

**JBIC ODA Loan Project Mid-Term Review 2006**

Evaluator: Asahi Ltd. (Teruo Kawakami)

Time of Mid-Term Review Field Survey: January–February 2007

Project Title : The Republic of the Philippines “The Subic-Clark-Tarlac Expressway Project” (PH-P226)

**[Loan Outline]**

Loan Amount / Contract Approved Amount / Disbursed Amount: 41,931 million yen / 41,857 million yen / 13,656 million yen (as of the end of September 2006)

Loan Agreement: September 2001 (5 years after L/A signing)

Original Project Completion Date: December 2006

Revised Project Completion Date: November 2007

Loan Expiry Date: December 2009

Executing Agency: Bases Conversion Development Authority

Operation and Maintenance Agency: To be commissioned to Private Operator

Selection Criteria for Mid-Term Review: Special Yen loan

**[Project Objective]**

The objective of this project is to increase transport efficiency, reduce costs, and increase safety by building an approx. 90-km long toll expressway connecting Subic, Clark and Tarlac and thereby contributing to the development and revitalization of the regional economy in the Central Luzon region through promotion of human exchanges and goods distribution.

Consultant: JV comprised of Pacific Consultants International (J), Nihon Koei Co., Ltd. (J), Katahira & Engineering International (J)

Contractor: Package I (Subic-Clark section): JV comprised of Obayashi Corporation, JFE Engineering Corporation (J), Mitsubishi Heavy Industries, Ltd. (J), Kajima Corporation (J); Package II (Clark-Tarlac section): JV comprised of Hazama Corporation (J), Nippon Steel Corporation (J), Taisei Corporation (J)

**[Mid-Term Review Result]**

Item	Ex-ante Evaluation (at the time of appraisal) (December 2000)	Result of mid-term review and ex-post evaluation results as estimated at time of mid-term review
<b>Relevance</b>	<p>(1) National policy level</p> <ul style="list-style-type: none"> <li>· In the Mid-term Development Plan (1999–2004), the transport sector adopted “the provision of safe and reliable transport services”, as a development goal to support the development of the Philippine society and economy. Further, the sector pursued a strategy to reach this goal, which was “improving the quality of existing infrastructure through appropriate rehabilitation, operation and maintenance.” The priority items were (1) setting high standards for main national roads and regional dispersion for improvement of road networks; (2) introducing the principle requiring drivers to share the costs of road improvement. Thus the construction of the toll expressway was consistent with the Philippines’ national policy. In the New Mid-term Development Plan (2001–2004) established under the Arroyo government, provision of safe and reliable transport services was considered a key policy. In addition, privatization of the operation of transport infrastructure was deemed one of the development strategies to be adopted in the transport service division. Thus the construction of an expressway included in this project and the privatization of operation and maintenance conformed with state planning.</li> </ul> <p>(2) Policy level</p> <ul style="list-style-type: none"> <li>· In the business plan (2000–2004) adopted by the Base Conversion Development Authority (BCDA), which was established in 1993 with the objective of achieving social and economic development in the Central Luzon region as a strategy for expanding investments from abroad, it was deemed important to coordinate strategically between the Subic Bay Special Economic and Free Port Zone and the Clark Special</li> </ul>	<p>(1) National policy level</p> <ul style="list-style-type: none"> <li>· In the Mid-term Development Plan (2004–2010), the development of the Subic-Clark district as an Asian distribution center is considered to be one of the Philippine government’s important development policies, and the infrastructure building undertaken in the project is regarded as a transport infrastructure that supports distribution of goods.</li> <li>· The Mid-term Development Plan adopted a policy of further encouraging drivers to at least share the operation and maintenance cost of road improvement so as to reduce the financial burden on the central government. The Plan also adopted the goal of promoting the participation of the private sector in the road improvement project by, among other things, legislating a law related to BOT. The present project planned to use the fare receipts to pay the cost of operation and maintenance as well as to service its debts. In addition, since the project plans to commission the private sector to be responsible for operation and maintenance, it is consistent with the policy of the Mid-term Development Plan.</li> </ul> <p>(2) Policy level</p> <ul style="list-style-type: none"> <li>· The two main goals of the 2005–2010 strategic plan adopted by the Base Conversion Development Authority (BCDA) are building the Subic-Clark international distribution center in Central Luzon, and constructing the Central Luzon Expressway.</li> </ul>

