Indonesia

Twelve Provinces Bridge Replacement and Rehabilitation Project

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Field Survey：Nov. 2006 - Mar. 2007

1. Project Profile and Japan's ODA Loan

Map of Project Area

Rehabilitated Bridge

1.1 Background

The Government of Indonesia has been placing priority on good maintenance of the road and other transportation infrastructure by allocating sizable budget. The 6th Five Year Development Plan (REPELITA VI), 1994~1998, gave high priority on the transportation sector development and allocated 19% of the total national budget, within which 68% was for the road sector (13% of the total budget).

This policy enabled the national and provincial roads throughout the country to be kept relatively well maintained. However, the less attention was paid to the bridge maintenance, and consequent deterioration of considerable number of road bridges were in need of urgent replacement and rehabilitation. Especially in Sumatra and Java islands where surface transport is much dependent on road traffic, the poor progress of bridge replacement and rehabilitation was revealed as increasing bottlenecks to the smooth road traffic.

1.2 Objective

To replace and rehabilitate bridges installed on the national and provincial roads located in twelve provinces in Sumatra and Java Islands in order to ensure smooth traffic, and thereby activating the regional economy and upgrading the local people's welfare.

1.3 Borrower/Executing Agency：Government of Indonesia／Bina Marga, The Ministry of Public Works

1.4 Outline of Loan Agreement

Loan Amount/Disbursed Amount	14,141million yen/11,416 million yen
Exchange of Notes/Loan Agreement	December 1995 / December 1995
Terms and Conditions - Interest Rate - Repayment Period - Grace Period - Procurement	 2.5%（Consultant Portion 2.3%）、 30 years 10 years Partially Untied
Final Disbursement Date	December 2002
Main Contractors	DSD Dillingerstahlbau (Germany)・PT. Trans-Bakrie (Indonesia)(JV), PT. Karuna Berca Indonesia (Indonesia)
Consulting Services	Pacific Consultants International (Japan), China Engineering Consultants (Taiwan)
Feasibility Study, etc. (F/S)	None

2. Evaluation Result（Rating: B）

2.1 Relevance (Rating: a)

2.1.1 Relevance at the time of appraisal

Reflecting the relatively backward maintenance conditions of the road bridges mentioned above, the 6th Five Year Development Plan (REPELITA VI) attached importance on the road bridges improvement as one of the prioritized national policies for the transportation sector development.

REPELTA VI set out the following basic objectives of the road sector including bridges:

(1) Expand the road networks, maintenance of their good conditions and upgrading of road transportation services.

(2) Establish effective and harmonized linkages among the roads and other traffic modes for efficient traffic.

(3) Develop access roads to provide equalized traffic services to the regional societies.

(4) Create job opportunities by road development works.
(5) Promote decentralization of road network maintenance through human resource development and institutional restructuring.
(6) Promote private participation to the road sector development.

2.1.2 Relevance at the time of evaluation

In the "Medium-Term National Development Plan (Rencana Pembangunan Jangka Menengah Nasional : RPJM) <2004-2009>," the road sector still attracts continued importance in the national development. RPJM, in its Chapter 33: Promotion of Infrastructure Development, considers the roads as the primary transportation mode to play important role for national development that renders the greatest contribution to facilitate people's mobility and goods transport for manufacturing and commercial industries. It also stresses its significance for promoting equal distribution of the development results throughout the country by bridging regional economic outcomes. Considering the current substandard and deteriorating road conditions where 46.3% of the total road length is still heavily or lightly damaged (2003 national survey result), RPJM urges the government to implement the policies for urgent road sector development and improvement.

In order to implement the national policy above, RPJM sets forth the "Roads and Bridges Rehabilitation & Maintenance Program" and the "Roads and Bridges Improvement & Development Program" with respective quantified targets as follows.

