Project (E/S)

Item	Plan (At Project Appraisal)	Actual (At Ex-post Evaluation)
Loan Agreement	Mar. 2006	Mar. 2006
Selection of Consultants	Jan. 2006–Jun. 2006 (6 months)	Mar. 2006–Apr. 2007 (14 months)
Consulting Services	Jun. 2006–May 2008 (24 months) (at the end of the assistance in bidding)	May 2007–Jul. 2009 (27 months) (at the end of the assistance in bidding)

Source: Information provided by JICA, and results from questionnaire survey of executing agency

Table 6: Comparison of Planned and Actual Project Period for Sihanoukville Port SEZ Development Project

Item	Plan (At Project Appraisal)	Actual (At Ex-post Evaluation)
Loan Agreement	Mar. 2008	Mar. 2008
Selection of Contractors	Apr. 2008–Dec. 2008 (9 months)	May 2008–Sept. 2009 (17 months)
Consulting Services	Aug. 2008–Jan. 2012 (42 months) (Construction supervision, investment promotion activities etc.)	Sept. 2009–Dec. 2013 (52 months) (Construction supervision) May 2010–Dec. 2011 (20 months) (Investment promotion activities etc.)
Construction Work	Jan. 2009–Jan. 2011 (25 months)	Oct. 2009–Apr. 2012 (31 months)
Land Acquisition and Relocation	N.A.–Apr. 2008 (N.A.)	N.A.

Source: Information provided by JICA, and results from questionnaire survey of executing agency

Main reasons for the project delay were due to delay in selection of consultants and contractors as well as delay in construction. According to PAS, the construction was delayed mainly due to delay in land acquisition/taking measures for relocation of local residents, and additional scope. However, concrete duration did not become clear. As a result, consulting service period for construction supervision was extended.

3.2.3 Results of Calculations for Internal Rates of Return (Reference only)

Both financial internal rate of return (FIRR) and economic internal rate of return (EIRR) could not be calculated. As regards FIRR, the balance has remained mostly in deficit from the completion of construction to the time of ex-post evaluation, and there is no concrete prospect of new companies to be relocated. Regarding EIRR, there are only three tenants and it was difficult to predict future benefit (value addition due to investment).

Although the project cost was within the plan, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.3 Effectiveness⁷ (Rating: ①)

3.3.1 Quantitative Effects (Operation and Effect Indicators)

Table 7 summarizes the operation and effect indicators with targets set at the time of project appraisal and their actual figures between 2014 and 2016.

Table 7: Operation and Effect Indicators (Note 1)

	Target	Actual (Note 2)		
	2013	2014	2015	2016
	2 Years After Completion	1 Year After Completion	2 Years After Completion	3 Years After Completion
Amount of direct investment (million dollars)	150	23	23	23
Number of relocating companies (companies)	26	3	3	3
Number of jobs created (people)	15,000	200	200	493 (Note 3)
Amount of exports (amount of exports by relocating companies) (million dollars/year)	87	N.A.	8.75	3.37
Volume of containers handled (additional volume) (TEU/year)	30,000	N.A.	158	282

Source: Information provided by JICA, and results from questionnaire survey of executing agency

Note 1) Regarding indicators, volume of containers handled is the volume of containers handled by relocating companies in the SEZ for exports and imports in Sihanoukville Port. For other indicators the SEZ is set as the target.

Note 2) Figures to be compared with the targets are those in 2015, and figures in 2014 and 2016 are shown as reference.

Note 3) Number of jobs created is the actual figure as of November 2016.

When comparing target and actual figures (actual figures in 2015), all the figures resulted in much lower achievement than the target figures. As regards actual figures in 2016, no improvement is observed except for number of jobs created and volume of containers handled (status of achievement of each indicator in 2015 is; amount of direct investment: 15%, number of relocating companies: 12%, number of jobs created: 1%,

⁷ Effectiveness is to be evaluated together with Impact.

amount of exports: 10%, and volume of containers handled: 1%).

At the time of appraisal, companies of export-oriented and labor-intensive industries including garments, textile, shoes, toys, machinery, food-processing etc. were expected to relocate themselves into the SEZ. However, among the three tenants, one company is 100% domestic market oriented and another company is small with only 13 workers. There is only one company that falls under the category of export-oriented and labor-intensive industry. Among three companies, two operate in rental factories and one operates in a factory constructed on purchased land (lease).

As mentioned above, when considering the business environment surrounding enterprises, companies need to reduce costs in a trend of wage level going upward. As a result, there may well be companies that decided to move into the nearby Chinese SEZ with cheap leasing price, and not into this SEZ.

3.3.2 Qualitative Effects (Other Effects)

3.3.2.1 Improvement of Trust from Investors through Enhancing Investment Environment

From the results of actual figures (achievement rates) of operation and effect indicators (for all items) and interviews with the three companies in the SEZ, it is difficult to say that this project has contributed to the “Improvement of Trust from Investors through Enhancing Investment Environment”.

3.3.2.2 Export Promotion through Attraction of Direct Investment to Cambodia and Increase of Employment through Development of Labor Intensive Industries etc.

From the results of actual figures (achievement rates) of operation and effect indicators (amount of exports and number of jobs created), it is difficult to say that this project has contributed to the “Export Promotion through Attraction of Direct Investment to Cambodia and Increase of Employment through Development of Labor Intensive Industries”.

BOX 1: Current Situation of the SEZ

Ex-post evaluation of similar Japanese ODA loan projects in the past have identified some lessons learned that location, infrastructure development, investment conditions, land lease conditions, attraction of enterprise and investor services and living conditions are important. Thus, current situation of the SEZ of this project is summarized below. In addition, situation of other SEZs in Cambodia are compiled in Attachment 1.

- Location: The SEZ is located next to Sihanoukville Port which is the only deep sea port in

Cambodia. Loading and unloading of cargo can take place in a short time with low cost.

- **Infrastructure development:** As regards to the status of infrastructure surrounding the SEZ, a port, roads (National Roads No.3 and 4) and rail road – three large transport infrastructures – have been developed. In addition, the situation of power supply in Sihanoukville is relatively good⁸ while power problems are generally pointed out throughout the country. As regards to the status of infrastructure within the SEZ, the quality of the developed infrastructure is high.
- **Investment conditions:** Common incentives for all SEZs in Cambodia are applied. In addition, taking various administrative procedures at the One-Stop-Service office within the SEZ administration office are possible. Furthermore, as an investment incentive specific to this SEZ, “free container transport charge⁹” is applied for companies using the port.
- **Land lease conditions:** According to PAS, the leasing price is set at a level necessary to recover input costs of this project (both Japanese ODA loan portion and Cambodian government portion). The leasing price was higher compared to that of other SEZs at the time of commencement of the SEZ operation, but the gradual rise of the leasing price in other SEZs in recent years has come to minimize its difference.

Table 8: Comparison of Land Lease Conditions at the Time of Ex-post Evaluation (3ha, lease period of 50 years)

This SEZ	Sihanoukville SEZ (Chinese SEZ)	Phnom Penh SEZ
USD 62/m ² (No change since the commencement of the SEZ operation in 2013)	USD 40/m ² (About USD 20/m ² at the time of commencement of the SEZ operation in 2012)	USD 80/m ² (About USD 40-50/m ² about 4-5 years ago)

Source: Prepared by the evaluator based on the information provided by executing agency

This SEZ is the only publicly managed SEZ in Cambodia and land lease conditions are decided by the Board of Directors consisting of following members. According to the interviews with PAS, Chairman and CEO of PAS is given certain discretion in terms of lease negotiation, however, the degree of discretion was not disclosed.

⁸ Power situation has greatly improved after the completion of thermal power plants by the Independent Power Producers (located in Stung Hav District, about 15km north of Sihanoukville City) in 2013, and commencement of operation of Sihanoukville substation and transmission line. According to PAS, power rate for the SEZ is USD 0.126/kwh at the time of ex-post evaluation (assuming that power consumption is 15,000kwh per month).

⁹ So far, companies within the SEZ was charged USD 50 per container in case of using their own trailer when transporting containers from Sihanoukville Port to the SEZ, however, they will not be charged when using PAS trailers.

(Members of the Board of Directors)

- Chairman and CEO of PAS
- Representative of PAS Labor Association
- Governor of Sihanoukville Provincial Government
- Representative of Cabinet Council of Ministers
- Minister of Economy and Finance
- Minister of Public Works and Transport
- Minister of Commerce

- Attraction of enterprises and provision of services to tenants: Concerning activities to attract enterprises, it is limited to PR through participation of seminars etc. organized by JETRO, and there is no proactive initiative by PAS. As regards provision of services to companies in the SEZ, some companies pointed out that “even though we have raised requests and claims, it cannot be understood easily”.
- Living conditions: From the point of view of living conditions of Japanese (foreign) representatives, education, medical services etc. are not sufficient and the environment is not well equipped to bring over their families (spouse and children) at ease. Service apartment within the SEZ is located adjacent to a so called red-zone, a nightlife district, and the place is hardly regarded as having a good living environment.

