

Mid-Term Review Report of Japanese ODA Loan Project

for FY2012

(Indonesia, Mozambique, Egypt)

March 2013

JAPAN INTERNATIONAL COOPERATION AGENCY

OPMAC Corporation

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Preface

Ex-post evaluation of ODA projects has been in place since 1975 and since then the coverage of evaluation has expanded. Japan's ODA charter revised in 2003 shows Japan's commitment to ODA evaluation, clearly stating under the section "Enhancement of Evaluation" that in order to measure, analyze and objectively evaluate the outcome of ODA, external evaluations conducted by experts shall be enhanced.

This volume shows the results of the mid-term review for five Japanese ODA loan projects, the loan agreements of which were signed mainly five years ago. The mid-term review was entrusted to external evaluators to review the projects' relevance, implementation progress, attainability of project objectives, and to examine fostering and hindering factors that affect the projects.

The findings drawn from the review will be shared with JICA's stakeholders in order to improve project implementation and effectiveness.

Lastly, deep appreciation is given to those who have cooperated and supported the creation of this volume of evaluations.

March 2013

Masato WATANABE

Vice President

Japan International Cooperation Agency (JICA)

Disclaimer

This volume of reviews, the English translation of the original Japanese version, shows the result of objective mid-term review made by external evaluators. The views and recommendations herein do not necessarily reflect the official views and opinions of JICA. JICA is not responsible for the accuracy of English translation, and the Japanese version shall prevail in the event of any inconsistency with the English version.

Minor amendments may be made when the contents of this volume is posted on JICA's website.

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Mid-Term Review Report of Japanese ODA Loan Project for FY2012

External Evaluator: Hiroshi Oita (OPMAC Corporation)
Field Study: October, 2012

Project Name: Indonesia “PLN Operation Improvement System Project for Supporting Generation Facilities” (L/A No. IP-537)

[Project Description]

Loan Amount / Disbursed Amount : 4,498 Million Japanese Yen / 184 Million Japanese Yen (as of July 31, 2012)
Loan Agreement Signing Date : March 2007
Original Date of Project Completion : September 2013
Project Completion Date after review : April 2015
Loan Expiry Date : January 2018
Executing Agency : Perusahaan Listrik Negara (Persero) (PLN)

Operation and Maintenance Organization:

- (1) Enterprise Asset Management System Component: GENCO Shared Service Center (GSSC) to be established in the Project.
- (2) Transformation Component: P3B Java-Bali in PLN (This component is under consideration by PLN and JICA for implementation with PLN's own funds.)

[Project Objectives]

The objectives of PLN Generation Operation Improvement System Project for Supporting Generation Facilities (hereinafter referred to as “the Project”) is to establish an accurate data collection system for electricity generation facilities for PLN and its generation subsidiaries, to execute the training for personnel in charge of operation and maintenance in power plants, and to replace equipments in substations; thus optimize the efficient utilization of existing generation facilities in the whole system of Indonesia and improve reliability in Java-Bali system, thereby contributing to economic development through the improvement of investment climate.

Consultant : Nippon Koei Co., Ltd.
Contractor¹ : not yet decided

¹ The names and nationalities of consultants and contractors are entered only when they have been made public in JICA's annual statistical report “List of Names of Major Companies and their Contract Amount of Japanese ODA Loan” (these are names for which the contract amount is not less than 1 billion Japanese Yen for contractors and not less than 100 million Japanese Yen for consultants). Where names have not been entered in JICA's annual statistical report, they are described only as “local contractors/consultants” or “Japanese contractors/consultants”. These names can be provided by JICA.

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Relevance	<p>(1) Relevance to development policy</p> <p>According to the National Electricity General Plan (RUKN) produced by the Ministry of Energy and Mineral Resources in June 2006 and covers the period between 2006 and 2026, peak demand is expected to grow at an annual average of about 6.9%. Therefore, alleviating the demand for power, which will become acute, is a pressing issue for Indonesia.</p> <p>In addition, RUKN recognizes that structural reforms based on the fundamental principle of improving efficiency, transparency and competitiveness, are necessary to establish the efficient and autonomous power sector.</p> <p>The Government of Indonesia announced a reorganization policy for the power sector in 1998 and initiated reforms for the introduction of a market mechanism and the participation of the private sector in order to establish a competitive power market and to improve the efficiency of the power sector. Although the new power laws have not been established, PLN has promoted the development of new power sources together with reductions in fuel costs for a generation.</p> <p>(2) Relevance to development needs</p> <p>PLN is organized into 32 business units nationwide, inclusive of power generation, transmission, transformation and distribution units. In 1955 the assets and operation, maintenance and management of the Java-Bali System were divided and transferred into two generation subsidiaries, Java-Bali Power Co., (PJB) and Indonesia Power Co., (IP), to promote efficiency in the power sector and related operations.</p>	<p>(1) Relevance to development policy</p> <p>PLN is the entity responsible for power supply in accordance with Law No.30/2009.</p> <p>Referring to the National Electricity General Plan (RUKN), PLN has produced the “PLN Company Plan to Supply Electric Power” (RUPTL) as a guide for power development for the next 10 years. PLN also has produced the “Long Term Corporate Plan” (RJPP) which shows the annual investment plans in detail. The most recent RUPTL covers 2011 to 2020 and RJPP covers from 2011 to 2015. (The 2012-2016 RJPP will be issued soon.)</p> <p>To date, this Project is recognized as one of the major projects under RJPP and this status will remain unchanged. Similarly, this can apply to the Enterprise Resource Planning (ERP) Project financed by the World Bank.</p> <p>PLN has advocated in RUPTL one of the targets for the saving of production costs by a more appropriate energy mix; it will reduce the ratio of power generation using fuel oil from 21% in 2011 to 1% in 2020 out of the total power generation. This target is consistent with the purpose of the Project which aims at the reduction of generation costs through an optimum composition of energy consumption. Thus, importance of the Project has been attached to the Project.</p> <p>(2) Relevance to development needs</p> <p>Major issues that face PLN are coping with the eastern and western areas where the power supply is insufficient, changing the powerhouses that use fuel oil to those with non-oil fuel, and to electrify rural areas where there is no power supply. In addition, it has been a long standing organizational issue that PLN should strengthen its financial position independent of subsidies from the government.</p>

