

# National Road No.3 Rehabilitation Project in Cambodia

Loan Agreement No. : KHM-006-2006

Year Month Date : 2007. 5. 18

Country : Cambodia

The Export-Import Bank of Korea  
(Government Agency for the EDCF)

EDCF Operations Evaluation Team  
(Evaluated by Korea Institute for Industrial Economics & Trade)

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## I . General Provisions

### 1. Basic Project Info

Loan Info

Project No.	Type of Loan	Approved Scale	Approved Date
KHM - 6	Development project loan	Korean Won equivalent to 36.9 million dollars	Dec. 29, 2006

Project Cost

(Unit: 1,000 dllars)

Classification	Plan (A)	Actual (B)	Difference (A-B)
Total Project Cost	41,500	42,149	△649
EDCF Support	36,900	36,725	175

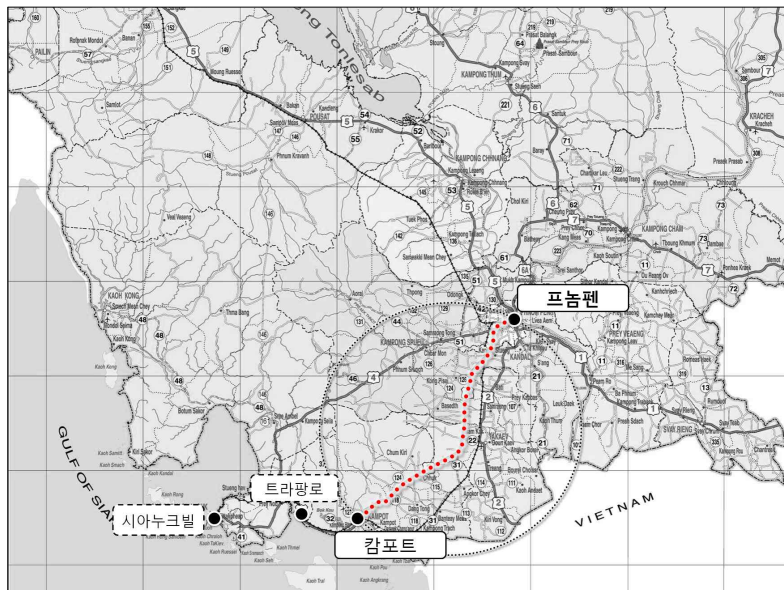
History

Milestone	Actual	Remarks
Evaluatory Visit	Oct. 1, 2006~ Oct. 7, 2006	
Support policy decided	Dec. 29, 2006	
Loan agreement established	May 18, 2007	
Loan agreement comes in to effect	Sep. 03, 2007	
Consultant hired	Oct. 23, 2007	
First fund executed	Dec. 07, 2007	
Purchase contract established	May 05, 2008	
Construction initiated	Jun. 02, 2008	
Project completed	Jun. 01, 2011	Test operation completion date
Final fund executed (planned)	Oct. 21, 2011	
Submit completion report	Jul. 02, 2012	
Project period (months)	45 months	

- Note : Ministry of Economy and Finance (MEF)
- Project Execution Agency : Ministry of Public Works and Transportation (MPWT)
- Business Trip Info

Type	Period	Remarks
Field Evaluation	Oct. 1 ~ 7, 2006	
Construction initiation	Jun. 2, 2008	
Mid-term Review		
Completion Review	Yet to be done	Jul. 2, 2012 Project Completion Report received
Expost Evaluation	Jul. 9 ~ 12, 2013	

## 2. Map of Project Area



<Figure 1> Map of Project Site

This project aims to facilitate balanced inter-regional development and reduce poverty such as promoting the industrial development of the Southern region in Cambodia and fostering the tourist industry by connecting Phnom Penh and Sihanoukville (Cambodia's biggest export harbor, 61km west to Kampot) through the Rehabilitation of the Southwest Coastal National Road No. 3 (total 201.7km), from Phnom Penh ~ Kampot section (137.5km).