3.4 Impacts

3.4.1 Intended Impacts

As for the amount of direct investment and exports, please refer to Attachment 2 at the end of the report for macroeconomic data on GDP growth, GDP per capita. Economic impact of this project cannot be verified clearly since other factors apart from this project have effects. In addition, when considering the extremely low achievement rates of operation and effect indicators, it can be inferred that the contribution of this project to these macroeconomic growth data is highly limited.

3.4.2 Other Positive and Negative Impacts

3.4.2.1 Impacts on the Natural Environment

The project falls under A category of “Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations” (established in April, 2002) because it is a development project of a large-scale infrastructure.

Environmental Impact Assessment (hereinafter referred to as “EIA”) Report was approved in March, 2006 by the Ministry of Environment. The project was implemented as planned in accordance with the environmental mitigation measures prepared based on the EIA. During the construction period, PAS has conducted environmental monitoring and compiled the monitoring results in reports and submitted to the Ministry of Environment on

a quarterly basis. In addition, the Ministry of Environment has carried out on-site inspection during construction period. Table 9 summarizes the results of monitoring.

Table 9: Major Results of On-site Inspection by the Ministry of Environment and Environmental Monitoring

Item	Measures Taken Place
Solid Waste Disposal	The Project consultants instructed contractors to gather solid waste to a certain place and to carry out treatment appropriately. In addition, PAS has outsourced collection and treatment of solid waste to a private solid waste management company.
Pollution Measures for Water Discharge	Contractor carried out quarterly water inspection (pH, TSS, COD, and BOD) to check whether waste water discharged from the SEZ to the sea is treated appropriately. As a result, it was confirmed that Cambodia's environmental standards were complied except for TSS (Total Suspended Solids). As regards TSS, which exceeded the standard of the Ministry of Environment, PAS took pollution measures for waste water by frequently removing sedimentation at the outlet.
Air Quality	Construction site was watered to prevent sand dust on the site
Water Quality	Contractor set up additional toilets in the site from original three to six.
Noise	No particular effect has been pointed out.
Vibration	No particular effect has been pointed out.
Soil	No particular effect has been pointed out.

Source: Prepared by the evaluator based on the information provided by executing agency

PAS has been carrying out environmental monitoring with Sihanoukville Provincial Government (Department of Environment) (most recent monitoring was conducted in August, 2016) and no particular effect on natural environment has been pointed out.



Waste Water Treatment Plant



Drainage

3.4.2.2 Land Acquisition and Resettlement

Comparison between planned and actual resettlement and land acquisition is summarized in Table 10. Planned and actual areas of land acquisition and number of resettled residents are unknown since PAS has no record.

Table 10: Comparison between Planned and Actual Resettlement and Land Acquisition

Plan		Actual	
Area	Resettlement	Area	Resettlement
N.A.	About 20 households in total were planned to be relocated. Following are the breakdown: <ul style="list-style-type: none"> • Total of 17 households at the planned site for access road and detour road development. • 3 households within the SEZ site. 	N.A.	9 households in total were relocated. Following are the breakdown: <ul style="list-style-type: none"> • 4 households living at the site for access road development and 3 households living at the site for detour road construction were relocated. • 2 households within the SEZ site were relocated.

Source: Results from questionnaire survey of executing agency

Due to implementation of the project, total of 9 households were located after receiving compensation. The reason for the decreased number of relocated households from the planned number (20 households) was due to the deletion of detour road development from the project scope, and exclusion of project site (PAS gave up acquiring this particular piece of land) since an agreement with one household within the SEZ site could not be reached regarding the amount of compensation.

Land acquisition process was adequately conducted, including consultation with local residents, in conformity with the Cambodia's procedures and JBIC Guidelines (2002), and no problem has been observed. PAS has initially planned to develop an alternative relocation land in the Resettlement Action Plan, however, residents who needed to be resettled received compensation and desired to move to nearby land (they made arrangements on their own), therefore, development of alternative land was not necessary as a result. According to the interviews with the relocated residents by the project, no complaint was raised and all the residents have resettled by themselves after receiving compensation. It should be noted that 700 households who had lived within the project site completed to resettle before the implementation of the project. Interviews revealed no complaint and PAS also explained that compensation was provided without any problems.

3.4.2.3 Prevention of HIV/AIDS for Construction Workers

As part of health care of construction workers, training program on HIV/AIDS prevention was conducted at a clinic within Sihanoukville Port premises. Concretely, two doctors in the port clinic conducted peer training to the group leaders of construction workers on HIV/AIDS prevention. Based on this, those leaders trained new workers. In addition, condoms and leaflets were distributed, and HIV tests were also conducted for

those who applied. According to PAS, such initiatives were carried out based on its past experience of HIV/AIDS prevention measures during implementation of ODA loan project (Sihanoukville Port Urgent Expansion Project) which JICA has provided support as part of Special Assistance for Project Implementation (SAPI). Almost all construction workers (300 or more workers) seem to have received the training.

This project has achieved its objectives at a limited level. Therefore effectiveness and impact of the project are low.

3.5 Sustainability (Rating: ①)

3.5.1 Institutional Aspects of Operation and Maintenance

The operation and maintenance of the SEZ after project completion is undertaken by the SEZ Department established within PAS. The organizational structure of the SEZ Department is shown as follows.

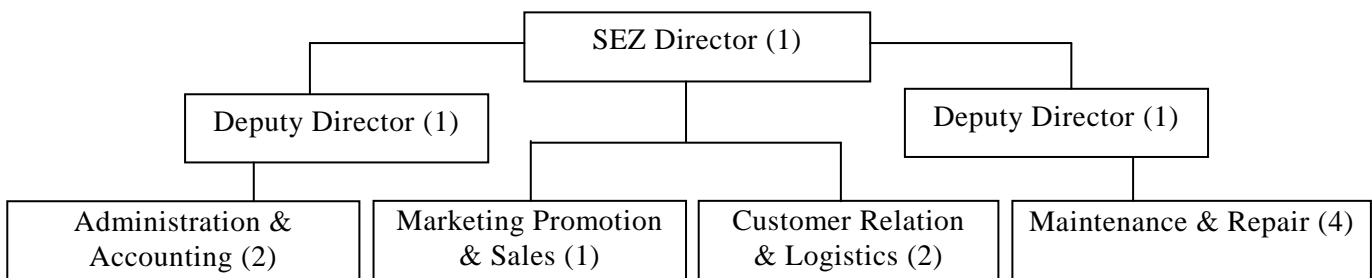


Figure 1: Organizational Structure of SEZ Department

Source: Prepared by the evaluator based on the information provided by executing agency

Note) Number of officers is in parentheses.

The SEZ Department is the secretariat of One-Stop-Service office, consisting of one Director, two Deputy Directors, two Administration and Accounting officers, one Marketing Promotion and Sales officer, two Customer Relation and Logistics officers and four Maintenance and Repair officers – four Divisions and twelve officers in total.

Maintenance and Repair Division in charge of operation and maintenance of infrastructure facilities consists of four officers and no particular problem is observed. For other Divisions, one to two officers are assigned to each Division, which is a minimum system. Marketing Promotion and Sales Division only has one officer, which cannot be considered as an adequate system that can carry out proactive promotion activities to attract companies. In addition, Customer Relation and Logistics Division only has two officers, which is not enough to provide sufficient services that will satisfy companies in the SEZ.

Most decision making regarding SEZ needs to go through the approval process of PAS and the authority of SEZ Department is highly limited, hindering its flexible responses.

One-Stop-Service office has branch office of relevant ministries/organizations¹⁰ and services are provided regarding various administrative procedures. No officer is on duty at all times but comes to the office to work when necessary. Companies in the SEZ had no particular complaints about these officers not on duty at all times.

Supervision of SEZs in Cambodia, including this SEZ, is undertaken by Cambodian Special Economic Zone Board (hereinafter referred to as “CSEZB”) established under the CDC. In addition, Trouble Shooting Committee established under the CDC is in charge of dealing with problems that each SEZ is difficult to resolve. Roles and authority of the SEZ Department, CSEZB and Trouble Shooting Committee are clear and interviews revealed no particular unclear point in terms of institutions.

Therefore, some problems have been observed regarding the institutional aspects of operation and maintenance.

3.5.2 Technical Aspects of Operation and Maintenance

As regards infrastructure facilities, taking account of the system of Maintenance and Repair Division and good conditions of operation and maintenance of facilities at the time of ex-post evaluation, no particular problem has been identified for its technical capacity. Technical level of operation and maintenance officers on the ground is deemed sufficient to carry out ordinary maintenance work (As regards waste water treatment plants, contractors provided maintenance training to operation and maintenance officers during project implementation. For other facilities, guidance through on the job training is provided.). Maintenance plans and manuals have been prepared, renewed when necessary, and have been utilized by those in charge on the ground. According to PAS, a system has been established to get assistance from PAS main body regarding electricity, and 24-hour backup system has been introduced on a rotating basis.