	<p>Economic Zone. The road being built in the project will connect the two economic zones.</p> <p>(3) Planning level</p> <ul style="list-style-type: none"> <li>· As the building of the two special economic zones in Subic and Clark advanced, traffic between the two special economic zones was expected to increase dramatically. Consequently, there was an urgent need to build an expressway linking the two zones not only for streamlining the distribution of goods but also for securing smooth and safe road traffic.</li> <li>· Since the North Luzon Expressway ends in a suburb of Clark, there was an urgent need to build an expressway between Clark and Tarlac. Such an expressway would alleviate the traffic congestion on MacArthur Road where the traffic flowing from the northern part of Luzon Island to Tarlac – the newly industrialized area and the distributing center for agricultural products – and from Tarlac to Manila is concentrated.</li> </ul>	<p>(3) Planning level</p> <ul style="list-style-type: none"> <li>· There is a strong need to build an expressway in the Central Luzon region linking the special economic zones in Subic and Clark, which are being developed as an international distribution center. In both special economic zones, economic activities are increasing.</li> </ul> <table border="1" data-bbox="1285 491 2107 951"> <thead> <tr> <th></th> <th>2001</th> <th>2002</th> <th>2003</th> <th>2004</th> <th>2005</th> </tr> </thead> <tbody> <tr> <td>Number of new companies in Clark Special Economic Zone</td> <td>45</td> <td>66</td> <td>66</td> <td>85</td> <td>93</td> </tr> <tr> <td>Number of new companies in Subic Bay Free Port Zone</td> <td>80</td> <td>85</td> <td>94</td> <td>10</td> <td>49</td> </tr> <tr> <td>Number of jobs in Clark Special Economic Zone</td> <td>22,046</td> <td>26,306</td> <td>28,409</td> <td>33,504</td> <td>36,833</td> </tr> <tr> <td>Number of jobs in Subic Bay Free Port Zone</td> <td>45,742</td> <td>48,874</td> <td>51,875</td> <td>55,875</td> <td>59,764</td> </tr> </tbody> </table> <p>Number of companies as of October 2006: 389 in Clark, 693 in Subic Bay</p> <ul style="list-style-type: none"> <li>· As of January 2007, there were 9 companies operating in the Luisita industrial complex in Tarlac (4 are Japanese firms). The construction of the Central Techno Park located near the industrial complex was started in the latter half of 1990 and is suspended and still unfinished.</li> <li>· On the other hand, as of 2002, traffic volume between Clark and Tarlac (AADT: Annual Average Daily Traffic) was 11,491 vehicles; since then, it has increased annually by 4–5%. Consequently, there is an urgent need for an expressway in the Central Luzon region to alleviate</li> </ul>		2001	2002	2003	2004	2005	Number of new companies in Clark Special Economic Zone	45	66	66	85	93	Number of new companies in Subic Bay Free Port Zone	80	85	94	10	49	Number of jobs in Clark Special Economic Zone	22,046	26,306	28,409	33,504	36,833	Number of jobs in Subic Bay Free Port Zone	45,742	48,874	51,875	55,875	59,764
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	operation cost saving (%)	section			Traveling time saving	(Data by section unavailable)	63%
		Clark-Tarlac section		17.87%			
	Traveling time saving	Subic-Clark section	2 hrs (existing national road)	1 hr reduction (50%)			
		Clark-Tarlac section	1.5 hrs (existing national road)	1 hr reduction (67%)			
	<p>Internal earning rates at the time of appraisal</p> <ul style="list-style-type: none"> <li>· FIRR=5.69%</li> </ul> <p>Cost: Cost of construction and cost of operation and maintenance</p> <p>Benefit: Fare receipts</p> <p>EIRR=20.43%</p> <p>Cost: Cost of construction and cost of operation and maintenance</p> <p>Benefits: Vehicle operation cost saving, traveling time saving and tourism revenue, cutting back on cargo transport charge at Subic Bay.</p>					<p>The internal earning rates recalculated in this review are as follows:</p> <ul style="list-style-type: none"> <li>· FIRR: 7.32%</li> </ul> <p>Cost: Cost of construction and cost of operation and maintenance</p> <p>Benefit: Fare receipts</p> <p>EIRR=15.02%</p> <p>Cost: Cost of construction and cost of operation and maintenance</p> <p>Benefit: Economize on vehicle operation cost, reduce traveling time</p> <p>EIRR was lower at the time of the mid-term review than at the time of appraisal. This is because the following items were not included in the recalculation: (i) the rise in the peso-based construction cost; (ii) tourism revenue that was included as a benefit at the time of appraisal; and (iii) the cut back on cargo transport charge at Subic Bay. (Benefits that accrue when EIRR is calculated are, in accordance with the policy of the National Economic Development Agency (NEDA), limited to vehicle operation cost saving and traveling time saving. The recalculation also conforms to the NEDA policy.)</p> <p>On the other hand, the FIRR was higher at the time of the mid-term review than at the time of appraisal. This is because, although at the time of appraisal, the toll was kept constant during the entire project period, in the recalculation, it was decided that, in accordance with the formula adopted in the detailed design, the toll should be raised by 10% every three years.</p>	