## 3. Evaluation Overview and Procedures

- Organization of the Expost Evaluation Group
  - Chief Evaluator
    - : Dr. Lee Hun-ki (Division for International Transport Cooperation Research, The Korea Transport Institute)
  - Collaborative Evaluators:
    - Dr. Park Jin-young (Division for International Transport Cooperation Research, The Korea Transport Institute)
    - Kang Ji-won (Researcher, Division for International Transport Cooperation Research, The Korea Transport Institute)
    - Chi Jong-ki (Director, Seoyoung Engineering Transportation Planning Team)
    - Chu Jun-yeon (Section Chief, Seoyoung Engineering Transportation Planning Team)
- Evaluation Procedures
  - Includes literature investigation, field survey and questionnaire based surveys.

<Table 1> Expost Evaluation Content

Classification	Date	Content
Preliminary literature investigation	Jun. 1 ~ Jul. 8	- Investigate relevant literature
Notify execution of expost evaluation		
Send Evaluation questionnaire		- Project executor and related agencies
Field survey	Jul. 9 ~ 12	- Site visit, interviews, surveys, etc.
Prepare field survey result report	Jul. 12 ~ 16	- Results of interviews with related agencies
Prepare mid-term report	Aug. 1 ~ 27	- Quantitative/qualitative evaluation result analysis
Review report and modify/supplement	Sep. 2 ~ 6	-
Prepare and submit final report	Sep. 16 ~ Oct. 31	-

Evaluation Method

- Literature Investigation: Review related documents such as Feasibility Study (F/S), Evaluation Report, Project Completion Report, Loan Agreement
- Interview and Survey : Project executor, related government officials\*, related agencies\*\*, other overseas aid organizations\*\*, etc.

\* Cambodia's Ministry of Public Transport (MPWT), Ministry of Economy and Finance (MEF), Kampot local government

\*\* Road project related NGOs

\*\*\* JICA, ADB

- Field Survey

: Kampot~Phnom Penh Section and Connecting Roads in the Area

<Table 2> Organizations Interviewed during Field Survey

Classification	Interviewee	Content
Korean Embassy in Cambodia	Embassador Kim Han-su	Preliminary visit before site survey
EDCF Cambodian branch	Phnom Penh Office Director Lee Jong-bok	Collect and analyze related literature and data
MPWT of Cambodia	NGUYEN NGOC THUYEN, MA. Deputy Director General, International Cooperation Department	Survey and interview regarding evaluation related data
Overseas aid organization(JICA)	Daisuke WATANABE Representative	Collect data and conduct survey
Ministry of Economy and Finance in Cambodia	YOS SOVANNA Bilateral Cooperation Division	Survey and interview regarding evaluation related data
Overseas aid organization(ADB)	ERIC SIDGWICK Country Director	Survey and interview
Local government (Kampot)	LIM SAMBo Director, Ministry of Public works & Transport	Survey and interview regarding evaluation related data
Collect data on-site	Local residents	User/resident satisfaction survey, visit site
Prepare mid-term report	Sep. 10, 2013	
Final Report	Planned	

## II. Project Design and Implementation

### 1. Project Organization

#### 1.1 Project Title

Cambodia National Road No.3 Rehabilitation Project Phase II

#### 1.2 Objective

- Rehabilitate the Phnom Penh ~ Kampot section in Cambodia's national road no. 3 (Phnom Penh ~ Kampot ~ Sihanoukville) and connect to national road no. 4 (Phnom Penh ~ Sihanoukville), which is a national trunk road
- Secure a supplementary road for national road no. 4, which is a central vein for logistics
- Promote tourist resources in the Southwest Phnom Penh region and facilitate produce transport for balanced economic development

### 2. Grounds for Support

Presently in Cambodia, the roads transport most of the passengers and cargo. However, most of the roads were damaged in the civil war during the '70s and '80s, and even the remaining roads are in poor condition due to budget constraints and lack of repair/maintenance.

Therefore, the Cambodian government realized the need for road

rehabilitation in order to promote balanced economic development and tourist resource development, and is actively implementing rehabilitation projects with the support of public aid organizations such as WB, ADB, and JICA.

The project section has a beautiful coastline view, is adjacent to Bokor National Park and therefore has abundant potential for the tourism industry, and is a major produce production site. However, due to road damage and bridge damages, connection to key consumer focus areas such as the capital (Phnom Penh) or the biggest port city Sihanoukville, which obstructs growth in this area.