Regarding the soft side (preparing rules and regulations, establishing implementation system, carrying out activities to attract investment etc.), among the PAS officers who have received training as part of consulting services of the project, three of them – Director of the SEZ Department (1), an officer in Administration and Accounting Division (1) and an officer in Marketing Promotion and Sales Division (1) – are engaged in SEZ operations. Three officers are few and PAS is passive in actual promotion activities; thus sustainability of know-how transfer is limited. An ODA loan expert (May, 2011-March, 2013) has made

¹⁰ There are branch offices for officers of General Department of Customs and Excise, Camcontrol, Ministry of Commerce, Ministry of Labor and Vocational Training, and Sihanoukville Provincial Government. (Camcontrol is an inspection authority under the Ministry of Commerce. This is a system particular to Cambodia – separately from customs, this inspection is required for import and export procedures.)

efforts in promotion activities to attract companies, and was hired directly by PAS as SEZ advisor after the project completion but the advisor contract was going to expire at the end of December in 2016.

Therefore, some major problems have been observed regarding the technical aspects of operation and maintenance.

3.5.3 Financial Aspects of Operation and Maintenance

The operation and maintenance cost of the SEZ is allocated from the operation and maintenance cost of PAS. According to PAS, the SEZ Department has not prepared budget plans for operation and maintenance of the SEZ so far, and whenever expenses occur, the SEZ Department makes requests to PAS and allocations are made. In other words, financial management is fully dependent on PAS main body. Table 11 shows the actual allocation and expenditures for operation and maintenance after the completion of the project.

Table 11: Operation and Maintenance Cost of the Project (Unit: USD)

2014		2015		2016	
Actual Allocation	Actual Expenditure	Actual Allocation	Actual Expenditure	Actual Allocation	Actual Expenditure
430,485	430,485	727,329	727,329	642,711	642,711

Source: Results from questionnaire survey of executing agency

On the other hand, revenue of the project is shown in Table 12. The number of relocating companies remains to be three, and revenue from lease fee (from one company) and rental fee (from two companies) for factories is the same in 2015 and 2016.

Table 12: Revenue of the Project (Unit: USD)

	2014	2015	2016
Revenues from lease and rental fees for factories	187,299	288,529	288,529
Public Utilities (electricity, water supply, waste water) (as of October, 2016)	354,204	419,555	286,873
Total	541,503	708,084	575,402

Source: Results from questionnaire survey of executing agency

When looking at the project alone, it is in deficit – expenditure exceeds revenue except for 2014, which is the following year that SEZ started its operation. However, as mentioned above, operation and maintenance cost of the project is covered by PAS’s main operation when necessary; therefore, there is no problem in terms of financial arrangements.

Income statement and balance sheet of PAS are shown in Tables 13 and 14 below.

Table 13: Income Statement of PAS (Unit: million Riel)

	2012	2013	2014	2015
Incomes	132,590.8	146,606.6	169,041.5	198,913.9
Service	130,999.9	144,930.3	168,183.0	197,952.3
Other Incomes	1,590.9	1,676.3	858.5	961.6
Operation Expenses	-107,420.9	-115,449.9	-136,910.8	-148,210.5
Combustibles and Spare Parts	-42,255.1	-48,981.4	-48,986.8	-48,133.1
Salaries and Other Expenses	-35,013.3	-41,208.2	-50,070.1	-56,508.1
Administrative and General Expenses	-7,871.0	-10,052.6	(Note 1)	(Note 1)
Accumulated Depreciation	-16,919.7	-16,379.5	-16,765.3	-23,191.5
Other Expenses	-6,352.8	-8,436.5	-20,992.1	-21,312.7
Net Profit from Exchange	6,187.6	14,258.7	-96.5	934.9
Deferred Tax on Profit	-4,643.9	-3,329.8	(Note 1)	(Note 1)
Minimum Tax	-552.7	-1,320.6	(Note 1)	(Note 1)
Operation Incomes	25,170.0	31,156.7	32,130.7	50,703.4
Financial Income	185.3	325.8	12,505.8	1,604.6
Financial Expense	-11,630.6	-11,568.3	-12,854.3	-13,449.5
Financial Income (Loss)	-11,445.3	-11,242.5	-348.5	-11,844.9
Income before Tax	13,724.7	19,914.2	31,782.2	38,858.5
Income Tax	-2,744.9	-1,237.9	-3,002.7	-9,613.9
Total Net Income	10,979.7	18,676.3	28,779.5	29,244.6

Source: Prepared by the evaluator based on the information provided by executing agency

Note 1: Included in Other Expenses

Note 2: Partial inconsistency of figures exists due to rounding error

Table 14: Balance Sheet of PAS (Unit: million Riel)

	2012	2013	2014	2015
Current Assets	871,479.0	901,351.7	932,074.8	1,026,718.3
Long-Term Current Assets	822,517.9	843,054.8	855,993.4	942,071.1
Short-Term Current Assets	48,961.1	58,296.8	76,081.4	84,647.1
Liabilities and Equity	871,479.0	901,381.7	932,074.8	1,026,718.3
Equity	442,712.3	460,803.6	485,708.3	515,410.1
Non-Current Liabilities	411,759.6	416,939.8	418,064.0	483,614.5
Current Liabilities	17,007.0	23,638.3	28,302.5	27,693.7

Source: Prepared by the evaluator based on the information provided by executing agency

Note: Partial inconsistency of figures exists due to rounding error

As regards finance of the entire PAS, government subsidy is not injected. Since the operation of the port is robust, revenue and operating profits are soaring – net income in 2015 is about three times higher than that in 2012 – achieving a strong performance. Current assets and equity are steadily increasing, and the entire PAS is expanding.

The reason why the project continues to exist even with loss for the SEZ operation every year is because the SEZ is publicly operated and deficit is covered by PAS's main operation. The SEZ is regarded as merely one of the projects undertaken by PAS – thus, it is not financially independent. The fact that there is no problem in financial aspects of operation

and maintenance from a standpoint of the entire PAS has led to lose a sense of urgency. It is considered that deficit-covering from PAS will continue in future unless massive overhaul of current management system takes place.

Therefore, problems have been identified regarding the financial aspects of operation and maintenance when looking at this project alone.

3.5.4 Current Status of Operation and Maintenance

As regards infrastructure facilities, it is confirmed that they are operated and maintained without particular problems at the time of ex-post evaluation. Troubles which arose so far – cracks and caving of asphalt pavement road within the SEZ, leak in the roof of dormitory etc. – have been appropriately coped with and problem is not occurring. Inspection of facilities such as water supply facilities, waste water treatment plants, electrical, fire alarm system, service apartment, dormitory etc. is carried out every two weeks based on maintenance and management plan. Maintenance manuals have been prepared and utilized by those in charge on the ground. In addition, necessary spare parts have been procured on a timely basis so far. As the second-best measure in case no progress is made as to attracting new companies, PAS has been considering utilizing some part of the SEZ site as port facility (container depot).

On the soft side (preparation of rules and regulations, investment promotion activities etc.), companies in the SEZ have not pointed out any problems regarding enforcement of SEZ rules and regulations, provision of various incentives and One-Stop-Services. As regards after-the-sale service, after the current Director of the SEZ Department took office in January, 2015, monthly meetings have been held between the Department and the companies as requested from tenants. However, companies pointed out that “even though we have raised requests and claims, it cannot be understood easily” and “it requires long time for the Department to take actions and cannot cater the sense of speed of the private sector”. PAS has currently been preparing to conclude 10MW power purchase agreement with EDC to secure stable power supply. As part of the preparation, PAS needs to be qualified as a power wholesaler and is now under negotiation with the Ministry of Mines and Energy (MME), EDC and the Ministry of Commerce, however, there was no concrete prospect at the time of ex-post evaluation. In addition, PAS has offered a special incentive for this SEZ, “free container transport charge”, taking advantage of its location next to the port. In this way, PAS (thinking that it will lead to promotion) is having a relook at the after-the-sale service for tenants as a top priority issue and has been exploring countermeasures on its own. However, it has not become the winning hit for investment attraction at the time of ex-post evaluation. As regards promotion activities to attract companies, no proactive initiative by PAS/SEZ Department is observed. As regards

marketing activities through participation in seminars, PAS is passive and there is room for making further self-help efforts. Operation and management work of SEZ is totally different from that of the original mission of PAS. It is inferred that the fact that PAS is undertaking a business which is outside of its domain has affected motivation and working attitude of relevant officers negatively.

Therefore, major problems have been observed regarding the current status of operation and maintenance on the soft side.

In light of the above, major problems have been observed in terms of the institutional and technical aspects on the soft side; thus, sustainability of the project effects is low.