2. Qualitative effects  
 The project will contribute to the development of the local economy by increasing road convenience and safety, promoting human and material distribution as well as by streamlining, reducing cost, and enhancing safety transport (JICA’s “Central Luzon Regional Development” Master Plan).

Population and GRDP Projection

	1990 Actual	2010 Projection
Population (1,000)	6,199	10,499
GRDP (million pesos)	94,000 (1990 annual price)	458,000 (1990 annual price)
Per capita GRDP (pesos)	15,163	43,623

(JICA “Central Luzon Comprehensive Development Plan”)

(2) Factors which may influence the effectiveness and impact  
 1) EIA (Environmental Impact Assessment) is implemented in this project. In January 2000, the Philippines’ Department of Environment and Natural Resources released the Environment Compliance Certificate (ECC). Monitoring the project’s impact on the environment is required as a collateral condition of ECC, and the executing agency is supposed to take adequate measures at the execution stage as it obtains support from a consultant.

2) Land acquisition and resident relocation

2. Qualitative effects  
 · Revitalization of economic activities  
 The completion of the project may make possible the streamlining of distribution in the Central Luzon region and help revitalize the attraction of investments to various industrial complexes in Subic, Clark and Tarlac. However, for example, at present only simple assembly plants of such as wire harness and food processing industries have moved into the industrial complex in Tarlac, and so in order to attract large-scale investments, it will be necessary to improve such infrastructure as electrical power, develop industrial bases including supporting industries, and build higher education facilities.

Population and GRDP Projection

	2005 (Actual)	2010 (Projection)	2015 (Projection)	2020 (Projection)
Population (1,000)	9,195	10,159	10,825	11,394
GRDP (million pesos) 1985 price base	102,456	128,967	154,062	179,120
Per capita GRDP (peso)	11,142	12,695	14,232	15,720

(2) Factors which may influence the effectiveness and impact  
 1) Environment management was implemented on the basis of EMP (Environment Management Plan) and CMP (Construction Management Plan) as prescribed in ECC.

2) Land acquisition and resident relocation

· The target of land acquisition covers the area of 627 has.: 348 has. in the Subic-Clark section and 279 has. in the Clark-Tarlac section. Most of the planned site for road construction is on state-owned land. Since no particular complaint has been lodged in hearings against the implementation of the project, the affected residents were given appropriate monetary compensation at market price during the land acquisition phase. Thus, it is highly unlikely that a serious problem would arise in land acquisition.

· Fifty nine (59) households were targeted for relocation (all involving legal citizens). Carefully-thought out measures are adopted for relocating residents. Toward this end, the executing agency formulates a program for compensating and relocating affected residents. At the road execution stage, it implements this together with the monitoring program.

Land Acquisition Area		(unit: hectares)	
	Required land area	Acquired	Not Yet Acquired
Subic-Clark	349	321	28
Clark-Tarlac	358	354	4

Reasons for the delay:  
 Additional acquisition of land became necessary because of design change, consultation with landlords concerning disputed land in Dinalupihan, Bataan, etc. and land acquisition procedure.  
 (According to an explanation provided by a person in charge of land acquisition, while executing the work to remove a hillside, it was discovered that the area would not be wide enough to build the proposed road. Thus, additional land had to be acquired by widening the width of the hillside targeted for removal.)

(Reference)

State of Land Acquisition Payment and Resident Relocation				
Section		No. of payment targets	Home, etc. compensation (1,000 pesos)	Trees, etc. compensation (1,000 pesos)
CP-1	Bataan	130	8,123	8,513
CP-2	Pampanga	209	13,686	28,451
CP-2	Clark-Tarlac	153	5,737	12,901
CP-2	Spur road	53	265	
		545	27,812	49,865

According to the social survey report concerning the resident relocation carried out in June 2003, since the residents who were relocated were mostly farmers with limited income, some of them expressed anxiety over being able to find a new source of livelihood where they were relocated. Thus, in addition to compensating for the price of the land acquisition, the report called for adoption of measures to alleviate the negative social and economic impact on the residents being forced to relocate. On the basis of this recommendation, BCDA is supporting the efforts of residents who have relocated to secure new sources of income