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	<p>At present, however, information on the operation and maintenance of the various power plants, which would serve as basic data for responding to issues such as cost cutting of power generation and the improvement of operation ratios, is poor in reliability, and data collection is inadequate. Therefore, the establishment of a framework for accurate data collection and analysis and the efficient management of existing generating facilities through staff training are required.</p> <p>In addition, in the transmission and transformer sector, significant forced outages occur due to malfunctions of equipment in substations in the Java-Bali System. To improve the reliability of the system, the replacement of equipment in these substations is required.</p>	<p>Efficient operation through fuel management and other measures for existing power facilities based on accurate data and the improvement of reliability through the replacement of transformation equipment under the Project will meet the future power demand and contribute to the improvement of the financial management setup of PLN through the improvements in the shortages of power supply and cost reduction by efficient management.</p> <p>Particularly, the Java-Bali Power Co., (PJB) and Indonesia Power Co., (IP) which are included in this Project, account for about 70% of the total power facilities in the Java and Bali islands. The efficient operation of powerhouses using fuel oil, therefore, is the most important issue for those companies.</p>																																																						
Effectiveness	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="461 847 1205 1302"> <thead> <tr> <th data-bbox="461 847 880 927">Indicator</th> <th data-bbox="884 847 992 927">Baseline (2006)</th> <th data-bbox="996 847 1205 927">Target (2018) 5 years after completion</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="461 930 1205 959">Enterprise Asset Management (EAM) component</td> </tr> <tr> <td data-bbox="461 962 880 1010">No. of power plant sites collecting accurate data</td> <td data-bbox="884 962 992 1010">—</td> <td data-bbox="996 962 1205 1010">19*</td> </tr> <tr> <td data-bbox="461 1013 880 1093">No. of trained employees who responsible for generation operation</td> <td data-bbox="884 1013 992 1093">—</td> <td data-bbox="996 1013 1205 1093">All staff involved in operation and maintenance*</td> </tr> <tr> <td data-bbox="461 1096 880 1128">Maintenance material cost (%)</td> <td data-bbox="884 1096 992 1128">—</td> <td data-bbox="996 1096 1205 1128">2.5</td> </tr> <tr> <td data-bbox="461 1131 880 1163">Forced outage hours (%)</td> <td data-bbox="884 1131 992 1163">—</td> <td data-bbox="996 1131 1205 1163">7.5</td> </tr> <tr> <td data-bbox="461 1166 880 1198">Additional energy sales (million yen/year)</td> <td data-bbox="884 1166 992 1198">—</td> <td data-bbox="996 1166 1205 1198">61.5</td> </tr> <tr> <td data-bbox="461 1201 880 1233">Reduction of fuel cost (million yen/year)</td> <td data-bbox="884 1201 992 1233">—</td> <td data-bbox="996 1201 1205 1233">122.8</td> </tr> <tr> <td colspan="3" data-bbox="461 1236 1205 1268">Reliability Improvement Component</td> </tr> <tr> <td data-bbox="461 1272 880 1302">Forced outage caused by malfunction of circuit breaker (No. of times/year)</td> <td data-bbox="884 1272 992 1302">2</td> <td data-bbox="996 1272 1205 1302">0*</td> </tr> </tbody> </table>	Indicator	Baseline (2006)	Target (2018) 5 years after completion	Enterprise Asset Management (EAM) component			No. of power plant sites collecting accurate data	—	19*	No. of trained employees who responsible for generation operation	—	All staff involved in operation and maintenance*	Maintenance material cost (%)	—	2.5	Forced outage hours (%)	—	7.5	Additional energy sales (million yen/year)	—	61.5	Reduction of fuel cost (million yen/year)	—	122.8	Reliability Improvement Component			Forced outage caused by malfunction of circuit breaker (No. of times/year)	2	0*	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="1232 847 1975 1217"> <thead> <tr> <th data-bbox="1232 847 1637 927">Indicator</th> <th data-bbox="1641 847 1749 927">Baseline (2006)</th> <th data-bbox="1753 847 1975 927">Target (2018) 5 years after completion</th> </tr> </thead> <tbody> <tr> <td colspan="3" data-bbox="1232 930 1975 959">Enterprise Asset Management (EAM) component</td> </tr> <tr> <td data-bbox="1232 962 1637 1010">No. of power plant sites collecting accurate data</td> <td data-bbox="1641 962 1749 1010">—</td> <td data-bbox="1753 962 1975 1010">19*</td> </tr> <tr> <td data-bbox="1232 1013 1637 1093">No. of trained employees who responsible for generation operations</td> <td data-bbox="1641 1013 1749 1093">—</td> <td data-bbox="1753 1013 1975 1093">All staff involved in operation and maintenance*</td> </tr> <tr> <td data-bbox="1232 1096 1637 1128">Maintenance material cost (%)</td> <td data-bbox="1641 1096 1749 1128">—</td> <td data-bbox="1753 1096 1975 1128">2.5</td> </tr> <tr> <td data-bbox="1232 1131 1637 1163">Forced outage hours (%)</td> <td data-bbox="1641 1131 1749 1163">—</td> <td data-bbox="1753 1131 1975 1163">7.5</td> </tr> <tr> <td data-bbox="1232 1166 1637 1198">Additional energy sales (million yen/year)</td> <td data-bbox="1641 1166 1749 1198">—</td> <td data-bbox="1753 1166 1975 1198">61.5</td> </tr> <tr> <td data-bbox="1232 1201 1637 1233">Reduction in fuel cost (million yen/year)</td> <td data-bbox="1641 1201 1749 1233">—</td> <td data-bbox="1753 1201 1975 1233">122.8</td> </tr> </tbody> </table> <p>Note: *Target values are expected to be reached two years after completion of the project.</p>	Indicator	Baseline (2006)	Target (2018) 5 years after completion	Enterprise Asset Management (EAM) component			No. of power plant sites collecting accurate data	—	19*	No. of trained employees who responsible for generation operations	—	All staff involved in operation and maintenance*	Maintenance material cost (%)	—	2.5	Forced outage hours (%)	—	7.5	Additional energy sales (million yen/year)	—	61.5	Reduction in fuel cost (million yen/year)	—	122.8
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	<p>which come from three departments of PLN (generation and primary energy, commerce and customer service and finance).</p> <p>At the implementation stage, a project execution team, which consists of staff from PLN and GENCO (IP and PJB), has responsibility.</p> <p>This team takes the same form as the one under the ERP pilot project of the World Bank.</p> <p><<Transformation component>></p> <p>The project implementation unit (PIU) is to be established in PLN and is responsible for implementation. The transmission, transformation and distribution section (P3B Java-Bali) advises on the implementation of the project.</p> <p>2) Cooperation with NGO, universities etc. There is nothing to mention.</p> <p>3) Cooperation with Japanese grant aid and/or technical cooperation There is nothing to mention.</p> <p>4) Cooperation with other donors Under the “Java-Bali Power Sector Restructuring and Strengthening Project” financed by the World Bank, the Enterprise Resource Planning (ERP) system has been introduced as a pilot project for strengthening the finance and personnel sections of the</p>	<p>Java-Bali generation sector, who is responsible for overall procurement, and the staff from PJB and IP as support members. Since procurement procedures have not yet started, neither has the implementation system been set up. PLN can, however, utilize experience of the World Bank project. From now on the consultant hired for the Project will give PLN technical support in procurement and implementation up to the completion of the Project. At the implementation stage there is no financial problems as PLN has total responsibility on it.</p> <p><<Transformation component>></p> <p>With regard to relays and circuit breakers to be procured as soon as possible in order to avoid outages, PLN is considering using its own fund for procurement. In this case there will be no problem which might affect the effectiveness of the Project from the point of view of the implementation system and the technical and financial aspects.</p> <p>2) Cooperation with NGO, universities etc. There is nothing to mention.</p> <p>3) Cooperation with Japanese grant aid and/or technical cooperation There is nothing to mention.</p> <p>4) Cooperation with other donors PLN has strengthened the finance and personnel sections of the transmission sector through the introduction of ERP under the “Java-Bali Power Sector Restructuring and Strengthening Project” financed by the World Bank. ERP has been developed from its pilot</p>

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	<p>transmission sector in PLN. There will be synergy between ERP system and EAM system.</p> <p>5) Effect on the natural environment Category C in accordance with JBIC Guidelines for Confirmation of Environmental and Social Considerations (2003)</p> <p>6) Land Acquisition There is nothing to mention.</p> <p>7) Operation and maintenance structure and the technical and financial aspects of the executing agency <<EAM component>> Genco Shared Service Center (GSCC) to be established by this project will operate and maintain the EAM system. GSCC is expected to be established by 2013.</p> <p><<Transformation component>> P3B Java-Bali of PLN will maintain the transformation component.</p>	<p>stage to a fully-fledged operation in Sumatra and Sulawesi islands. With regard to cooperation between EAM system and ERP, EAM system improves the technical aspects, whereas ERP focuses on efficient management. Therefore the relation between the two is complementary.</p> <p>From the point of view of human resource development, strengthening management personnel under ERP and technical personnel under EAM system will lead to an upgrade of the total capacity of PLN.</p> <p>5) Effect on the natural environment There is nothing to mention.</p> <p>6) Land Acquisition There is nothing to mention.</p> <p>7) Operation and maintenance structure and the technical and financial aspects of the executing agency <<EAM component>> A clear-cut decision has not been made on the EAM operation and maintenance structure, including the set-up of GSCC, because the issue is still under consideration internally in PLN.</p> <p><<Transformation component>> Use of PLN's own fund for this portion is under consideration. Operation and maintenance will be carried out by P3B.</p>