BOX 2: Role and Contribution (JICA's Assistance/ Assistance Situation to this Project)

While the number of tenants has been stagnating, JICA has been conducting interviews with PAS and companies within the SEZ so far, clarifying the problems and providing recommendations to PAS as well as following up the situation repeatedly. In addition, JICA has accompanied potential companies which have shown interest to the SEZ whenever necessary, and has given explanation and provided relevant materials at seminars at industrial parks (in Tokyo, Hamamatsu, Nagoya, Osaka and Kyoto) organized by JETRO. There were several attempts to dispatch SEZ advisors, however, it did not realize because the conditions did not match with the candidates. Currently, JICA has been conducting "Project Study on Assistance to SEZ Development" and clarifying and analyzing the problems for its future assistance.

As mentioned above ("3.1.4 Appropriateness of the Project Plan and Approach"), prior to appraisal of the project, JICA conducted a study and identified the needs of target industries and provided recommendation for marketing strategy etc. In addition, ODA loan expert implemented promotion activities to attract companies. Promotion activities and capacity development of PAS etc. were also conducted by consultants of this project. Furthermore, the ODA loan expert, after completion of the assistance period (2011-2013), was directly hired by PAS as PAS advisor and has provided educational guidance. However, these inputs did not lead to outputs that achieve project purpose at the time of ex-post evaluation. Even when such problems became clear, extensive support measures, such as implementation of Special Assistance for Project Sustainability (hereinafter referred to as "SAPS"), were not undertaken even until the time of ex-post evaluation. It is hoped that some measures will be implemented in future based on the on-going Project Study.



Entrance to the SEZ



Sihanoukville Port
(Buildings with Triangle Roofs in front
are the Office Building of PAS)

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project developed an SEZ next to the Sihanoukville Port with the aim of increasing direct investment flows into Sihanoukville region and to generate employment. The project is consistent with Cambodia's development policy and with the development needs at the time of appraisal and ex-post evaluation, as well as Japan's ODA policy at the time of appraisal. However, due to problems regarding 'appropriateness of the project plan' based on the needs assessment undertaken prior to the project appraisal and the 'project approach', inputs leading to the achievement of the project purpose were not implemented appropriately. Therefore, the relevance of the project is fair. Although the project cost was within the plan, the project period exceeded the plan; thus, efficiency of the project is fair. Operation and Effect Indicators set at the time of appraisal – amount of direct investment, number of relocating companies and jobs created, amount of exports, and volume of containers handled – resulted in much lower achievement than the target figures for all indicators. In addition, it can be inferred that the project's contribution to the macroeconomic growth data (GDP growth rate, amount of direct investment etc.) is very limited. Therefore, the project has generated its effects at a limited level compared with the plan; thus, effectiveness and impact of the project are low. Major problems have been observed in terms of the executing agency's capacity on institutional and technical aspects of operation and maintenance; thus, sustainability of the project effects is low.

In light of the above, this project is evaluated to be unsatisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

It is important that the SEZ Department, in charge of operation and maintenance of SEZ,

takes measures quickly to appeal the strength of the SEZ that it is located next to the port, prepare marketing strategy which surely captures the expectation of the targeted industries and make sure of its implementation. When conducting interviews with companies operating in Cambodia outside the SEZ, they pointed out regarding the location of this SEZ that “the depth of the port is shallow which is about 11m, so feeder vessels are utilized for transportation and reloaded mainly at the port of Singapore” and “because of the proximity to the sea, there might be possibility of brine damage”. The location is the SEZ’s biggest strength and it is important for the SEZ Department to correct such risk perception on the side of private companies by disseminating correct information against such recognition and concerns of companies. To be more concrete, it is important that the SEZ Department makes an appeal to business communities about the situation of port utilization in detail (including companies and types of industries utilizing the port, information on cargo destination in the country etc.), the fact that direct service to the port of Osaka and Kobe is available after October, 2014 (there are stop over points but no reloading), the future plans of port development and expansion, the introduction of special incentive of the SEZ in connection with the port (free container transport charge for companies using the port). It should also provide detailed information based on the information of occupancy in SEZs abroad which are located near the sea. As part of this effort, major revision of brochures and proactive information dissemination are required. Furthermore, it is critical that SEZ Department provides information on its measures to secure stable power supply, and compile and share a list of services with companies in the SEZ to enhance transparency.

4.2.2 Recommendations to JICA

In light of the challenges the SEZ faces, it is important that JICA continuously provides concrete improvement measures to the SEZ Department and follow-up their initiatives. Based on the changes of policy and economic environment in Cambodia as mentioned in “3.1 Relevance”, fully understanding about the situation of competitors in other SEZs, the status of market entry of companies and information on their latest needs are necessary. Based on that it is critical for JICA to provide assistance to improve operation and management system of the SEZ, review marketing strategy and redirect its operation so that the strength of the SEZ can be maintained. Currently, “Project Study on Assistance to SEZ Development” is being conducted by JICA and measures to improve value addition of this SEZ are also being considered. Therefore, it is required to carry out necessary survey and implement support measures, based on the results and recommendations of the study.

4.3 Lessons Learned

The importance of carefully assessing the capacity of operation and management body of SEZ/industrial park projects and selecting appropriate actions

In case where an organization without experience of operation and management of a SEZ/industrial park becomes a counterpart of a SEZ/industrial park project, it is assumed that there is a limitation for achieving high effects from JICA's assistance in operation and management. In this regard, when preparing SEZ/industrial park projects, it is desirable to consider the possibility of utilizing other operating bodies such as outsourcing SEZ/industrial park operation and management works to organizations and companies with proven records. Furthermore, in case where problems arise regarding SEZ/industrial park operation and management, implementing extensive support measures, such as providing timely implementation of SAPS, is important.

Operation and management of SEZ/industrial park is a business which directly deals with private enterprises. As such, operation and management body is required to provide detailed services by sufficiently understanding business mind of the private sector including sense of speed, awareness of cost, and pursuit of profit. To this end, it is indispensable to have a mindset so as to seriously meet the needs of the private sector by listening to their voices and standing in their position. In addition, in order to meet the needs of private sector in a timely manner, strong leadership and quick decision making are important, thus delegation of authority to field manager and establishing support system are critical. Such fundamental reform cannot possibly be achieved overnight and there is limitation in undertaking measures in the form of strengthening knowhow/capacity and technical transfer as part of consulting services within individual projects. Furthermore, it is difficult to reform consciousness of staff at the public sector as far as they remain within a public organization. Therefore, adopting drastic measures such as – temporarily transferring staff to private companies for several years (while paying enough attention to the conflict of interest) or sending staff to business schools abroad for study, and assigning those staff who have had experiences in private companies and those who have acquired business related knowledge to a position responsible for operation and management at the SEZ/industrial park – can be considered. It is also critical to establish a system which would give a boost to delegate authority for decision making to such responsible staff and to exercise agile response on the ground.

End

Comparison of the Original and Actual Scope of the Project

Item	Plan	Actual
1. Project Outputs	<p>< Sihanoukville Port SEZ Development Project (E/S) ></p> <ul style="list-style-type: none"> • Basic design, detailed design, preparation of bid documents, assistance in tendering • Assistance in preparation of rules and regulations (decrees, implementing regulations, laws etc.) • Assistance in establishing implementation system (establishment of a committee on conflict resolution and One-Stop-Service office, preparation of draft service agreement on SEZ management, training of CDC and PAS staffs etc.) • Assistance in investment promotion activities <p>< Sihanoukville Port SEZ Development Project ></p> <p>1) Civil Works and Procurement of Facilities</p> <ul style="list-style-type: none"> • Development of industrial premises (70ha) • Development of roads, water supply facilities, waste water treatment plants, drainage, private power generators, communication facilities etc. <p>2) Consulting Services</p> <ul style="list-style-type: none"> • Construction supervision • Assistance in preparation of rules and regulations • Assistance in establishing implementation system • Assistance in investment promotion activities 	<p>< Sihanoukville Port SEZ Development Project (E/S) ></p> <ul style="list-style-type: none"> • As planned • As planned • As planned • As planned <p>< Sihanoukville Port SEZ Development Project ></p> <p>1) Civil Works and Procurement of Facilities</p> <ul style="list-style-type: none"> • Scope was changed <ul style="list-style-type: none"> ➢ Development of rental factory building (1 lot x 2,700m²) was added • Scope was changed <ul style="list-style-type: none"> ➢ Procurement of private power generators (2 units) was added ➢ Detour road connecting to National Road No.4 and flyover bridge connecting the SEZ and Sihanoukville Port site were deleted ➢ Location of service apartment and dormitory construction was changed (the location was shifted from outside the SEZ to inside the SEZ site) <p>2) Consulting Services</p> <ul style="list-style-type: none"> • As planned • As planned • As planned • As planned
2. Project Period	<p>March, 2006 – January, 2011 (59 months)</p>	<p>March, 2006 – April, 2012 (74 months)</p>