		<p>by implementing aid projects such as pig farming and other forms of raising stock. However, some of the inhabitants have complained that they received no explanation about expressway construction or that they had no chance to negotiate the amount of compensation they would receive.</p> <p>(3) Factors which may influence the sustainability</p> <p>Bids are being tendered for selecting a private operator to manage the expressway when it is completed, A ten-year contract is being planned. The private operator who wins the bid will be contracted to carry out the usual maintenance. Resurfacing, which is expected to be required once every 10 years, and any emergency repair work that may be required will be carried under the responsibility of the BCDA. The tender conducted in April 2007 ended in failure. Thus, in order to commence operation immediately after the project is completed, it is necessary to carry out the re-bidding procedure without delay.</p>
<p>Information for reference</p>		
<p><b>[Efficiency]</b> (1) Outputs</p>	<p>(1) Outputs Package 1: Subic-Clark section: Construction of a round-trip 4 lane expressway, bridges, etc (55.80 km [of which, 3.34 km are for bridges]) Package 2: Clark-Tarlac section: Construction of a round-trip 4 lane expressway, bridges, etc (33.50 km [of which, 0.82 km are for bridges]) Total distance: 89.30 km</p> <p>• Amount of consulting services: 1,275 M/M</p>	<p>(1) Outputs Package 1: Subic-Clark section: Construction of a round-trip 4 lane expressway, bridges, etc (50.40 km [of which, 4.20 km are for bridges]) Package 2: Clark-Tarlac section: Construction of a round-trip 4 lane expressway, bridges, etc (43.37 km [of which, 1.62 km are for bridges]) Total distance: 93.77 km The total distance increased by 4.47 km because the original plan of using the northernmost part of the North Luzon Expressway as one part of the Central Luzon Expressway made it necessary to build a sui generis road in parallel with the North Luzon Expressway.</p> <p>• Amount of consulting services necessary for completion as estimated as of the time of the mid-term review: 2,032 M/M (compared with the planned consulting time: 159%).</p>



<p>(2) Project period</p> <p>(3) Project cost</p>	<p>(2) Project period September 2001 – December 2006 (64 months)</p> <p>(3) Project cost: 49,330 million yen (41,931 million yen for ODA loan portion)</p>	<p>Details of the additional 757 M/M of consulting services are the additional work of detailed design (271 M/M), reexamination of the tender subsidiary, the project, and the detailed design (147 M/M), and the additional work of monitoring and supervising (339 M/M).</p> <p>(2) Project period September 2001 – November 2007 (planned) (75 months) (plan ratio: 117%) The price tended greatly exceeded the predetermined price in the selection of the construction contractor. Consequently, the scope of the project had to be reconsidered, and a change had to be made in the contract price based on deliberation with the lowest bidder. The nine-month delay was due to the long time it took to coordinate with the government agency over these issues.</p> <p>(3)Project cost: 66,350 million yen (41,931 million yen for ODA loan portion) The difference between planned and actual cost was 17,020 million yen. The breakdown of this difference is, among other things: (i) 6,502 million peso increase in the peso-based project cost due to the steep rise in the cost of steel products and oil since 2004 (construction cost increased by 4,013 million pesos, consulting cost by 220 million pesos, management cost by 843 million pesos, tax by 1,602 million pesos, reduction in land acquisition cost by 176 million pesos); and (ii) increase in peso-based caused by the deterioration of the peso to the yen from 2003 to 2005.</p>
<p><b>(3) Results of Special Yen Loan Satisfaction Survey</b></p>	<p>A. Initial expectations and current opinions of the executing agency, etc. concerning the objectives of the special ODA loan (economic stimulus, job creation, private sector investment environment, productivity improvement)</p> <p>1. Initial expectations of the executing agency, etc.:</p> <ul style="list-style-type: none"> <li>· Project to promote economic growth in economically stagnant areas</li> <li>· High expectation as a project that provides funds for areas that have difficulty procuring funds from the private sector</li> <li>· Catalyst for growth in the areas that substantially need government assistance and infrastructure</li> <li>· Great expectation for transfer of outstanding, state-of-the-art technology from Japan (NEDA)</li> </ul>	