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Efficiency	<p>(1) Project Outputs (a) Equipment</p> <p><<EAM system component>> 1) Introduction of EAM system 2) Installation and upgrading of monitoring devices 3) Establishment of GSSC 4) Reinforcement of the network capacity 5) Capacity building to improve power plant operations and maintenance</p> <p><<Transformation component>> 1) Replacement of equipment in substation</p> <p>(b) Consulting Service 1) Concept design 2) Assistance in bidding</p> <p>3) Implementation supervision</p>	<p>(1) Project Outputs (a) Equipment</p> <p>At the time of the mid-term review, the pre-qualification (PQ) documents on the following component were in the stage of finalization.</p> <p><<EAM system component>> 1) Introduction of EAM system 2) Installation and upgrading of monitoring devices 3) Establishment of GSSC 4) Reinforcement of the network capacity 5) Capacity building to improve power plant operations and maintenance</p> <p><<Transformation component>> 1) Replacement of equipment in substation As stated above, PLN is considering using its own fund.</p> <p>(b) Consulting Service 1) Concept design: Completed 2) Assistance in bidding Consultants will support procurement procedures such as the preparation of PQ documents, PQ and bidding procedures until the signing of contracts. As counterparts of the consultants PLN has assigned two staff members under the supervision of the person responsible for procurement. They are supervised by the board of directors.</p> <p>3) Implementation supervision Supervision works start after the selected contractor starts its</p>

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	<p>b) Consulting service From October 2007 to September 2013 (72 months)</p> <p>c) Procurement period From August 2007 to July 2009 (24 months)</p>	<p>regard to unit cost and man- months. A change of the president director at PLN and a reorganization which took place early in 2010 delayed the decision making on PLN and the conclusion of the contract was in May 2010.</p> <p>As a result, the selection of consultant was delayed by 2 years and 8 months compared to the original estimate. Of this delay, 2 years and 2 months were caused by the procedures before the selection of consultant and 6 months can be attributed to the selection process.</p> <p>b) Consulting service From July 2010 to June 2016 (schedule) (72 months) EAM System will be completed in May 2015. Supervisory services for improvement of the system will end in June 2016. If the Project is implemented in accordance with this schedule, the consulting services will be completed with a 2 years and 9 months delay from the original schedule.</p> <p>c) Procurement period From December 2012 to September 2013 (schedule) (10 months) The PQ announcement was delayed because it took about 1 year to scrutinize the PQ documents. Due to the fact that there are little precedent of IT system developments in Japanese ODA loan projects, it took a long time to confirm and set the criteria for the participation of IT firms in bidding, which needed to be reflected in PQ documents. It is expected that PQ will be conducted from December 2012 to January 2013 and bidding will be carried out from March to June 2013. Based on this schedule the delay from the original schedule is 4 years and 2 months at the end of procurement period.</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>d) Installation of EAM system From August 2009 to September 2013 (50 months)</p> <p>e) Replacement of equipment in substations From December 2008 to April 2010 (17 months)</p> <p>f) Training for staff From August 2009 to September 2013 (50 months)</p> <p>(3) Internal Rate of Return FIRR: 12.4% Cost: Project cost, Operation and maintenance expenses Benefit: Increase in income from electricity charges, saving of costs for maintenance materials and equipment, saving of additional investment cost for IT, decrease in fuel oil costs Project life: 30 years</p> <p>EIRR: 13.4% Cost: Project cost (excluding taxes), operation and maintenance expenses Benefit: Increase in income from electricity charges, saving of maintenance equipment cost, saving of incremental investment cost for IT, increase in oil export income Project life: 30 years</p>	<p>d) Installation of EAM system From October 2013 to May 2015 (schedule) (20 months) 1 year and 8 months delay from the schedule set at the ex-ante evaluation.</p> <p>e) Replacement of equipment in substations PLN is considering using its own fund.</p> <p>f) Training for staff From November 2013 to May 2015 (schedule) (19months) 1 year and 8 months delay from the schedule set at the ex-ante evaluation.</p> <p>(3) Internal Rate of Return This is excluded from the mid-term review because no data is available for calculation at this time.</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>Replacement of equipment in substations is not included in the analysis of the above internal rate of return because of difficulties of quantitative evaluation.</p>	
<p>Lessons learned and Recommendations</p>	<p>Lessons learned to JICA</p> <ul style="list-style-type: none"> ● To enrich Terms of Reference (TOR) for consulting services at the time of the selection procedure: In Japan, EAM system is used at CHUBU Electric Power Co., Inc. but not common among other power companies. If the information of TOR included in the Request for Proposal should not be enough, consulting firms face constraints to prepare a proposal. In the case of procurement like the EAM system which needs technical details, attention should be paid to the procurement system including support of a procurement expert hired by JICA to the executing agency before they will prepare TOR. ● To strengthen the appraisal of procurement and its support for the IT project: In this Project the two envelop procurement method was adopted on the assumption that the same procurement method as ordinary infrastructure projects can be applied. In the case of the ERP project under the World Bank financing in which the IT system was introduced prior to the EAM system and the loan agreement was signed in June 2003, the two stage bidding method*) was applied. Since technological advances in IT are fast, it seems to be more efficient and effective if bidding is invited after the executing agency decides on the final specification based on proposals made by the bidders at the first stage. In the case of such a project as the introduction of an IT system, it is important that JICA and the executing agency study and discuss the procurement method fully in order to apply the appropriate procurement method with due consideration of its technological advances. <p>*) Under this procedure, bidders will first be invited to submit technical proposals without prices on the basis of the minimum operating and performance requirements. After technical and commercial clarifications and adjustments, followed by amended bidding documents, the bidders will be invited to submit final technical bids and financial bids in the second stage.</p>	

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Indicators for the Ex-post Evaluation	Indicators at the time of Ex-Ante Evaluation (1) The number of power plant sites collecting accurate data (2) The number of trained employees who responsible for generation operation (3) Maintenance material cost (%) (4) Forced outage hours (%) (5) Additional energy sales (million yen / year) (6) Reduction of fuel cost (million yen / year) (7) Forced outage caused by malfunction of circuit breaker (No. of times / year) (8) No. of forced outage caused by malfunctions of protection relay (No. of times / year) (9) Internal rate of return (%)	Regarding the transformation component, PLN is considering using its own fund. PLN has no objection to using the indicators set for the other components at the ex-post evaluation.

Mid-Term Review Report of Japanese ODA Loan Project for FY2012

External Evaluator: Naomi Murayama (OPMAC Corporation)
Field Study: October 2012

Project Name: Indonesia "ICT Utilization Project for Educational Quality Enhancement in Yogyakarta Province" (L/A No. IP-542)

[Project Description]

Loan Amount / Disbursement Amount : 2,911 million yen / 881 million yen (as of July 2012)
Loan Agreement Signing Date : March 2007
Original Date of Project Completion : December 2012
Project Completion Date after review : December 2013
Loan Expiry Date : July 2015
Executing Agency : Ministry of Communication and Information Technology (KOMINFO)
Operation and Maintenance Organization :
1) During Implementation of the Project : KOMINFO and Yogyakarta Special Region (DIY) Government Education Agency (Dikpora)
2) After Project Completion : DIY Government, Kabupaten/ Kota (Operation and maintenance of Network environment)
and individual schools (ICT equipment at school computer labs)

[Project Objective]

The objective of the Project is to prepare IT and network facilities, develop e-learning system, and provide necessary goods and assistance for school activities in elementary and junior high schools in Yogyakarta Special Region (DIY) in order to enhance educational quality as a model utilizing ICT in the education sector in Indonesia. The roll-out of the model to other provinces will contribute to improvement of educational quality throughout Indonesia.

Main Consultant : PT. NUSATARA SECOM INFOTECH (Indonesia)/PT. DUTA ASTAKONA GIRINDA (Indonesia)/
PASCO CORPORATION (Japan) JV
Main Contractor ¹ : Local contractors

¹ The names and nationalities of consultants and contractors are entered only when they have been made public in JICA's annual statistical report "List of Names of Major Companies and their Contract Amount of Japanese ODA Loan" (these are names for which the contract amount is not less than 1 billion Japanese Yen for contractors and not less than 100 million Japanese Yen for consultants). Where names have not been entered in JICA's annual statistical report, they are described only as "local contractors/consultants" or "Japanese contractors/consultants". These names can be provided by JICA.