<p>3. Project Cost</p> <p>Amount Paid in Foreign Currency</p> <p>Amount Paid in Local Currency</p> <p>Total</p> <p>ODA Loan Portion</p> <p>Exchange Rate</p>	<p>2,873 million yen</p> <p>1,367 million yen</p> <p>4,240 million yen</p> <p>3,969 million yen</p> <p>1 USD = 111 yen (As of November, 2005 and December, 2007)</p>	<p>1,206 million yen</p> <p>2,915 million yen</p> <p>4,121 million yen</p> <p>3,764 million yen</p> <p>1 USD = 107.8 yen (Average between 2006 and 2009) 1 USD = 87.7yen (Average between 2009 and 2013)</p>
<p>4. Final Disbursement</p>	<p>< Sihanoukville Port SEZ Development Project (E/S) > June, 2011</p> <p>< Sihanoukville Port SEZ Development Project > July, 2014</p>	

End

Situation of other SEZs in Cambodia

- Sihanoukville SEZ (SSEZ) (Area: 1,113ha)

A Chinese SSEZ has been developed in a place 12km away from this SEZ and the SSEZ has adopted a marketing strategy with reduced pricing. In the initial stage of its operation, the SSEZ focused its marketing on rental factories and successfully attracting companies. According to SSEZ management office, number of tenants is 105, generating more than 16,000 jobs and about 95% of the companies are using Sihanoukville Port at the time of ex-post evaluation. More 80% of the investor companies in SSEZ are from China and others come from USA, France, Italy, UK, Ireland, Malaysia, Cambodia etc. There were two Japanese companies operating in the SSEZ, however, one has withdrawn from the business in 2015, and the other at the end of 2016. Following is the background of SSEZ development etc.

- February, 2008: Developer (Sihanoukville Special Economy Zone Co., Ltd.) was established. Prime Minister Hun Sen attended a commencement ceremony
- December, 2010: Bilateral agreement on SSEZ development was concluded between Cambodia and China.
- June, 2012: Start of operation of the SSEZ.
- June, 2016: Celebration was held for the 100th tenants with Prime Minister Hun Sen's attendance.

※According to PAS, they were aware about the SSEZ plan at the start of this project. Based on this, PAS has added the development of rental factory to the project scope.

- Phnom Penh SEZ (PPSEZ) (Area: 350ha)

This SEZ is located in a place about 8km from Phnom Penh International Airport and about 18km from Phnom Penh City. Developer is a joint venture company consisting of Cambodian and Japanese capital. The SEZ is located in capital Phnom Penh and situated at the center of Southern Economic Corridor, connecting the Mekong Region. Many Japanese companies are operating in this SEZ and Mekong River is utilized for transportation to Japan. Possible route is Phnom Penh → Ho Chi Minh City → Japan (Osaka/Tokyo)

Table I: Comparison of Logistics Costs (cost in case of 20FT container)

<ul style="list-style-type: none"> • Phnom Penh → Ho Chi Minh City → Japan (Osaka/Tokyo) utilizing Mekong River: USD 1,560-1,760 • Phnom Penh → Sihanoukville → Japan (Osaka/Tokyo) via Singapore: USD 1,700
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Source: Cambodia Investment Climate (JICA Cambodia Office, January, 2016)

- Manhattan SEZ (Area: 157ha)

This SEZ is located about 6km from the Vietnam border (Bavet). As regards international airport, Ho Chi Minh City International Airport is closer than Phnom Penh International Airport, and access to Ho Chi Minh City Port is convenient. (This SEZ can be utilized for “Vietnam Plus One” candidate companies.)

Table II: Comparison of Logistics Costs (cost in case of 20FT container)

• Bavet → Ho Chi Minh City → Japan (Osaka/Tokyo): USD 1,700

Source: Cambodia Investment Climate (JICA Cambodia Office, January, 2016)

- Tai Seng Bavet SEZ (Area: 99ha)

This SEZ is located about 6km from the Vietnam border (Bavet). Just as Manhattan SEZ, access to Ho Chi Minh City is convenient. (This SEZ can be utilized for “Vietnam Plus One” candidate companies.) Refer to above (Manhattan SEZ) for logistics costs.

- Poipet SEZ (Area: 467ha)

This SEZ is located in Poipet, north-west Cambodia, and about 20km from the Thailand border (Poipet border). Export and import is possible using in Laem Chabang Port in Thailand. (This SEZ can be utilized for “Thailand Plus One” candidate companies.)

The main ports utilized by each SEZ are plotted on the map.

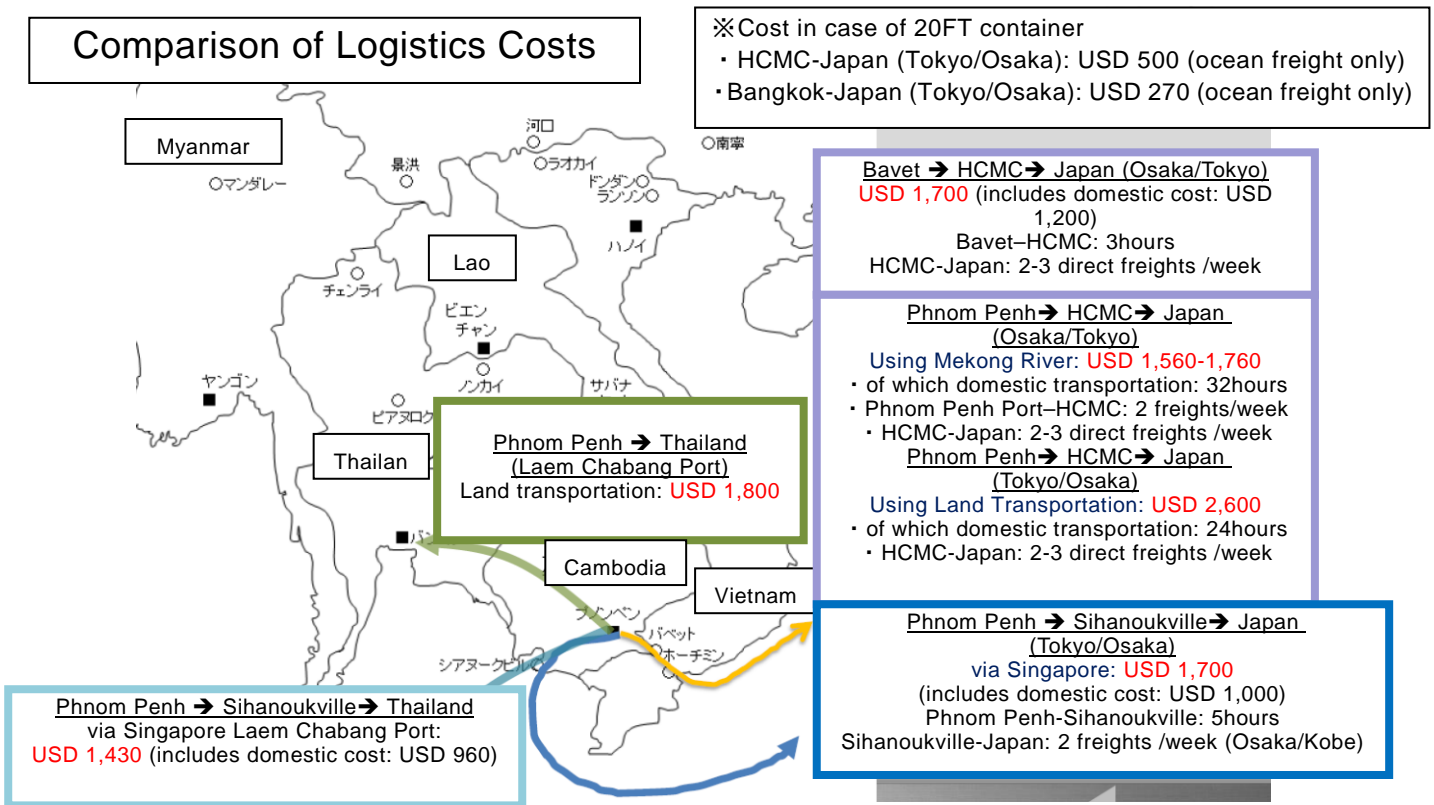


Figure I: Comparison of Logistics Costs

Source: Cambodia Investment Climate (JICA Cambodia Office, January, 2016)

Macroeconomic Growth Data

- GDP Growth Rate

Although figures declined from 2008 to 2009 due to the effect of world financial crisis, they recovered after 2010 and have been maintaining an average of about 7% in recent years. (Figure II)