	<p>2. Current views of the executing agency, etc.: Views held during the project implementation</p> <p>3. Views of the executing agency, etc. on STEP loan: High expectations for STEP loan, which places importance on support for infrastructure projects</p> <p>B. Views on the special ODA loan procedures (originating in Japan, simplifying the procedure, enhancing competitiveness, evaluation of bidding companies)</p> <ul style="list-style-type: none"> <li>· Desire easing of the rigid application of the Japan origin provisions.</li> <li>· Desire application of Japan's origin standards to different projects with different degrees of rigidity. Also, with the view to transferring Japan's outstanding technologies to the borrowing countries, is it possible to develop a pilot project where corporate bidders are limited to JV or Japanese companies and local companies?</li> <li>· Desire expansion of the opportunity for the local companies/consultants to participate in as main contractors, for the purpose of promoting economic activities between donor countries and borrowing countries.</li> <li>· The profile as well as of the Japanese companies that participated in the PQ and bidding were extremely impressive. It is expected that they will be able to effectively apply their skills in their actual work.</li> </ul> <p>C. Evaluation of the consultants and contractors by the executing agency</p> <ul style="list-style-type: none"> <li>· Other than the high degree of satisfaction expressed regarding the technical aspects of the implementation and the quality of the outputs, no particular evaluation was made which is due to the special yen loan was made.</li> </ul> <p>D. Evaluation of the executing agency by the consultants and contractors</p> <ul style="list-style-type: none"> <li>· No particular evaluation was made which is due to the special yen loan.</li> </ul> <p>E. General overview of the special yen loan system</p> <ul style="list-style-type: none"> <li>· From the time it was inaugurated to the present, expectations were high for the special Yen loan system, which provides loans extended mainly to support infrastructure development on highly concessional terms. In addition, while the transfer of Japan's cutting-edge road and bridge construction technologies to the Philippines under the project has received high praises, some confusion developed in the implementation of the project regarding the restriction on Japan origin (triggered by a difference of interpretation between the contractors and the executing agency over the issue of bringing construction machinery from Japan). Although application of Japan origin terms was partially eased in STEP loan, it will probably be necessary to reconsider the guidelines for interpretation and application of Japan origin terms (e.g., to reconsider to what extent and under what conditions construction machinery from Japan should be allowed).</li> </ul>
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<b>Lessons Learned and Recommendations</b>	<p>Social Consideration and Land Acquisition</p> <ul style="list-style-type: none"> <li>· Before the implementation of the project, there was no particular opposition to the acquisition of land, and the consensus was that all of the acquisition would be completed before the construction was undertaken. However, 4.5% of the acquisition was not completed at the time of the mid-term review, and there was possibility that the road construction would be delayed. Since the delay in land acquisition leads to delays in construction, it is necessary to confirm with the executing agency, and follow up on whether sufficient social considerations – including providing adequate explanation, etc. to landowners and residents – were given not only prior to providing ODA loans but also before and during the project implementation.</li> </ul> <p>Monitoring</p> <ul style="list-style-type: none"> <li>· At the time of appraisal, operation and effect indicators were used to monitor two sections of the expressway: (i) between Subic and Clark and (ii) between Clark and Tarlac, but after the detailed design, revised numerical values were shown only for the entire expressway. For the sake of consistency with monitoring at the time of appraisal, the numerical values for the operation and effect indicators should be presented for each of these two sections, not only for the entire expressway.</li> </ul>	
<b>Indicators set for use at time of ex-post evaluation</b>	<p>Operation indicators:</p> <ul style="list-style-type: none"> <li>· Annual traffic volume</li> <li>· Annual fare receipts by type of vehicle</li> </ul> <p>Effect indicators:</p> <ul style="list-style-type: none"> <li>· Rate of vehicle operation cost saving</li> <li>· Traveling time saving</li> </ul>	<p>With regard to operation and effect indicators, BCDA continues to use the numerical values obtained in the 2002 traffic census, which were used at the time the detailed design was made. BCDA's responses in the field survey use the same numeric values. In June 2007, BCDA implemented the traffic census, on the basis of which it plans to revise the projections of traffic volume on the expressway and fare receipts.</p> <p>Operation indicators</p> <ul style="list-style-type: none"> <li>· Annual traffic volume (Subic-Clark, Clark-Tarlac)</li> <li>· Annual fare receipts by type of vehicle (Subic-Clark, Clark-Tarlac)</li> </ul> <p>Effect indicators</p> <ul style="list-style-type: none"> <li>· Rate of vehicle operation cost saving (Subic-Clark, Clark-Tarlac)</li> <li>· Traveling time saving (Subic-Clark, Clark-Tarlac)</li> </ul>