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Relevance	<p>(1) Relevance to development policy 1) Indonesia's National Medium Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional: RPJM: 2004-2009) PRJM (2004-2009) places importance on improving the quality of basic education.</p> <p>2) The national education strategy plan (RENSTRA: 2005-2009) RENSTRA also states that increasing access to high-quality education is essential for the development of the country, and earmarks (1) increasing educational opportunities, (2) improving the quality of education, and (3) improving governance and accountability, as three pillars of the strategy. In RENSTRA, information and communications technology (ICT) is also referred to as playing a role in effective learning at the stage of basic education. The Ministry of Communication and Information Technology is also currently promoting a "one school, one computer lab program" to promote the use of ICT at schools. (Target: 50,000 schools)</p> <p>3) Yogyakarta Province DIY government prepared an "Education Quality Enhancement Program in Yogyakarta Special Territory Province 2005-2009". The</p>	<p>(1) Relevance to development policy 1) Indonesia's National Medium Term Development Plan (RPJMN: 2010-2014) "Education" is the second priority out of 11 National Priorities listed in RPJMN: 2010-2014. During the term of PRJM: 2004-2009, education indicators have been improved. However, PRJMN: 2010-2014 stated the need to increase the quality of basic education through strengthening and expanding the use of ICT in educational sector and so on.</p> <p>2) The national education strategy plan (RENSTRA: 2010-2014) Based on the belief that increasing access to high-quality education is necessary for national development, RENSTRA: 2010-2014 stipulated 13 strategic pillars, such as "Quality Improvement for the Educational Workforce, Education Institutions and the Graduates" and Strengthening and Expanding the Use of ICT in the Educational Sector". KOMINFO played a central role in the "one school, one computer lab program" until 2005. However, the Ministry of National Education (MONE: current Ministry of Education and Culture) has been implementing the program since 2006 as it is strongly related to education (schools). RENSTRA: 2010-2014 also promoted strengthening and expanding the use of ICT but only around 8-9% of 300,000 schools in Indonesia have introduced ICT facilities. The program is not necessarily proceeding as planned.</p> <p>3) Yogyakarta Province "Education Quality Enhancement Program in Yogyakarta Special Territory Province 2005-2009" was originally prepared as a proposal</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)																		
	<p>retraining of teachers, development of infrastructure for science and technology education, and education using ICT are the three mainstays in efforts to correct the disparity among schools and to improve the quality of education through the utilization of ICT.</p> <p>(2) Relevance to development needs 1) Situation and problems of the basic education sector in Indonesia:</p> <table border="1" data-bbox="459 770 1200 906"> <thead> <tr> <th></th> <th>Primary education</th> <th>Secondary education</th> </tr> </thead> <tbody> <tr> <td>NER: Net Enrolment Rate (%)</td> <td>94 (2004)</td> <td>56.4 (2000)</td> </tr> <tr> <td>Ratio of teachers with adequate qualifications (%)</td> <td>46.1(2000)</td> <td>66.5 (2000)</td> </tr> </tbody> </table> <p>Source: JICA</p> <ul style="list-style-type: none"> Textbooks and teaching materials are also lacking in both quality and quantity. According to the Program for International Student Assessment (PISA) undertaken in 2003 by the OECD with 15-year old students at the time they completed basic education, Indonesia ranked in the lowest group in all four subject areas. <p>Therefore, improving access to basic education by making primary education universal and by improving the rate of enrolment in secondary education, along with improving the overall quality of education, are important issues in the area of basic education.</p>		Primary education	Secondary education	NER: Net Enrolment Rate (%)	94 (2004)	56.4 (2000)	Ratio of teachers with adequate qualifications (%)	46.1(2000)	66.5 (2000)	<p>of the Project. Therefore, it has not been updated. The current DIY education policy focuses on “education based on culture”. An ordinance in line with RENSTRA (regional regulation on education management and institutions based on culture: Perda 05/2011) was established and education policy was conducted in accordance with the ordinance. Perda 05/2011 does not mention ICT clearly but the Project is in line with Perda 05/2011.</p> <p>This Project is highly relevant to RPJMN, RENSTRA: 2010-2014, and DIY education policy, therefore the relevance was high at the time of mid-term review.</p> <p>(2) Relevance to development needs 1) Situation and problems of the basic education sector in Indonesia:</p> <table border="1" data-bbox="1229 770 1968 906"> <thead> <tr> <th></th> <th>Primary education</th> <th>Secondary education</th> </tr> </thead> <tbody> <tr> <td>NER: Net Enrolment Rate (%)</td> <td>95.2 (2009)</td> <td>73.3 (2009)</td> </tr> <tr> <td>Ratio of teachers with adequate qualifications (%)</td> <td>24.6 (2009)</td> <td>73.4 (2009)</td> </tr> </tbody> </table> <p>Source: RENSTRA: 2010-2014</p> <ul style="list-style-type: none"> At schools where education using PCs was conducted before project commencement, commercially available CD-ROM teaching material was used. For the use of CD-ROMs, schools needed to buy one CD-ROM for one PC, thus cost became a large burden. In addition, teachers could not monitor their students’ progress because each student studied using the CD-ROM individually. On the other hand, ICT teaching material developed by the Project can be shared among schools through IDC at no charge. Therefore schools do not need to pay the cost of ICT materials and the problem on the quantity (amount of teaching materials) is solved. Moreover, the software developed by the 		Primary education	Secondary education	NER: Net Enrolment Rate (%)	95.2 (2009)	73.3 (2009)	Ratio of teachers with adequate qualifications (%)	24.6 (2009)	73.4 (2009)
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Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)															
		<p>Project is designed so that students' progress can be monitored by the teachers. Therefore, teachers can know each student's weaknesses and supplement their weak points by handouts if necessary. In addition, as the ICT materials include music, animated images and games in the contents, it is easier to gain students' interests than it was with traditional paper-based teaching materials. Therefore, all teachers, students and parents highly appreciate the ICT teaching materials developed by the Project.</p> <p>According to the Program for International Student Assessment (PISA) undertaken in 2009 by the OECD, Indonesia ranked 57 out of 65 countries (39 out of 40 countries in the 2003 PISA) in the reading comprehension test, 61 out of 65 countries (38 out of 40 countries in the 2003 PISA) in mathematical literacy, and 60 out of 65 countries (38 out of 40 countries in 2003 PISA) in scientific literacy. At this moment, Indonesia still ranks in the lowest group by international standards. Improving the overall quality of education, along with improving access to basic education by making primary education universal and by improving the rate of enrolment in secondary education are still important issues.</p>															
Effectiveness	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="465 1177 1205 1318"> <thead> <tr> <th>Indicator</th> <th>Baseline (2005)</th> <th>Target (2012)</th> </tr> </thead> <tbody> <tr> <td>Ratio of schools with IDC access (%)</td> <td>-</td> <td>29</td> </tr> <tr> <td>Number of teaching staff who have undergone training</td> <td>1,080</td> <td>3,000</td> </tr> </tbody> </table>	Indicator	Baseline (2005)	Target (2012)	Ratio of schools with IDC access (%)	-	29	Number of teaching staff who have undergone training	1,080	3,000	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <p>For reorganizing the Operation and Effect Indicators, please refer to the closing paragraph, "Indicators for Ex-post Evaluation".</p> <table border="1" data-bbox="1236 1177 1977 1318"> <thead> <tr> <th>Indicator</th> <th>Mid-Term Review (2012)</th> <th>Target (2014)</th> </tr> </thead> <tbody> <tr> <td>Number of teaching staff who have undergone training</td> <td>2,170 (elementary & junior high schools)</td> <td>3,130 (New target)</td> </tr> </tbody> </table>	Indicator	Mid-Term Review (2012)	Target (2014)	Number of teaching staff who have undergone training	2,170 (elementary & junior high schools)	3,130 (New target)
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Item	Ex-Ante Evaluation (2007)			Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)		
	Number of students per PC in an elementary school	147	29	Number of students per PC in an elementary school	18	15 (New target)
	Number of students per PC in a junior high school	21	11	Number of students per PC in a junior high school	19	11
	Number of subjects utilizing ICT	2	6	Number of original ICT teaching materials that teachers have developed based on available ICT teaching materials(New indicator)	352	500
	Ratio of schools which have computer labs (%)	7	29	(elementary: 215 Junior high: 137)	(elementary: 300 Junior high: 200)	
	Net enrolment rate at elementary school level (%)	96.09	100 (target schools)	Source: Answers to the questionnaire		
	Net enrolment rate at junior high school level (%)	76.42	100 (target schools)	Note: New targets were set for the indicators which had already achieved the targets or could have higher goals. In addition, a new indicator was added to measure the project effect properly. At the time of the ex-ante evaluation, the target year was the year of project completion. However, it should be one year after project completion as it takes time for the effects to be seen in the case of education projects. On the other hand, the target year is usually two years after project completion. However, the external reviewer confirmed that it would set one year after project completion as it would be difficult to collect data at the time of the ex-post evaluation if the target year were two years after project completion.		
	Source: JICA			Some of the indicators have been already achieved. Despite the delay at the time of project commencement, the effects have appeared steadily.		
	Note: IDC: Internet Data Center			(2) Qualitative Effects		
	(2) Qualitative Effects 1) Improvement of education quality			(2) Qualitative Effects 1) Improvement of education quality It is suggested that the improvement of education quality as a project impact is evaluated as it needs government policy and teachers' efforts etc. which are beyond the project scope, and because effectiveness does not appear in the short term. (For more information, please refer to the closing paragraph, "Indicators for Ex-post Evaluation".)		