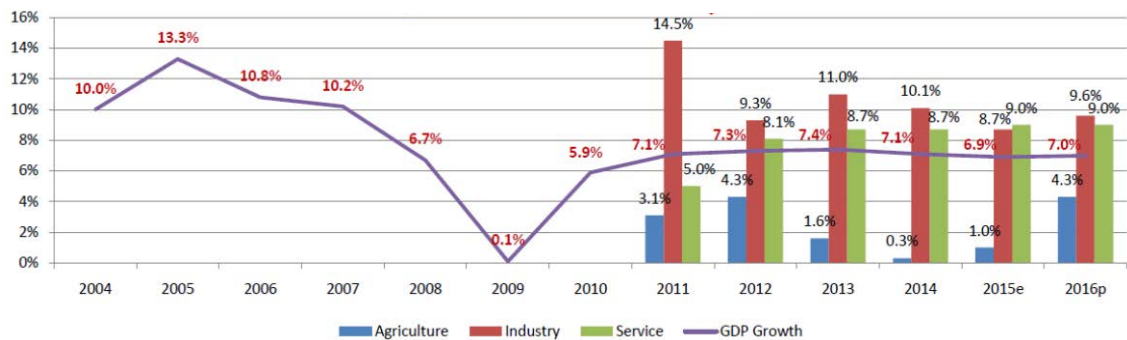


Figure II: Trend of GDP Growth Rate (2004-2016)

Source: Council for Development of Cambodia (CDC)

- GDP Per Capita

Although figure slightly declined in 2009, it has been steadily increasing after 2010. It exceeded USD 1,000 in 2013 and predicted to become USD 1,325 in 2016. (Figure III)

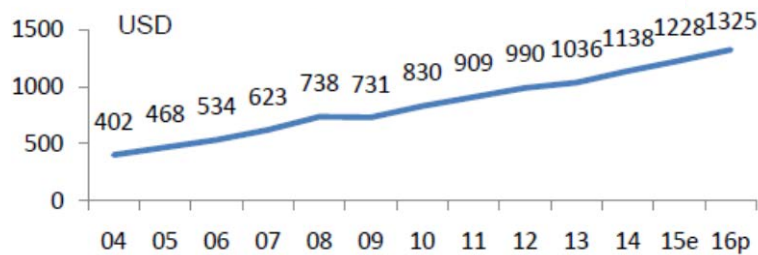


Figure III: Trend of GDP Per Capita (2004-2016)

Source: Council for Development of Cambodia (CDC)

- Amount of Direct Investment

Amount of direct investment (commitment base) for the past five years has been fluctuating by year and significant changes can be observed for industries and infrastructure by sector. (Figure IV) When looking at the share by country (foreign investment), while Japan falls within a ranking of third to seventh, China has been maintaining at the top, greatly leaving second ranking and below far behind. (Table III)

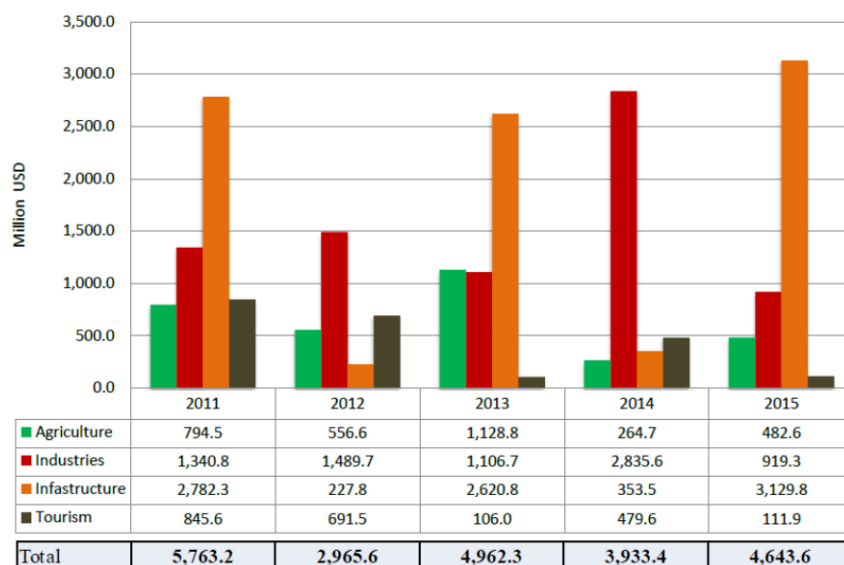


Figure IV: Trend of Amount of Direct Investment (by sector, commitment base)

Source: Council for Development of Cambodia (CDC)

Table III: Trend of Amount of Direct Investment (by country, commitment base)

Year	2011		2012		2013		2014		2015	
Total Amount	USD 5,763.2 million		USD 2,965.6 million		USD 4,962.3 million		USD 3,933.4 million		USD 4,643.6 million	
Ranking	Country	%	Country	%	Country	%	Country	%	Country	%
1	Cambodia	41.24	Cambodia	42.08	Cambodia	66.80	Cambodia	64.00	Cambodia	69.28
2	China	30.55	China	20.69	China	15.68	China	24.44	China	18.62
3	Vietnam	11.99	Korea	9.89	Vietnam	6.10	Malaysia	4.72	UK	3.00
4	UK	4.30	Japan	9.15	Thailand	4.37	Japan	1.72	Singapore	2.18
5	Malaysia	4.20	Malaysia	6.81	Korea	1.76	Korea	1.66	Vietnam	1.92
6	Korea	2.91	Thailand	4.53	Japan	1.59	Vietnam	1.26	Malaysia	1.69
7	USA	2.47	Vietnam	2.89	Malaysia	1.09	UK	1.13	Japan	1.28
8	Japan	1.15	Singapore	2.59	Singapore	1.03	Singapore	0.89	Thailand	1.18
9	Australia	0.43	UK	0.51	UK	0.43	Thailand	0.88	Korea	0.21
10	Singapore	0.28	USA	0.42	France	0.27	Australia	0.51	Canada	0.19
11	Others	0.48	Others	1.21	Others	0.94	Others	1.36	Others	0.52

Source: Prepared by the evaluator based on the information provided by the Council for Development of Cambodia (CDC)

- Amount of Exports

While amount of exports decreased in 2009, it is increasing after 2010. (Figure V)

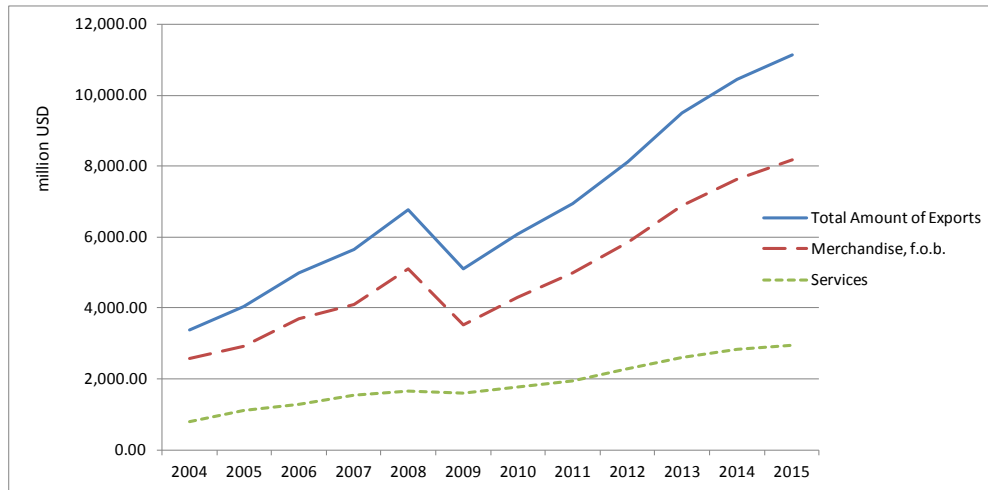


Figure V: Trend of Amount of Exports

Source: Prepared by the evaluator based on the information of the National Institute of Statistics

On Views of Experts

This ex-post evaluation was carried out by referring to views of experts (universities, NGOs, etc.) to reflect more specialized and diverse views, in addition to evaluation based on the DAC five evaluation criteria by the external evaluator. The external evaluator selected and gained cooperation from Dr. Masami Ishida, an expert from the Institute of Developing Economies, Japan External Trade Organization.

Dr. Ishida is Director-General and specializes in development of the Greater Mekong Subregion. For this reason, the external evaluator asked him to share his views based on his expertise and experience. Specifically, he examined the current situation and prospects of regional development in Cambodia from the perspectives of the two projects subject to evaluation: “Greater Mekong Power Network Development Project” and “Sihanoukville Port Special Economic Zone Development Project”. He also brought multiple viewpoints of other infrastructure improvement including roads, trains and ports into the analysis.

The essay of Dr. Masami Ishida is appended to the evaluation report as attachments.