Therefore, the rehabilitation of the project sector was necessary for local economy growth and the development of tourism resources, which will also supplement and support the function of national road no. 4, which is a national trunk road.




### 3. Product

- Rehabilitation of the 134.8km(main road: two-way, two lanes, 132.0km, Phnom Penh / urban bypass : two-way, four lanes, 2.8km) section in national road no. 3, Phnom Penh~Kampot
  - Double Bituminous Surface Treatment (DBST) over 117.9km
  - Asphalt concrete paving over 16.9km
- Structure Installation
  - Build 26 bridges in the section, over a length of 563m
  - Box Culvert 438.5m(31 units)
  - Install structures such as Pipe Culvert 1,539.8m(94 units)
- AC paving for parts of the section planned for DBST, previously

unplanned guard rail and road boundary mark installation

- AC paving for part of the urban roads nearby the center of Phnom Penh and Kampot considering the traffic volume and the high ratio of heavy vehicles; install guard rails that protect pedestrians and roadside facilities by preventing overrunning vehicles and improving road safety
- Consulting Service
  - Detailed design, prepare for bid, support evaluation, construction supervision, progress report and other consulting services

<Table 3> Project Product

Classification	Product	Photos
Rehabilitation of National Road No. 3	Total 132.0 km paved - DBST 117.9 km - AC 14.1 km	
	AC 2.8 km	
Structure Installation	Bridge construction : total length 563m (26 units)	
	Box Culvert installation: total length 438.5m (31 units)	
	Pipe Culvert installation: total length 1,539.8m (94 units)	
	3.4km section guard rail installation and road boundary mark 2,700 units installation	
Consulting Service	Detailed design, preparation for bid, evaluation support, construction supervision, progress report, other consulting services, etc.	

#### 4. Loan Provision Conditions

- Loaner : Cambodian Ministry of Economy and Finance
- Interest Rate : 0.5%/year
- Principal Redemption Period : 30 years (including a term unredeemed of ten years)
- Redemption method : After the expiration of the term unredeemed, regular level payment, twice per year
- Interest Collection Method : deferred collection every sixth months regarding unrepaid principal
- Handling Charge: 0.1% of the amount in the letter of credit issuance indemnity report or aid loan funds expense

### III. Evaluation by Criterion

#### 1. Evaluation Method

Evaluation standards were composed based on OECD DAC (Development Aid Committee)'s criteria, and are categorized by 1st evaluation by evaluators and 2nd evaluation that reflects the recipient country's opinions. The 1st evaluation established ratings by analyzing each criteria related data and adding qualitative evaluation from the evaluation team depending on whether there were quantitative indexes, and the 2nd evaluation's ratings were based on the recipient country's government official and user survey results and interviews.

<Table 4> Key Evaluation Criteria in Each Sector

Evaluation Criterion	Item	Index <sup>1)</sup>	Government Agency Survey and Interview <sup>2)</sup>	User Satisfaction Survey <sup>2)</sup>
Relevance	◦ Relevance to the recipient country's development policies	△	○	-
	◦ Propriety of EDCF's support policy and directionality	△	○	-
	◦ Propriety of support timing and project plan	△	○	-
	◦ Propriety of the project scope	△	○	-
	◦ Relevance to the local community's demands	△	○	-
Efficiency	◦ Project execution period	○	○	-
	◦ Project cost	○	○	-
	◦ Project execution system	-	○	○
Effectiveness	◦ Whether the project objectives have been accomplished	△	○	-
	◦ Improvement of accessibility and mobility	○	○	○
	◦ Improvement of transportation safety	○	○	○
Impact	◦ Socio-economic impact	△	○	○
	◦ Reduction of poverty	△	○	-
	◦ Environmental impact	-	○	○
Sustainability	◦ Operation and maintenance system status	△	○	-
	◦ Financial conditions for operation and maintenance	△	○	-
	◦ Road maintenance organization	△	○	-
	◦ Road condition	△	○	○

Note 1) Evaluation indexes include evaluations based on quantitative indexes regarding the performance of the given project (○) and evaluations based on qualitative judgment of the evaluator (△)

Note 2) Evaluations from recipient countries' government official and user satisfaction survey are partially reflected to certain items

## 2. Evaluation Result

Overall evaluation rating was 3.44, which qualifies as "Successful." This result is a combination of the qualitative effect of the project after completion and the effect actually experienced at the recipient country.