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	2) Improvement of school management and administration	<p>2) Improvement of school management and administration</p> <ul style="list-style-type: none"> · In the Project, a block grant (subsidy) from the DIY Government to schools is allocated to “improve school management and administration”. The allocation is once per school, and it will be done before the procurement and installation of equipment. Schools use the block grant for preparation for the Project in ways such as the procurement of desks and chairs for the ICT rooms. The main objective of the grant is to improve school management and administration and if proposals prepared by schools are in accordance with the criteria of Indonesia, there is no problem in making a selection of schools to which the block grant can be allocated. In order to apply for the block grant, each school submits a proposal to Dikpora DIY through a bottom-up-approach (BUA). Dikpora examines the proposals and allocates the block grant to schools which meet the criteria. · Training is provided by the DIY Government, and is named BUA Management Training. The training includes accounting reporting with case studies for block grant reporting and school administration data processing. Furthermore, a consultant (PF: Professional Facilitator) assists schools in preparing proposals for the block grant. · Although the effectiveness of BUA Management Training cannot be quantified easily, the effectiveness of the training and assistance of PF has begun to be evident. For example, schools have acquired the ability to analyze their advantages and weaknesses through SWOT analysis in order to prepare their proposals. Also, schools that had never generated accounting reports evidenced documents acquired the ability to prepare a proposal and accounting reports which meet the requirements.

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)																								
	<p>(3) Impact</p> <p>1) Number of provinces in which education quality improvement projects utilizing ICT have been implemented</p> <p>2) Differences in the average scores on graduation exams in elementary and junior high schools</p>	<p>(3) Impact</p> <p>In the Mid-Term Review (hereinafter, "MTR"), two impact indicators which were set at the time of appraisal are re-examined and following were reviewed: 1) the setting of quantitative indicators as follows on the improvement of education quality, and 2) the replacement of some of the outcome indicators which are not directly related to the Project within the impact indicators.</p> <p>1) Improvement of education quality</p> <table border="1" data-bbox="1234 639 1973 831"> <thead> <tr> <th>Indicator</th> <th>Mid-Term Review (2012)</th> <th>Target (2014)</th> </tr> </thead> <tbody> <tr> <td>Difference in the average scores on graduation exams in elementary schools</td> <td>7.39</td> <td>7.60 (target schools)</td> </tr> <tr> <td>Difference in the average scores on graduation exams in junior high schools</td> <td>7.34</td> <td>7.50 (target schools)</td> </tr> </tbody> </table> <p>Source: Answers to the questionnaire</p> <p>2) Impact Indicators</p> <table border="1" data-bbox="1234 927 1973 1326"> <thead> <tr> <th>Indicator</th> <th>Mid-Term Review (2012)</th> <th>Target (2014)</th> </tr> </thead> <tbody> <tr> <td>Ratio of schools with IDC access (%)</td> <td>SD/MI: 69 (1385/2017) SMP/ MTs: 78 (396/507)</td> <td>SD/MI: 74 SMP/ MTs: 87</td> </tr> <tr> <td>Ratio of schools which have computer labs (%)</td> <td>SD/MI: 54 (1085/2017) SMP/ MTs: 73 (371/507)</td> <td>SD/MI: 56 SMP/ MTs: 78</td> </tr> <tr> <td>Number of subjects utilizing ICT</td> <td>4</td> <td>6</td> </tr> <tr> <td>Number of provinces in which education quality improvement projects utilizing ICT have been implemented</td> <td>Note 1)</td> <td>2</td> </tr> </tbody> </table>	Indicator	Mid-Term Review (2012)	Target (2014)	Difference in the average scores on graduation exams in elementary schools	7.39	7.60 (target schools)	Difference in the average scores on graduation exams in junior high schools	7.34	7.50 (target schools)	Indicator	Mid-Term Review (2012)	Target (2014)	Ratio of schools with IDC access (%)	SD/MI: 69 (1385/2017) SMP/ MTs: 78 (396/507)	SD/MI: 74 SMP/ MTs: 87	Ratio of schools which have computer labs (%)	SD/MI: 54 (1085/2017) SMP/ MTs: 73 (371/507)	SD/MI: 56 SMP/ MTs: 78	Number of subjects utilizing ICT	4	6	Number of provinces in which education quality improvement projects utilizing ICT have been implemented	Note 1)	2
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		Net enrolment rate at elementary school level (%)	97.53 (target schools)	97.87 (target schools)
		Net enrolment rate at junior high school level (%)	81.08 (target schools)	81.75 (target schools)
		<p>Source: Answers to the questionnaire</p> <p>Note 1: At the time of MTR, although KOMINFO was making efforts to propagate the Roll-Out-Plan prepared by the Project in 14 provinces at the e-Gov Forum held on November 2011, there was no case where other provinces had already adopt this model. For instance, when KOMINFO promoted ICT teaching materials in Malan, the Government of Malan Province expressed their strong interest. However, this has not yet led to their adopting the model. They can use the software at no charge but do not have sufficient hardware. On the other hand, BAPPENAS stated that it was not a problem of hardware but a lack of commitment towards the Project (i.e. lack of strong will to prepare the necessary fund.) According to JICA's document, KOMINFO, in cooperation with MONE, would make a survey to regions that are targeted for replication besides the dissemination of information. Therefore, it is expected that some provinces will adopt the project model and implement e-education through their own efforts. At the time of MTR, KOMINFO was planning to carry out a survey for the implementation of the project model in other provinces.</p> <p>Note 2: SD= elementary school, MI= Islamic elementary school, SMP= junior high school and MTs= Islamic junior high school.</p> <p>3) Ripple effects to schools and regions other than the project targets</p> <ul style="list-style-type: none"> · The target schools have "Open School" plans whereby non-target schools can use computer rooms at target schools to provide opportunities to access ICT teaching materials. However, at many target schools, the teachers are occupied with their own activities, such as information exchange on development of teaching materials among teaching staff. Therefore, the Project had not yet reached the stage where target schools share their knowledge to other schools at the time of MTR. · As noted above on the extension of the model to other provinces. 		