(Roads and Bridges Rehabilitation & Maintenance Program)

Routine & periodic rehabilitation/maintenance
National roads and bridges : 173,837 km
Provincial roads and bridges : 196,441 km
Kabupaten and city roads and bridges : 721,696 km
Urgent rehabilitation of disaster-damaged roads and bridges : 1,614 km

(Roads and Bridges Improvement & Development Program)

Among other sub-programs including city and toll roads, the Program sets out the following targets:
Improvement/Development of primary artery roads and bridges in national economic centers including north, south and central parts of Java, east, central and west parts of Sumatra : 12,321 km (roads) 26,579 m (bridges)
Improvement/Development of regional roads : 2,390 km (Provincial) 81,742 km (Kabupaten)

The general objectives of the departmental medium-term strategic plan, "Strategic Plan (Rencana Strategis: RENSTRA) 2005-2009" of Directorate General Bina Marga, the Ministry of Public Works, are to realize (1) Safety and Piece, (2) Equality and Democracy and (3) More Welfare. The objective of "Equality and Democracy" includes, as one of the 11 strategic activities, an activity to provide steel material for bridge rehabilitation and maintenance, while "More Welfare" includes, as two of the 12 strategic activities, activities to rehabilitate/maintain bridges and to replace & construct bridges under the two Programs respectively.

The lengths to be implemented in the Project's 12 Provinces are as follows:

Table 1 : Contents of Planned Activities in RENSTRA Bina Marga

(m)

Activities / 12 Provinces	Steal Provision	Rehabilitation/ Maintenance	Replacement/ Construction
Aceh (NAD)	904	51,441	1,691
North Sumatra	1,063	60,519	1,989
West Sumatra	585	33,286	1,094
Jambi	425	24,208	795
Riau	585	33,286	1,094
South Sumatra	638	36,312	1,194
Bengkulu	372	21,182	696
Lampung	479	27,233	895
West Java	515	29,284	962
Central Java	716	35,141	1,155
Yogyakarta (DIY)	77	4,393	144
East Java	900	51,246	1,684
Total	7,259	407,531	13,393

This Project is an integral part of the activities set out in the national policies and programs stated above to achieve national targets of the road sector in the 12 Provinces.

2.2 Efficiency (Rating: b)

2.2.1 Output

The bridges to be replaced or rehabilitated in this Project were selected among the economically feasible bridges with their EIRR (Economic Internal Rate of Return) over 15% identified in the Bridge Management System (BMS)[1]. The Project consists of the following civil works, procurement and relating consulting services. The table below shows the actual output in comparison with the original plan.

Table 2：Comparison of Planned and Actual Outputs

Output		Plan	Actual	Increase
Rehabilitation	Numbers	260	205	-21%
	Length	9,757m	10,655m	9%
Replacement	Numbers	163	251	54%
	Length	6,996m	10,070m	44%

Output was significantly increased except for the number of bridges rehabilitated. This is the result of the scope expansion based on the necessity and priority due to an increase in the loan amount in local currency terms of the Yen Loan fund caused by the drastic devaluation (more than 80%) of Rupiah currency against Japanese Yen which was caused by the Asian Economic Crisis started in 1997 during the Project implementation. To cope with this physical output extension, the volume of the consulting services was also increased 45% up to 7,279 Man-month (MM) against the original plan at 5,010 MM.

Sasakbeusi Bridge,
West Java Province

[1] Cf. Section 2.5.1 Management Aspect

2.2.2 Period

Under the initial plan, the loan period of the Project was to extend from December 1995 to December 1999 (49 months), but the actual period ran from December 1995 to December 2002 (85 months) including two-year extension of the loan disbursement period, which turned out 67% longer than planned.

Major reasons of the implementation delay are as follows:

(1) Tender process was interrupted by the economic crisis and following administrative confusion derived from the change of the long-term Soeharto regime, and totally delayed for 18 months.

(2) Procurement of steel trusses for replacement works generally delayed for about 6 months.

(3) A contractor of the package No. 25 who undertook two replacement and one rehabilitation works failed to proceed because of the financial failure. The contract was eventually cancelled and the package was re-tendered. This interruption pushed the civil works out of the original loan period and caused the loan extension for 2 years.

Table 3 : Comparative Project Period

	Plan	Actual
L/A Signing	December 1995	December 1995
Consultant Selection	July 1995– June 1996	July 1996– January 1997
Consulting Services	July 1996– December 1999	January 1997– December 2000
Tender / Contract	January 1996– December 1997	July 1997– February 1999
Civil Works / Procurement	July 1997 – December 1999	July 1998 – December 2002

2.2.3 Project Cost

Planned project cost was 16,637 million yen (14,141 million yen covered by ODA loan), and the total project cost at the time of ex-post evaluation was 12,438 million yen (11,416 million yen covered by ODA loan), 25% smaller than planned. A main reason of the cost saving in spite of the scope extension is the remarkable

depreciation of the local currency rupiah caused by the Asian economic crisis.