End

The Position of “Sihanoukville Port Special Economic Zone Project” and “Greater Mekong Power Network Development Project (Cambodia Growth Corridor)” in Regional Development of Cambodia Growth Corridor

Dr. Masami Ishida, Director-General,
Institute of Developing Economies, Japan External Trade Organization

1. Cambodia Growth Corridor: the Status of Development of Highway, Port and Railway

The Government of Japan has positioned the sub-region composed of Phnom Penh Municipality and Preah Sihanouk Province, and the in-between provinces of Kandal Province, Takeo Province, Kampong Speu Province, Kompot Province and Koh Kong Province as “Cambodia Growth Corridor” and has supported the economic development of the country (Figure 1). The sub-region is relatively populated in Cambodia and its area and population account for 17.3 and 37.2 percent of the whole of Cambodia respectively, and its population density is 2.2 times as high as the whole Cambodia (based on *Yearbook of Cambodia in 2013*).

The fundamental principle of the development of Cambodia Growth Corridor is to connect the megacity, Phnom Penh and the sole deep seaport, Sihanoukville; and to facilitate the development of the two cities and the provinces in-between by attracting export-oriented firms to the port and its nearby area as a free zone surrounded by fences where customs procedures would be exempted (The Study on Regional Development of the Phnom Penh-Sihanoukville Growth Corridor in the Kingdom of Cambodia: Abridged Edition by Nippon Koei Co., Ltd. and *et al*, Website of JICA). Highway No. 4 and No. 3 are the major axes of the corridor which connect the two cities; Highway No. 4 plays a role of being the major axis of logistics and industrialization as the shortest way connecting the two cities. Highway No. 3 passes Takeo Province of which the population density is 2.2 times as high as that of Kampong Speu Province. It runs side by side with Highway No. 2 to Takao; and it is a composite economic corridor which runs in parallel with Southern Line of Royal Cambodian Railways and the transmission line, which will be introduced later.

At Sihanoukville Port, container and multi-purposed terminals have been developed since 1999 with ODA loan from Japan and the container throughput and total cargo throughput had increased by 1.9 times and by 2.7 times respectively between 2005 and 2015. On the other hand, multiple small cargo ships at maximum level of 200 TEU shuttle once a week between Phnom Penh Port, which is located 25 – 30 km down the Mekong River from Phnom Penh, and ports around Ho Chi Minh City. The cargo transported to Ho Chi Minh City and its suburbs is transshipped to megacarriers with destination to North America and Japan. Container throughput of Phnom Penh Port had increased 4.8 times during the same period and its disparity

with Sihanoukville Port had reduced from 7.0 times to 2.7 times; both ports have improved through friendly competition and complement each other (the numbers including the container throughput are based on brochures of these ports).

2. Current Situation of Electricity Generation and Transmission and the Position of Greater Mekong Power Network Development Project (Cambodia Growth Corridor)

Electricity issue is one of the largest bottlenecks in the economic development of Cambodia. To begin with, the share of population with access to electricity is 16.6 percent as of 2000 and 56.1 percent as of 2014 according to the statistics of the World Bank; the share as of 2014 is the lowest in the Asia after Timor – Leste, North Korea and Myanmar. The electricity price is 13 – 16 cent per kwh as of 2016 and the value is also much higher than those of the majority of other ASEAN countries which are usually less than 10 cent (*JETRO Censor*, May in various years). The reasons why the electricity price in Cambodia is so high are partly because the electricity including Phnom Penh Municipality are much dependent on diesel power generation with higher unit price and partly because Cambodia has bought electricity from neighboring countries including Vietnam in order to complement the insufficiency of domestic electricity supply in the background. The electricity price, however, showed slight improvement compared with 19 cent as of 2011; it may be because the operation of Kam Chay Hydroelectric Power Station and a coal-fired power station at Stung Hav, which will be explained later, have been started and they have been connected by the transmission line.

The development of the transmission line in the Cambodia Growth Corridor has started with the construction of the 230 kV transmission line which carries electricity supplied by Vietnam from the border with Vietnam to Phnom Penh by way of Takeo Substation in 2009 with the assistance of the Asian Development Bank (ADB) and KfW Development Bank (*Kreditanstalt für Wiederaufbau*: KfW) in the circumstance that electricity in the municipality and its suburbs have expanded with the economic development since the beginning of the 2000s. In 2011, the 230 kV transmission line from Takeo Substation to Kompot was constructed by the assistance of the KfW Development Bank and a Chinese firm constructed Kam Chay Hydroelectric Power Station with the capacity of 193.2 MW.

The Greater Mekong Power Network Development Project (Cambodia Growth Corridor) co-financed by the Government of Japan and the ADB was a project which intended to directly connect the transmission line further from Kompot Substation to Sihanoukville. Later the development of two coal-fired power stations with the capacities of 200 MW and 405 MW, respectively, was decided and the Greater Mekong Power Network Development Project was also changed to a plan which transmits to Sihanoukville by way of Stung Hav Substation. The 203 kV transmission line between Kompot and Stung Hav was constructed in 2013, the

coal-fired power station with the capacity of 200 MW and the 115 kV transmission line assisted by the Government of Japan between Stung Hav and Sihanoukville were completed in 2014 and the operation of the coal-fired power station with the capacity of 405 MW is scheduled to start in 2017.

With the construction of the transmission line between Kompot and Sihanoukville, first, the two-way transmission line between Sihanoukville and Phnom Penh was completed; electricity supply to Phnom Penh increased indirectly, the electricity price also showed a slight downward trend, as previously noted, and the imports of electricity from foreign countries also decreased. Second, the share of electrified-households was 50 percent in the urban area and 8 percent in the rural area of Kompot Province; 60 percent in the urban area and 13 percent in the rural area of Preah Sihanouk Province before the implementation of the project. In the year of 2016 it expanded to 100 percent, 80 percent, 95 percent, 86 percent respectively. The project has contributed to the improvement of the people's access to electricity. Third, at Sihanoukville Special Economic Zone (SEZ), described later, I heard that blackouts have decreased since about 2015 and the electricity supply has been stabilized; it was clear that stable electricity supply has been permeating not only for household use but also for industrial use. In 2017, the ODA loan agreement with Japan on the Sihanoukville Port New Container Terminal Development Project was signed; the stable electricity supply is also expected to be a positive factor for the project in terms of supplying stable electricity to the new container terminal and expanding imports and exports through the improvement in productivity in the two SEZ in Sihanoukville, which will be described later.

3. The Position of Sihanoukville Port Special Economic Zone Project

It was Sihanoukville Port Special Economic Zone Project that the Government of Japan promoted as the tramp card for attracting export-oriented firms by designating Sihanoukville Port as a free zone; the loan agreements for the engineering service to establish the SEZ and for the construction were signed in 2006 and in 2008 respectively; the Sihanoukville Port SEZ was completed in April, 2012 and Sihanoukville Autonomous Port (*Port Autonome de Sihanoukville*: PAS) has operated the SEZ. The SEZ was physically separated from the port and has not become free from customs procedures, but it is a large sales point that it takes almost no time for transportation because the SEZ is so close to the port. A firm producing beer-bottle-cases started operation on 13 March in 2013 and three firms have been in operation as of 2017; this number, however, is far less than 26 firms, the number for the initial target.

On the other hand, Sihanoukville SEZ also exists 13 km away from Sihanoukville Port along Highway No. 4, in Preah Sihanouk Province. The SEZ is shared and operated with a joint venture of Hongdou Group at Wuxi in China and International Investment Group in Cambodia

and was established based on a decree dated on 11 March in 2008. At the SEZ, the first-invested-firm started its operation in October, 2008 and 105 firms including exporting firms of garments, electronics and machinery have conducted operation as of 2017.

I would like to consider the reasons why the number of firms received by the SEZs is so different between Sihanoukville Port SEZ and Sihanoukville SEZ. The major reason is that the former's land lease price was set higher at USD 62 per square meter for 50 years because the former's SEZ specification was designed with a sales point of "infrastructure with Japanese standard" which was fully equipped with industrial wastewater treatment facilities while the latter set the price at USD 40. At Sihanoukville SEZ, the construction of industrial wastewater treatment facilities was about to be completed when we visited in February 2017; speculations that the SEZ could set a lower price because the SEZ left the construction of the industrial wastewater treatment facilities as a least priority cannot be entirely denied. In addition, another reason can be enumerated that the investment boom in Cambodia started in 2010 and the completion of Sihanoukville Port SEZ was in April 2012, so the SEZ was late for getting on the investment boom. Furthermore, I heard that when the ex-post evaluators of the project interviewed tenant firms, the firms pointed out that "proposing requests and claims are hard to be understood by the staff," "it takes much time for supporting us without a sense of speed required generally by 'the private sector'"; the SEZ has challenges in the service contents.

In the light of the situation, roles in attracting export-oriented firms which were expected to be played by Sihanoukville Port SEZ at the beginning resulted in an ironic consequence that the roles were not played by the said SEZ, but by Sihanoukville SEZ. It is very difficult to say whether Sihanoukville Port SEZ will recover by receiving investors, considering that the minimum wage has been raised every year and the disparity of the minimum wages between Cambodia and Thailand which was four times in January, 2013 have decreased by 1.4 times in 2017 and the competitiveness of Cambodia as bases for exporting has been weaker than ever before. Yet there is a positive factor that the industrial coverages for attracting investment has expanded. Since electricity supply has been stabilizing, it can attract power-intensive industries which used to be inappropriate for Sihanoukville Port SEZ because it had problem of electricity supply; it is expected to attract firms, for instance, in the sector of electric and electronics industry in future. In the situation that export competitiveness has been weakened, it may be needed not to insist on attracting export-oriented firms; it may be needed to quickly correspond to changes in situations by reading ahead, based on the reflection of the past experience that the SEZ missed the investment boom.