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(4) Other items influencing effectiveness</p> <p>1) Project Implementation structure, technical and financial aspects of Executing Agency</p> <ul style="list-style-type: none"> · Executing Agency: DG ICT Application of KOMINFO · The project implementation unit in the KOMINFO is a directorate of e-Government. · Technical Capacity of the Executing Agency: KOMINFO implemented a “one school one computer lab” program in 43 locations in 2005 and 50 locations in 2006. There was no particular problem with implementing the Project. To cooperate with the Ministry of National Education and DIY, KOMINFO will conclude agreements with these two organizations regarding the educational aspects. · Financial Capacity of the Executing Agency: KOMINFO and DIY will share the remaining portion of the project costs. <p>2) Cooperation with NGOs, universities etc. There are no plans to cooperate with NGOs or local universities.</p>	<p>(4) Other items influencing effectiveness</p> <p>1) Project Implementation structure, technical and financial aspects of the Executing Agency</p> <ul style="list-style-type: none"> · In contrast to the assumption at the time of appraisal, assets such as ICT equipment procured by the Project were registered under the central government by Indonesian law during project implementation and thus the phased cost-sharing of O&M from the central government to DIY Government was not implemented. On the other hand, the procedures of asset transfer are usually complicated and take time. (According to KOMINFO, it usually takes 2 to 3 years. Depending on the project, it can take more than 8 years for the transfer procedure to be completed after project completion. In Indonesia, there are some cases where the O&M budget is not allocated due to incomplete asset transfer when the executing agency is not the operation and maintenance agency. (e.g. Small Ports Development Project in Eastern Indonesia) · On the other hand, under the Project, each target school has been effectively allocated a part of BOS/ BOSDA (school management subsidy from the central government or provincial government) for the O&M costs for ICT equipment or, in the case of some schools, there is a plan to prepare a budget by using the BOS/ BOSDA from the next year so that O&M is sufficiently implemented. Moreover, it is possible for school committees to collect contributions, if any, and this fund can be applied to the O&M costs (there have been a lot of examples of this in the past). Problems with the financial aspects, therefore, are not expected at this moment. <p>2) Cooperation with NGOs, universities etc. Due to a strengthening of human resources skills / competence,</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>3) Cooperation with Japanese grant aid and/or technical cooperation The experience of the JICA Regional Educational Development and Improvement Program (REDIP) is to be utilized.</p> <p>4) Cooperation with other donors There are no plans to cooperate with other donors.</p> <p>5) Effect on the natural environment Category C in accordance with JBIC Guidelines for Confirmation of Environmental and Social Considerations (2003)</p> <p>6) Land Acquisition There are no plans to acquire land.</p> <p>7) Operation and maintenance (O&M) structure and the technical and financial aspects of the executing agency · During project implementation: DG of ICT Applications, KOMINFO and Dikpora, DIY · After project completion: to be transferred to the DIY Government, Kabupaten/ Kota (O&M of Network environment)</p>	<p>Dikpora DIY is in cooperation with the State University of Yogyakarta (UNY) for ICT utilization for learning, and with the Multi Media Training Center (MMTC) KOMINFO for multimedia technology.</p> <p>3) Cooperation with Japanese grant aid and/or technical cooperation The Project adopts the REDIP model (school-based management with community participation in order to follow needs precisely) for the application of BUA. However, the Project has basically been implemented with the involvement of the community according to the traditional ways of DIY.</p> <p>4) Cooperation with other donors There is no particular cooperation with other donors</p> <p>5) Effect on the natural environment There had been no particular negative effect on the natural environment at the time of MTR.</p> <p>6) Land Acquisition Antennas have been installed in government-owned land or within the sites of target schools. At the time of MTR, there had been no land acquisition.</p> <p>7) Operation and maintenance (O&M) structure and the technical and financial aspects of the executing agency [Institutional aspects of O&M] At the time of MTR, there had been no change with the following plan: · During project implementation: DG of ICT Applications,</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>and each school (ICT equipment at school computer lab) PC Technicians are responsible for O/M activity at each school. The cost of O&M is covered by the school and school committee with the support of Dikpora of Kabupaten/Kota (School Budget/subsidies) or DIY.</p> <p>The O&M structure has already started among schools which already have computer labs. The system for fostering ownership has been developed including O&M activities to be one of the criteria for school selection.</p>	<p>KOMINFO and Dikpora, DIY</p> <ul style="list-style-type: none"> · After project completion: to be transferred to DIY Government, Kabupaten/ Kota (O&M of Network environment) and each school (ICT equipment at school computer lab) <p>However, assets are not usually transferred smoothly, as mentioned above. In order to avoid the worst case scenario, KOMINFO has started to discuss with the Ministry of Finance (MOF) a simplified manner of asset transfer at the time of project completion of this project.</p> <p>O&M responsibility and costs are as follows:</p> <ul style="list-style-type: none"> · PC software (license fee): none (open source) · IT connection fee: none (connection through radio with ISM/unlicensed band) · IDC operation and maintenance (staffing and administration) <ul style="list-style-type: none"> (a) IDC to Dikpora Kabupaten/Kota: Dikpora DIY (b) Dikpora Kabupaten/Kota to school: Dikpora Kabupaten/Kota · IDC operation and maintenance (helpdesk operation, hardware maintenance): Dikpora DIY · School Antenna: school · Trunk Antenna: Dikpora DIY · Electricity for PC: school <p>In the institutional aspects of O&M, the school lab coordinator at each school in cooperation with PF and DIY helpdesks (“Education Communication Technology Center”, BTKP, as a continuing effort of the DIY Government) implements O&M activities. At the time of MTR, skill transfer is gradually being engaged from PF to the helpdesk. The school lab coordinators and teachers rely on assistance from the helpdesk and there has been no problem in this point. In</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
		<p>cases where teachers are also the school lab coordinators, dissemination among teachers of the training results of ICT equipment maintenance, ICT utilization and teaching material development has not been actively achieved. However, these are rare cases at this moment. Interviews with teachers show that this can be attributed to lack of incentive. Dikpora and consultants of the Project think that basically teachers should be dedicated to teaching and Dikpora continues a dialogue with schools that have problems with school lab coordinators in order that they can solve the problem. This is a potential issue that might affect effectiveness and sustainability of the Project in the future.</p> <p>[Financial aspects of O&M] As mentioned above, each school allocates a part of BOS/ BOSDA to the O&M cost of ICT equipment. Schools that have just finished installing the equipment plan to allocate a budget for the O&M costs of equipment from the next fiscal year. Moreover, it is possible that school committees will collect contributions, if any, and that the fund can be applied to the O&M cost. Therefore, no problems on the financial aspects are expected at this moment.</p> <p>[Technical aspects of O&M] <ul style="list-style-type: none"> · The training on O&M has been implemented. In the training, a manual on usage and troubleshooting is distributed. · In many cases, troubles are solved by PF, the helpdesks and school lab coordinators. · In the case of equipment fault, schools use the service of suppliers due as warranty is still valid at the time of MTR. · Although teachers in some schools have some difficulties in using the ICT teaching materials because they have never used </p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
		<p>computers, study meetings on PC utilization and the development of teaching materials are held with other teachers. Basically this problem might be only attributable to lack of adaptation to PCs. The problem will be solved with time.</p> <ul style="list-style-type: none"> · Some schools have the technical difficulty that some PCs cannot be logged in when every student tries to log in at the computer at the same time. <p>[Good practices] Number of visited schools during the field study: 10</p> <ul style="list-style-type: none"> · Activities such as study meetings on PC utilization and the development of teaching materials together with other teachers can be seen at some schools. · There is a school which has had a competition within the school in order to motivate teachers for material development. · There is a school which tries to update the contents of its ICT teaching materials at least once a month as school policy. · Despite the fact that only a few months have passed since the commencement of ICT equipment use, teachers have already developed teaching materials in subjects other than mathematics and science at some schools.
Efficiency	<p>(1) Project Outputs Of the bellow, the Japanese ODA Loan portion is only the underlined part.</p> <p>1) Construction works (a) ICT Equipment Development <u>a) ICT equipment for schools</u> · For 500 target schools Of which: 300 elementary schools; 200 junior high schools</p>	<p>(1) Project Outputs Of the bellow, the Japanese ODA Loan portion is only the underlined part.</p> <p>1) Construction works (a) ICT Equipment Development <u>a) ICT equipment for schools:</u> · There is no change. Of package 1 to 3, the ICT equipment for packages 1 and 2 had</p>