2.3 **Effectiveness** (Rating: a)

2.3.1 Effectiveness Measurement by Effect Indicators

1. Increase of Average Annual Daily Traffic (AADT) of Roads on which Bridges Replaced or Rehabilitated under the Project are Installed

Bridge-wise AADT is not available under the current road management system, which prevents direct measurement of change in traffic volume regarding the bridges treated under the Project. As an alternative measure for effect measurement, the following table shows the increase of AADT of the roads of twelve provinces on which bridges treated under the Project are installed.

Table 4 : AADT Increase of Roads on which Project Bridges are Installed

12 Provinces	Increase (%) <1998 →2006>	
	Replacement	Rehabilitation
Aceh	15	62
N. Sumatra	12	-
W. Sumatra	0	25
Jambi	143	61
Riau	-	34
S. Sumatra	33	-
Bengkulu	6	4
Lampung	56	-
W. Java	6	18
C. Java	49	-
Yogyakarta	-	-
E. Java	22	18
Total	24	23

Source: BMS

Although the percentage figures vary among the twelve provinces, the table shows general increase in AADT after the Project with the average rate at about 24%. The rate of AADT increase is much lower than the increase of the provincial AADT provided in the next section, which could be due to the possible fact that most of the bridges under the Project are installed in feeder roads in rural areas,

not on the provincial arterial roads. However, this traffic increase could show the Project contribution towards the regional traffic improvement.

2. Total AADT in 12 Provinces

The next table shows the provincial total of AADT of roads in the twelve provinces irrespective of whether the bridges under the Project are located. The comparison between the two years before and after the Project indicates about 200% increase in traffic volume. Although this increase is attributed to multiple factors, like regional economic activation, total road improvement and so forth, but it is also obvious that improvement of bridges under the Project must have participated with no small contribution to support this remarkable traffic increase.

Table 5 : Total AADT in 12 Provinces

(Cars / day)

Year / 12 Provinces	2000	2005	Increase (%)
Aceh (NAD)	2,240	2,450	9
North Sumatra	2,304	7,511	226
West Sumatra	2,220	5,628	154
Jambi	1,579	5,707	261
Riau	1,293	3,081	138
South Sumatra	1,904	6,014	216
Bengkulu	818	2,788	241
Lampung	1,969	6,221	216
West Java	5,751	17,697	208
Central Java	4,391	17,685	303
Yogyakarta (DIY)	3,097	16,047	418
East Java	7,316	11,157	53
Total	34,882	101,986	192

Source: Bina Marga

3. Total Freight Volume in 12 Provinces

Table 6 : Total Freight Volume in 12 Provinces

(ton / year)

Year / 12 Provinces	1998	2006	Increase (%)
Aceh	111,791	513,493	359
N. Sumatra	826,439	1,237,743	50
W. Sumatra	439,638	683,781	56
Jambi	77,341	135,577	75
Riau	236,143	293,790	24
S. Sumatra	407,191	429,686	6
Bengkulu	104,435	109,577	5
Lampung	303,006	341,624	13
W. Java	1,360,425	786,546	-43[2]
C. Java	1,654,345	3,667,159	122
Yogyakarta	404,307	439,814	9
E. Java	3,356,106	3,865,143	15
Total	9,281,167	12,503,933	35

(Source: Bina Marga)

The Total Freight Volume is defined as the total tonnage of goods transported via road traffic in each province. Car numbers have been rapidly increasing since late 1990s, which pushed up the traffic volume in terms of AADT, however the total freight volume scored much less increase during the same period because the largest portion of the car increase was occupied by private vehicles.

4. Current Bridge Conditions in 12 Provinces

Bina Marga, the Ministry of Public Works, classifies substandard bridges in need of improvement as “Unstable Bridge” with three-grade categories as follows according to the degree of their damages[3]. Physical conditions of bridges naturally deteriorate in general as time goes on, which means the regional bridge conditions improved by the Project is more or less offset in total figures by the deterioration of other bridges that need and are waiting for remedial treatment. The proportion

[2] Banten left the West Java Province and became independent as a new province in 2000.

[3] The management of provincial roads has been decentralized to the provincial governments in accordance with the policy of regional autonomy. Therefore the 2007 column only covers the national roads and does not include regional roads below provincial management.

of “Unstable Conditions” was about 14% at the time of the Ex-post Evaluation, and attention should be paid on the ongoing and future trend of the deterioration monitoring this indicator. Direct comparison between 1995 and 2007 is not possible because the latter excludes the provincial bridges (cf. footnote 3 below). Nevertheless, the figures roughly indicate that the Project could curb the overall bridge deterioration in the 12 provinces.