<Table 5> Evaluation Result Summary

Evaluation Item	Weighted Value	Evaluation Result		Content
		Category	Rating	
Relevance	20%	Highly Successful	3.7	The project was deemed most relevant to the Cambodian government's national development plan
Efficiency	20%	Successful	3.6	Cost was executed within the budget, and the duration was shortened by 6 months with swift execution
Effectiveness	20%	Successful	3.2	Most of the initially planned products, and mid to long-term goals were found to have been accomplished User satisfaction survey shows need for supplementation in terms of safety
Impact	20%	Successful	3.6	The project facilitated logistics transport for produce and marine products in the Kampot area, and accessibility to amenities was secured
Sustainability	20%	Successful	3.2	Positive overall, with the organization of a systematic maintenance flow, but there is a need to continuously secure repair and maintenance funds

Total Rating : Successful 3.44

The [project's relevance to the recipient country's development project to EDCF's support policy, and the propriety of the project scope and route selection were highly evaluated. The cost was executed within budget, and the duration of the construction was shortened by six months, ensuring efficiency. Most of the goals were effectively accomplished, and the social, economic and cultural impacts were also highly evaluated. Also, a systematic maintenance flow was organized along with execution plans, producing high evaluation in terms of sustainability. Meanwhile, shortfalls in safety and environmental impact were pointed out, and other needs arose such as additional budget requirements for continuous repair and maintenance.

Overall evaluation rating was 3.44, which qualifies as "Successful." This result is a combination of the qualitative effect of the project after completion and the effect actually experienced at the recipient country.



## IV. Problems, Lessons Learned and Suggestions

### 1. Problems

Other aid projects that are supported by the Export-Import Bank of Korea and are implemented by domestic companies entailed increased cost due to delays in land and obstacle compensations from the recipient country's government. The resultant cost increase was found to be paid by the domestic company without government subsidiary. In development project loans for long-term projects, unforeseen situations may occur due to international and domestic politics, which entails the need for a restructuring of the project plan. In most cases, the burden falls upon the consultant. Future aid projects should address this problem.

The project sections that bypass residential areas show driving speeds that are lower than design speed due to the mixture of various modes of transportation, which causes safety issues such as vehicles operating in high speed crossing the centerline to overtake other vehicles. Therefore, there is a need to improve technical capacity to improve road efficiency.

On the contrary, sections with less traffic outside towns showed improved road alignment, entailing increased driving speed, but also greater danger of collision. Therefore, There is a need to secure safety facilities for users and establish a transportation safety system through

continuous repair and maintenance in executing the road projects throughout the design and construction stage. Also, due to the shortage of budgets for repair and maintenance needs other than the necessary scope, actual improvements in the transportation system such as additional installation of facilities has fallen behind. Such problems must be resolved.

### 2. Lessons Learned and Suggestions

The following improvements must be made in future EDCF aid projects. First, there is a need for EDCF's active management for efficient execution. Especially, there will be a need for agreements regarding aspects that may obstruct the domestic construction companies or consultants' efficient execution such as land and obstacle compensation with the loan agreement. A meticulous management and supervision of the execution process must be ensured through regular and continuous Progress Reports even after the proffering of funds, and collaboration among EDCF, domestic companies, and the recipient companies must be ensured. Also, road safety and traffic flow must be improved through measures such as implementing a 2+1 lane system, emergency parking space, and community road separation facilities to reinforce road facility efficiency.

Lastly, to secure limited repair and maintenance budget, measures to save repair and maintenance cost while elongating the shelf-life of the roads must be devised such as conducting systematic and efficient overloading regulation in executing new road construction and rehabilitation projects. There is a need to review various measures to secure fund, such as consigning repair and maintenance to the private sector, e.g. implementing a PPP(Public Private Partnership).