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(per school: 20 PCs for students and one PC for a teacher, PC related equipment (projectors etc.), network facilities (IDC, which contracted with an internet provider, plays the role of gateway to connect with each school; Wi-Max systems will be employed), school antenna installation and trunk antenna etc. for one computer lab.)</p> <p><u>b) ICT equipment for project offices in KOMINFO and DIY</u></p> <ul style="list-style-type: none"> · Installation of PCs and related equipment for project administration <p><u>c) ICT equipment for IDC</u></p> <ul style="list-style-type: none"> · Gateway antenna (for Wi-Max), relay extender antenna, server, router etc. <p><u>d) Upgrading of schools' electric power capacity</u></p> <ul style="list-style-type: none"> · Upgrading of electric power receiving facilities and amperage at target schools <p><u>e) ICT operation and maintenance</u></p>	<p>been installed. (500 schools (200 elementary schools and 150 junior high schools) have been already selected. At 350 schools, ICT equipment has been installed.) At this moment, package 3 is under the bidding process. Pre-Qualification (PQ) for package 3 was advertised three months ago. However, KOMINFO judged that an antenna study was necessary before the bidding process for package 3 and the bidding process was interrupted. (In the end, the antenna study was not conducted). Now it has been re-advertised.</p> <p><u>b) ICT equipment for project offices in KOMINFO and DIY</u></p> <ul style="list-style-type: none"> · There is no major change. <p><u>c) ICT equipment for IDC</u></p> <ul style="list-style-type: none"> · A new server was installed and the related equipment was procured additionally as the existing server was not able to handle all the school traffic. · As the Wi-Max system assumed in the Special Assistance for Project Formation (SAPROF) was restricted by the Indonesian government, it could not be brought in. Therefore, it was necessary to change the available system so that the number of relay extender antennas was increased. (The number of relay extender antennas: SAPROF: 4 to actual: 11) <p><u>d) Upgrading of schools' electric power capacity</u></p> <ul style="list-style-type: none"> · There is no major change. <p><u>e) ICT operation and maintenance</u></p> <ul style="list-style-type: none"> · Daily O&M for installed equipment is in place.

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(b) Education Quality Enhancement (EQE) Activities (block grant)</p> <ul style="list-style-type: none"> · Providing block grants for EQE activities based on a bottom up approach (based on proposals prepared by school committees, composed of parents and communities, and schools) at 500 target schools. <p>(c) Training for Teachers and School Management and Administration</p> <ul style="list-style-type: none"> · Training for teachers: computer skills, information processing skills and utilization of ICT in education; and · Training for school management and administration staff: school administration in accounting reporting and facilitation skills. <p>(d) ICT Teaching Materials Development</p> <ul style="list-style-type: none"> · Purchase of e-education materials for math and science and development of original teaching materials by teachers 	<p>(b) Education Quality Enhancement (EQE) Activities (block grant)</p> <ul style="list-style-type: none"> · As mentioned above, the block grant for school management and administration is allocated based on proposals submitted by schools via BUA. So far, 110 schools in 2010 (60 elementary schools and 50 junior high schools) were selected and the block grant was allocated to these schools in December 2010 and March 2011. In addition, 240 schools in 2011 (140 elementary schools and 100 junior high schools) were selected and the block grant was allocated to these schools in June 2011. <p>(c) Training for Teachers and School Management and Administration</p> <ul style="list-style-type: none"> a) ICT utilization training <ul style="list-style-type: none"> - Training for ICT literacy (Linux) - Training for school lab maintenance - Teaching material development training b) BUA management training <ul style="list-style-type: none"> - Financial reporting (with a case study for block grant reporting and school administration data processing) <p>(d) ICT Teaching Materials Development</p> <ul style="list-style-type: none"> · There is no change. · Teaching materials have been steadily developed as mentioned in the section on Operation and Effect Indicators. · Regarding equipment, despite the fact that there are about 30 students per class depending on the school, 21 PCs (including one computer for a teacher) are distributed to each school across the board. Therefore, sometimes two students jointly use one PC and one student can use one PC in the same class. Some teachers pointed out that this brought a sense of unfairness among students.

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)												
	<p>(e) IDC System Development Education data base system development in DIY, Help-desk system development, E-learning system development, Web-site system development and Network system development</p> <p>2) Consulting services</p> <p>(a) Detailed design, assistance for bid processing, construction supervision, etc.</p> <p>(b) Assistance for preparation of proposals by each school</p> <p>(c) Preparation of training guidelines and their instruction</p> <p>(d) Assistance for Teaching Materials Development</p> <p>(e) Planning the implementation of overseas training (in Kyoto Prefecture)</p> <p>(f) Assistance for improvement of exam questions</p> <p>(g) Assistance for preparation of Roll Out Plan</p> <p>(2) Project Inputs</p> <p>1) Project Cost</p> <table border="1" data-bbox="465 1273 1176 1327"> <tr> <td>Total cost</td> <td>4,376 million yen</td> <td>100%</td> </tr> <tr> <td>Japanese ODA Loan portion</td> <td>2,911 million yen</td> <td>66.5%</td> </tr> </table>	Total cost	4,376 million yen	100%	Japanese ODA Loan portion	2,911 million yen	66.5%	<p>(e) IDC System Development There is no change.</p> <p>2) Consulting services</p> <ul style="list-style-type: none"> · General work management aspect (including assistance for preparation of Roll Out Plan) · Infrastructure development aspects · Assistance for development of teaching materials · Assistance for improvement of examination materials · Assistance for training (ICT utilization, BUA management and overseas training) · Reporting etc. <p>Man-month of consulting services (M/M) is modified as follows: (Original contract: No.1/JICA/ EGOV/KOMINFO/VIII/2009 to Amendment: No.6/JICA/EGOV/KOMINFO/II/2012, February 28,2012)</p> <p>International: 33M/M (original: 3)→3 M/M National:196M/M (original: 281)→ 301 M/M</p> <p>Regarding the international consultant, a simple error was modified. As for other parts, M/M for some staff was increased slightly and a member of administration staff was added since the original workload was not realistic.</p> <p>(2) Project Inputs</p> <p>1) Project Cost</p> <table border="1" data-bbox="1236 1273 1968 1327"> <tr> <td>Total cost</td> <td>1,188.7 million yen</td> <td>100%</td> </tr> <tr> <td>Japanese ODA Loan portion</td> <td>962 million yen</td> <td>80.9%</td> </tr> </table>	Total cost	1,188.7 million yen	100%	Japanese ODA Loan portion	962 million yen	80.9%
Total cost	4,376 million yen	100%												
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Item	Ex-Ante Evaluation (2007)			Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)		
	KOMINFO	558 million yen	12.8%	KOMINFO	118.7 million yen	10.0%
	DIY	907 million yen	20.7%	DIY	108 million yen	9.1%
	<p>2) Implementation Schedule From April 2007 to December 2012 (68 months)</p>			<p>· O&M cost is not included in the above due to difficulties in calculating exactly using a part of BOS/BOSDA. It is thought that the actual O&M cost for the Indonesian side is larger than in the above figures.</p> <p>· The disbursement rate of the proceeds of the Japanese ODA loan is only around 30% and this is low. The major reason for the low rate is thought of as being the appreciation of the Japanese yen. The disbursement rate is expected to remain at the rate of 50% even if it is paid for undisbursed items for which JICA has already finished its review and concurrence, the procurement of remaining packages and an extension of consulting services until project completion.</p> <p>2) Implementation Schedule April 2007 to December 2013 (schedule) (80 months: to be delayed for 12 months) [Main reasons for delay of the Project]</p> <ul style="list-style-type: none"> · Time needed to select the consultant. · Procurement of equipment delayed. <p>Both the above are attributed to delays in procedures in Indonesia. Especially the first package of equipment procurement took additional time due to a review of the plan.</p> <p>As the Project has made up for the delay through the past implementing process, it might no longer be necessary to extend the planned final disbursement date although project completion will be delayed for one year.</p>		