Table 7 : Comparison of Bridge Conditions

Category of Bridge Conditions	Appraisal (1995)		2007	
	Number	Length	Number	Length
Heavily Damaged	9%	10%	7%	8%
Dangerous	6%	8%	4%	4%
Collapsed / No Bridge	3%	7%	3%	6%
Unstable Condition Total	18%	25%	14%	19%

Source: Appraisal Document (Appraisal)
Questionnaire Answer (March, 2007)

2.3.2 Beneficiary Survey Result

To supplement the attempt for project effect measurement from a macro standpoint, a beneficiary survey was conducted in four provinces, Lampung, West Sumatra, West Java and East Java, equally selected from Sumatra and Java Islands respectively. Survey locations were objectively chosen from accessible bridges with relative priority on replacement items whose number is larger and the project benefit is potentially bigger than the rehabilitation items. Interviewees were selected from three categories that could enjoy different benefit from the bridge improvement; namely, (1) passing drivers, (2) local residents and (3) business and official entities (institutions) living or operating on both sides of the bridge surveyed.

The project sites surveyed and number of interviewees are summarized below.

(1) Provinces and Number of Bridges Surveyed (including surveys on impact items)

Table 8 : Contents of Beneficiary Survey

Island	Province	Number of Bridges			Number of Respondents			
		P	E	T	D	R	I	T
Sumatra	Lampung	4	2	6	17	21	6	44
Sumatra	West Sumatra	4	2	6	17	25	8	50
Java	West Java	2	3	5	6	17	8	31
Java	East Java	3	1	4	16	20	4	40
Total		13	8	21	56	83*	26	165

P: Replacement E: Rehabilitation T: Total

D: Drivers R: Local Residents I: Institutions (business entities, public offices, schools)

* Male 56 people, Female 27 people

(2) Questions to Drivers and Summary of Answers

Hearing from a driver about traffic change after the Project

(a) Traffic problems experienced before the Project

Answers	%
a. Generally time consuming for driving.	10.7%
b. Traffic jam to pass the bridge.	44.6%
c. Others	3.6%
d. a + b	35.7%
e. a + c	5.4%

(b) Have the unfavorable conditions above improved after the Project?

Answers	%
a. Yes, very much.	33.9%
b. Yes, to some extent.	62.5%
c. No, almost no change.	3.6%

(c) Has the time to pass the bridge reduced after the Project?

Answers	%
a. Yes, reduced.	98.2%
b. No, almost no change.	1.8%

(d) How has the driving cost changed after the Project?

Answers	%
a. Cost has been saved.	82.1%
b. No change.	3.6%
c. It has become more costly.	1.8%
d. No answer.	12.5%

Most of the drivers interviewed used to be annoyed with bad road (bridge) conditions before the Project, and answered that those troubles had been removed or alleviated after the Project. Because the bridge traffic used to be more or less obstructed by forced one-way traffic due to the restricted bridge width, traffic control and other obstacles before the bridge improvement, the Project could bring smoother traffic as its major benefit.

2.4 Impact

2.4.1 Beneficiary Survey Result

(1) Questions to Local Residents and Summary of Answers

Improvement in accessibility to key life spots after the Project.

Key Life Spots	% Answered "Improved"
a. Market	79.8%
b. Working place	39.8%
c. Medical doctor (Clinic)	33.5%
d. School	28.0%
e. Others (for recreation, etc.)	14.4%

Hearing from a local household about change in life after the Project

The Project could contributed to the people's social welfare benefiting them with reducing access time to the key living spots, among which time reduction to markets for shopping is remarkable. Percentage of reduction in access time ranges between 35 ~ 50 % among those who answered "improved."

(2) Questions to Institutions and Summary of Answers

(a) Types of Entities Interviewed

Type of Entity	Number	%
Services	3	11.8%
Commerce	13	57.6%
Public Office	4	22.9%
School	2	7.6%
Total	22	100.0%

(b) Activities Affected by Traffic

Affected Activity	%
Purchase	50.0%
Delivery	7.7%
Outdoor Business Activity	19.2%
Nothing	15.5%

(c) Loss incurred due to bad traffic conditions

Type of Loss	%
Income Loss	29.4%
Inefficient Work	18.7%
Unsafe Business Operation[4]	14.6%
Nothing	25.7%

[4] Conditions under which smooth business activities are prevented by the restricted transportation and unsafe traffic caused by damaged bridge conditions.