4. Development Situations along Highway No. 4 and Highway No. 3

Here I would like to discuss the provinces between Phnom Penh and Sihanoukville and the

highways which connect these provinces. Along Highway No. 4, Phnom Penh SEZ did not exist when I visited for the first time in 2004; then the location of business establishment has expanded to a part of Kampong Speu Province and the extension of suburbanization has been progressed. There is a mountain pass, however, in Kampong Speu Province, which is about 100 km away from Phnom Penh; locating business establishments is not considered to progress in this area and “middle cities” do not exist between Phnom Penh and Sihanoukville along Highway No. 4. Rather, the suburbanization can extend in the direction of Highway No. 41, which separates from Highway No. 4 on the way to Sihanoukville and join Highway No. 3 before reaching Kompot because Highway No. 41 runs so as to keep a distance with the mountainous section and has just been improved by China Road Bridge Corporation (CRBC). On the one hand, the number of ready-mixed concrete plants and some business establishment has increased at the suburb of Sihanoukville, maybe reflecting a construction boom, however, we cannot see spillover effects which extend the suburbanization of business establishment to other provinces.

Along Highway No. 3, business establishments such as cement factories in Kampot Province and rice mills have been seen gradually. Highway No. 3 seems to have potentials for business establishment, considering small-scale businesses such as beneficiary banks for mobile banking from cities like Phnom Penh have progressed in Takeo and Kompot, the “middle cities” along Highway No. 3, and the transmission line and railway run in parallel.

Summary and Prospects in Future

Connectivity between Phnom Penh and Sihanoukville through the highways, railway and transmission line has been improved; especially, the development of electricity generation and transmission line have improved surrounding residents’ access to electricity to a large extent, stabilize the electricity supply to Sihanoukville Port and to its nearby SEZs and have contributed much to the improvement in electricity supply along Highway No. 3 and in Phnom Penh and Sihanoukville.

On the one hand, five years have passed since the completion of Sihanoukville Port SEZ, which was expected as a receiver to attract export-oriented firms in 2012, but the number of tenant firms has been limited to three, so the position of the SEZ in the Growth Corridor has yet to be clear. On the other hand, 105 firms have invested at Sihanoukville SEZ as of 2017; the latter SEZ have played the expected role and contributed to the economic development in Sihanoukville. It has become much difficult for Sihanoukville Port SEZ to attract export-oriented firms in the future in the circumstances that wages in Cambodia are not so lower than that of Thailand as was already described. If it is possible to improve the current situations, in addition to the improvement in the SEZ’s service and in its selling price, and the shift from

focusing on attracting export-oriented firms, development of human resources with techniques and/or skills which are appropriate for the wage level are required. Considering to outsource its operation to private firms in Thailand or Singapore which have shown successful performances in managing industrial estates or to Japanese trading firms, instead of a public organization, Sihanoukville Autonomous Port, can be also recommended.

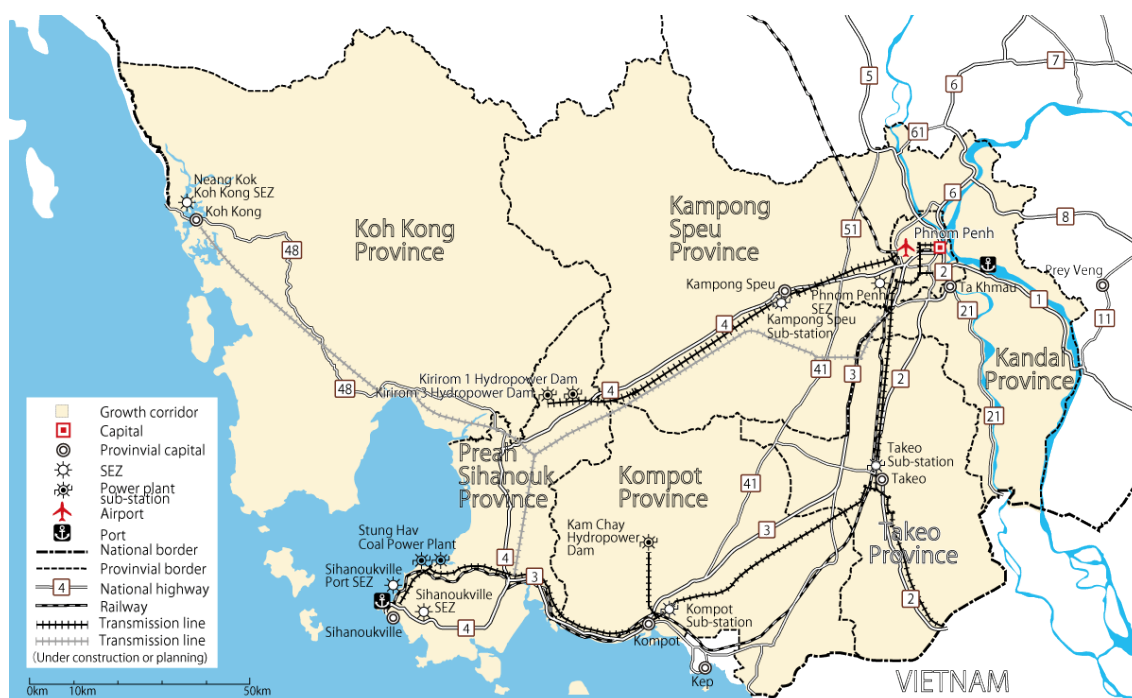
Discussing the economic development of provinces between Phnom Penh and Sihanoukville along Highway No. 4 and Highway No. 3, respectively, the extension of suburbanization of business establishment has been progressing along Highway No. 4 from Phnom Penh and has expanded to a part of Kampong Speu Province between the two cities. There is a mountain pass, however, from an area slightly less than 100 km away from Phnom Penh and such mountainous areas are usually not suitable for locations of business establishment and “middle cities” do not exist between the two cities. The possibility that the extension of the suburbanization could take place between one of both edge cities and the “middle city” is small. The possibility that such an extension could progress along Highway No. 41, which has been improved so as to avoid the mountainous area, can be considered in some cases. Industrial locations along Highway No. 3 have not been progressed compared with those along Highway No. 4 around Phnom Penh. However, considering that the two middle cities, Takeo and Kompot exist and business establishment which is distinctive in such “middle cities” can progress, it is possible that extension of suburbanization of business establishment from one of the “middle cities” could take place and attracting business establishment could be advantageous in the aspects of electricity supply and of using passenger/cargo railways because the transmission line and railway run in parallel, it could be considered that Highway No. 3 facilitates the development of provinces between the two edge cities in future.

Considering the future developments, Highway No. 4 will continuously play the role of the main artery of logistics as the shortest route connecting the capital and the port. The extension of suburbanization of business establishment along Highway No. 4 starting from Phnom Penh will be limited by the existence of the mountain pass, but it can continue to extend along Highway No. 41 in some cases. The extension of suburbanization of business establishment starting from Sihanoukville has not progressed as much, but it can be possible that such an extension including the related industries will take place if further firms locate themselves in the two SEZs in Sihanoukville. Along Highway No. 3, business with scales of 50 – 1,000 employees will gradually be established on the one side and there is a possibility that branded commercial facilities like convenience stores that exist in any city can progress, in the same way that bank branches have been established in response in time to the demand in the “middle cities”.

Summarizing so far, the construction of transmission line between Kompot and

Sihanoukville, combined with the results of the development of nearby electricity power generations, has contributed to the economic development of the Growth Corridor in the access to electricity, the stable electricity supply and the electricity supply for the port and SEZs. It cannot be denied that the number of located export-oriented firms has not been changed by the development of Sihanoukville Port SEZ, but ironically has increased in Sihanoukville SEZ, developed by a Chinese and Cambodian joint venture firm. We can say that locating export-oriented firms in Sihanoukville has been progressed and the cities at both edges have been developed by this SEZ. Regarding the development of the provinces between the two cities, the extension of suburbanization of business establishments have progressed to a part of Kampong Speu Province on the one hand, but have not progressed to its extension because of the existence of the mountain pass. On the other hand, the extension of suburbanization of business extensions along Highway No. 3 has not been progressed like along Highway No. 4, however, there is a possibility that the extension of suburbanization of business extensions starting from the “middle cities,” Kampot and Takeo will be progressed in future.

Figure 1. Cambodia Growth Corridor



Note: Relative position relations of transmission lines, roads and railways might not reflect the reality.
Source: Created by the author.