(d) Degree of recovery from loss

Degree of Recovery	%
Yes, very much	36.3%
Yes, some extent	42.5%
No, not so much	3.0%
No, not at all	18.1%

Hearing from a greengrocer about change in business after the Project

Although the improvement of business activities after the Project would not be as conspicuous as the ones of the traffic improvement answered by drivers and accessibility improvement answered by local residents because economic activities are normally affected by various factors, the betterment of the local traffic surely contributed to the local economy. It is recognized from those figures.

2.4.2 Activation of Regional Economy

The total freight volume and GRP (Gross Regional Products) are supporting statistics on which the influence of the bridge treatment under the Project is indirect and impure. However, it is also obvious the Project which smoothened the road traffic in respective provinces positively contributed this regional economic growth from the transportation aspect.

Table 9 : Gross Regional Products (GRP) in 12 Provinces (at 2000 constant price)

(Trillion Rupiah.)

Year / 12 Provinces	2000	2004	Increase (%)
Aceh (NAD)	35,883	39,664	11
North Sumatra	69,154	83,329	21
West Sumatra	22,890	27,574	21
Jambi	9,569	11,857	24
Riau	94,758	104,656	10
South Sumatra	41,318	47,564	15
Bengkulu	4,868	7,010	44
Lampung	23,265	28,248	21
West Java	195,753	232,184	19
Central Java	114,701	135,790	18
Yogyakarta (DIY)	13,491	16,150	20
East Java	202,830	242,165	19
Total	828,480	976,191	18

Source: BPS (Central Bureau of Statistics)

2.4.3 Impact on Environment and Local Residents

It was assumed at the appraisal that the Project would carry minimal impact on environment and not necessitate land acquisition and relocation of local residents. No case of land acquisition and relocation was reported by Bina Marga, and no serious environmental impact was observed in the Ex-post Evaluation field studies.

2.5 Sustainability (Rating: b)

2.5.1 Management Aspect

A properly established central bridge management system is essential to monitor updated conditions of more than 30,000 road bridges shatteringly located throughout the country. Bina Marga, the Ministry of Public Works, developed the Bridge Management System (BMS) under the assistance of the Australian Government and has been utilizing it for the comprehensive bridge management. BMS was meant to perform the real-time monitoring, however, this mechanism is currently not working as it was supposed to. The prevailing practice is twofold comprising routing reporting on physical conditions of the bridges on national

roads and ad hoc usage of BMS for selecting a package of bridges to be treated (new construction and replacement) under finance of national budget (APBN) or foreign aid.

(1) Routine Reporting (Only for Bridges on National Roads)

This Routine Reporting[5] only covers national roads, and the management of provincial roads is still in hands of the regional governments. The data are not inputted into BMS

(2) Selection of Bridges through BMS

The input data for BMS are derived from several types of physical inspection including the following periodic works as the main components.

Routine Inspection (every year)
Detailed Inspection (at intervals 5 years maximum)

Each format for result reporting of both is fixed. However, mainly because of the financial constraints since the occurrence of the economic crisis in1997, those inspections were hardly implemented and therefore regular reporting had been widely unpracticed until quite recently. The field surveys under this post-evaluation study found that the Dinas Offices visited have resumed the reporting in 2006.

In addition, the function of the old-fashioned BMS on a DOS basis is quite limited and handicapped especially in interfaces with the IT systems prevailing in the transportation sector.

(3) Balai System

The Balai System is a system of new regional administration in which the "Balai" (an Indonesian word meaning regional "Center"), a regional office of the central government with extended administration coverage which covers several Kabupaten and often goes across the provincial boundaries, takes comprehensive charge of planning, implementation and O&M of regional infrastructure financed by the national budget. The new system started in January 2007 and has not been operationally mature yet. It is expected, when the system has been fully operational, to enable more direct access and easier collection of updated information on current conditions of regional bridges, which will also facilitate more rational and efficient financial arrangement. However, the current state of affairs of the system's practical operation has not been clear yet, and it will take some more time before it has been operationally established.

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5 The routine reporting deals with not only periodic information but also includes transmission of ad hoc inspection results as need arises.

2.5.2 Technical Aspect

Lack of technical capacity of bridge maintenance at the regional level is reported being weak to conduct routine maintenance.

2.5.3 Financial Aspect

As stated above, the lack of regular inspections due to the financial constraints since the economic crisis has been remarkably but not perfectly recovered recently. Generally, shortage of annual budget allocation for maintenance, Rp. 6 million/km against required 40 million/km, is prevailing.

The physical observation concurrently conducted in the beneficiary survey in four provinces (cf. Effectiveness Column 7 (1)) confirmed that all the bridges observed were well-maintained and in good conditions without significant hindrance on traffic.

3. Feedback

3.1 Lessons Learned

None

3.2 Recommendations

1. The prevailing maintenance practice is twofold comprising routine reporting on physical conditions of the bridges on national roads and ad hoc usage of BMS for selecting a package of bridges to be treated (new construction and replacement) under finance of the national budget (APBN) or foreign aid. However, both systems are currently operated independently without effective data exchange. As the information from the routine reporting on physical conditions of national bridges is less precise with limited coverage but fresher and facilitates prompter response than the inspection results on which BMS is based, systematic use of both systems with mutual data linkage will facilitate more effective monitoring and maintenance works covering the whole country.

As mentioned in previous sections, the current conditions of the practical operation of the Balai System have not been concrete. However, confirming its practical establishment, more effective use of the system for the bridge management should be discussed in future. Practically, the effective procedures are to be sought to locally collect updated information through widely operating

SNVT (Non-vertical Working Unit)[6] established under the new system and to promote their input into the central BMS.

2. After the long vacant period since the economic crisis, regular inspection systems have been resumed in practice. This revival should be further enforced considering the current situation in which a part of the bridges are still left un-inspected.

3. Efficient technical training for bridge maintenance at the regional level should be given higher priority to strengthen the nation wide bridge maintenance on a solid base.

4. As nominated in the RPJM as the primary transportation mode for the Indonesian economy, roads (including bridges) have to constantly play important role for national economic development. Even under the current situation where the responsibility of investment and management of the provincial and other regional roads has been transferred to relevant local governments, the needs of centrally maintained database handling nationwide road and bridge information are therefore prevailing at all times. However as stated in section **2.3.1** Effectiveness Measurement by Effect Indicators, it is difficult at the moment to obtain data regarding conditions of provincial and other regional bridges. Database management to involve not only the national roads but all the bridges throughout the country should be enhanced.

[6] SNVT is a subordinate agency at the provincial level under the Balai System. It carries out improvement and O&M of roads and bridges under the central budget.

Comparison of Original and Actual Scope

Item		実　　績
Output	・Rehabilitation of National Bridges：134 bridges、5,097 m ・Replacement of National Bridges：34 bridges、1,653 m ・Rehabilitation of Provincial Bridges: 126 bridges 4,660 m ・Replacement of Provincial Bridges：129 bridges 5,343 m (Total) Rehabilitation：260 bridges 9,757 m Replacement：163 bridges 6,996 m (Grand Total) 423 bridges　16,753 m	・Rehabilitation of National Bridges：122 bridges、3,664 m ・Replacement of National Bridges：87 bridges、5,975 m ・Rehabilitation of Provincial Bridges：83 bridges、6,991 m ・Replacement of Provincial Bridges：164 bridges、4,095 m (Total) Rehabilitation：205bridges 10,655 m Replacement：251 bridges 10,070 m (Grand Total) 456 bridges　20,725 m
Loan Agreement Consultant Selection Consulting Service Tender・Contract Civil Work・Procurement	Dec. 1995 ~ Dec. 1999 (49 months) Dec. 1995 Jul. 1995 – Jun. 1996 Jul. 1996 – Dec. 1999 Jan. 1996 – Dec. 1997 Jul. 1997 – Dec. 1999	Dec. 1995 ~ Dec. 2002 (85 months) Dec. 1995 Jul. 1996 – Jan. 1997 Jan. 1997 – Dec. 2000 Jul. 1997 – Feb. 1999 Jul. 1998 – Dec. 2002
Cost Total (Yen loan amount) Exchange Rate	16,637 million yen (14,141 million yen) Rp. 1 = 0.045 yen (as of 1995)	12,438 million yen (11,416 million yen) Rp. 1 = 0.013 yen (Weighted average during project implementation)