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(3) Internal Rate of Return Calculation of profitability is not considered appropriate for education projects and therefore no calculation will be done.</p>	<p>(3) Internal Rate of Return Due to the nature of the project, a quantitative analysis of the internal rate of return was not possible.</p>
<p>Lessons learned and Recommendations</p>	<p>To JICA:</p> <ul style="list-style-type: none"> · Information on laws and regulations that can affect the Project should be obtained and understood at the project preparation stage. Regarding this project, it should have been understood at the SAPROF or appraisal stage that the Wi-Max system is regulated by law, and that asset transfer is necessary in Indonesia in cases where the executing agency during project implementation and the O&M organizations after project completion are different. The change in communication methods led to delay in the procurement of equipment at the beginning of the Project. It seems unlikely that the asset transfer problem directly affects O&M at this moment. · The project should ensure a flexible response at the implementation stage. As equipment will soon age, particularly in ICT projects, the necessity for a flexible response was recognized at the time of appraisal of the Project. In accordance with this recognition, JICA Indonesia Office has permitted flexible changes to the executing agency at the implementation stage so that there has been progress in making up delays and in the modification of the scope from the beginning of the project. This Project is a good practice in project supervision and implementation. <p>To the Indonesian side:</p> <ul style="list-style-type: none"> · It is desirable that the procedures of procurement and asset transfer become as simple as possible. In the Project, KOMINFO seeks to find a simpler way of asset transfer by early discussion with MOF. It is better to attain agreement among the related organizations by the time of project completion to ensure a good practice in simple procedures by continuing discussions with the parties concerned. · The school lab coordinator problem should be solved by project completion. Teachers should be devoted to teaching including teaching material development. Although budget constraints might be one of the causes of the problem, one option to solve the problem would be for several schools to share one full-time coordinator who can provide training on PC maintenance and teaching materials development. PC maintenance will be necessary even after project completion and so the school lab coordinator should not be employed on a temporal basis but as a full-time member of staff. In addition, another idea is to encourage teachers' willingness to develop teaching materials by granting an award for good materials and by holding competitions. · Regarding the project objective, "improvement of education quality", after reconfirming the definition of "improvement of education quality" among the parties concerned, the parties should reconsider what should be aimed for in the project period and what the appropriate evaluation indicators are for the aim by reference to the suggested indicators in this MTR. At the time of MTR, a large amount 	

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>of the loan remains. Therefore, it is possible to utilize the remaining amount within the reconfirmed project objectives. However, if the project scope is to be expanded, it is necessary that an appropriate plan of project scope and period be completed before the planned final disbursement date.</p>	
<p>Indicators for the Ex-post Evaluation</p>	<p>Indicators assumed at the Ex-Ante Evaluation</p> <ol style="list-style-type: none"> (1) Ratio of schools with IDC access (%) (2) Number of staff who have undergone training (3) Number of students per PC in elementary school (4) Number of students per PC in junior high school (5) Number of subjects utilizing ICT (6) Ratio of schools which have computer labs and use PCs during class (7) Net enrolment rate at elementary school (%) (8) Net enrolment rate at junior high school (%) 	<p>It is suggested that the evaluation indicators are reorganized or clarified as mentioned in the section of effectiveness and impact due to the mixing of several levels' indicators. The basic concepts are as follows:</p> <ol style="list-style-type: none"> 1) Outcome indicators should be limited within items strongly related to the Project objectives and outputs. (Relevant indicators: a) number of staff who have undergone training, b) number of students per PC in elementary school, c) number of students per PC in junior high school, and d) amount of ICT teaching materials that teachers have developed themselves based on available ICT teaching materials) 2) It should be an impact indicator that items should be evaluated at provincial level. (Relevant indicators: a) ratio of schools with IDC access, b) ratio of schools which have computer labs and use PCs during class. Reason: both results must be 100% if they are set as direct outcomes of the Project.) 3) At the time of the ex-ante evaluation, the target year was the year of project completion. However, this should be one year after the project completion as time is needed for effects to be seen in the case of education projects. The target year is usually two years after the project completion. However, the external reviewer confirmed it would set one year after the project completion as it could be difficult to collect data at the time of the ex-post evaluation if the target year was two years after project

Item	Ex-Ante Evaluation (2007)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
		<p>completion.</p> <p>4) The indicators should be limited within available data.</p>

Mid-Term Review Report of Japanese ODA Loan Project for FY2012

External Evaluator: Hiroshi Oita (OPMAC Corporation)

Field Study: October 2012

Project Name: Indonesia “National Geo-Spatial Data Infrastructure Development Project” (L/A No. IP-544)

[Project Description]

Loan Amount / Disbursed Amount : 6,373 Million Japanese Yen / 2,852 Million Japanese Yen (as of 31 July 2012)
Loan Agreement Signing Date : March 2007
Original Date of Project Completion : June 2014
Project Completion Date after review : June 2015
Loan Expiry Date : July 2017
Executing Agency : The National Coordinating Agency for Survey and Mapping (BAKOSURTANAL) (The name of the organization has been changed to Badan Informasi Geospasial (BIG))
Operation and Maintenance Organization : (1) BIG for the Geo-spatial data of Sumatra
(2) BIG and relevant organizations (Ministries of Agriculture, Marine Affairs and Fisheries, Forestry, Public Works, Energy and Mineral Resources, and Environment; Central Statistics Agency, National Land Agency, Province of DKI Jakarta, Province of West Java) for the network system development
(3) National Development Planning Agency (BAPPENAS) for supporting regional planning

[Project Objectives]

The objectives of the Project are to achieve good governance of central as well as local governments, efficient administrative works and evasion of duplicated investments and works in the production of geo-spatial data through (1) acquisition and production of geo-spatial data of Sumatra island, (2) development of National Geo-Spatial data Infrastructure (NSDI) networking system and (3) utilization of NSDI to support Regional Development Planning for provincial governments, thereby contributing to the appropriate management of natural resources, protection of environment and mitigation of natural hazard, and ultimately contributing to overall economic development of Indonesia.

Consultant : Yachiyo Engineering Co., Ltd. (Japan)/ Aero Asahi Corp.(Japan)/ PT LAPI ITB (Indonesia) (JV), Oriental Consultants Co., Ltd. (Japan)/ PT Demensi Ronakon (Indonesia) (JV)
Contractor¹ : PASCO CORPORATION (Japan)/ ITOCHU Corporation (Japan) (JV), NTT DATA Corporation (Japan)

¹ The names and nationalities of consultants and contractors are entered only when they have been made public in JICA’s annual statistical report, “List of Names of Major Companies

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Relevance	<p>(1) Relevance to development policy</p> <p>1) In the National Medium Term Development Plan (RPJM: 2004-2009) the Government of Indonesia indicated to utilize Geo-spatial data.</p> <p>2) Law No.24/1992 stipulates that geo-spatial data must be used for regional development.</p> <p>3) Law No.10/2000 stipulates the scale for regional development; Scale 1:50,000 or more for municipalities, 1:100,000 or more for Kabupaten.</p> <p>4) Law No.32/2004 stipulates that regional development planning must be based on maps with the scale in accordance with the decentralization law.</p>	<p>(1) Relevance to development policy</p> <ul style="list-style-type: none"> · After the signing of the Loan Agreement (hereinafter “L/A”), Presidential Regulation No.85/2007 was issued in August, 2007. This stipulated the sharing of geo-spatial data by a national network among government agencies and local governments. · With regard to geo-spatial data, Law No.4/2011 dated April 2011 stipulated the use of a unified basic map as a framework for the nation together with the sharing of the same at the time of surveying. · Presidential Regulation No.94/2011 dated December 2011 recognized the National Coordination Agency for Survey and Mapping (hereinafter “BIG”) as the only agency for the provision of basic maps and as the coordinating agency regarding geo-spatial data. · In addition, Presidential Regulation No.6/2012 dated May 2012 stipulated that BIG should cooperate with the National Institute of Aeronautics and Space for providing the Ortho-rectified High Resolution Satellite Imagery. <p>Thus, the status of BIG has strengthened in tandem with the implementation of the Project and the importance of the role of BIG has been recognized. The development above shows the importance of the Project as well as that of the government stance which utilizes geo-spatial data as a policy measure. Therefore the Project is well in accordance with the development policy of Indonesia.</p>

and their Contract Amount of Japanese ODA Loan” (these are names for which the contract amount is not less than 1 billion Japanese Yen for contractors and not less than 100 million Japanese Yen for consultants were entered). Where the names have not been entered in JICA’s annual statistical report, they are described only as “local contractors/consultants” or “Japanese contractors/consultants”. These names can be provided by JICA.

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(2) Relevance to development needs</p> <p>1) The basic data for the 10,000:1 to 50,000:1 scale maps which contain basic spatial data including inhabitation, traffic, vegetation, rivers, contour lines, administrative boundaries, geographical names, etc. ("Geo-spatial data") of Sumatra, Papua, Maluku and other regions is not complete.</p> <p>2) Sumatra in particular is growing at an especially rapid pace and there is an urgent need for the compilation of basic map data which is absolutely essential for appropriate regional development to proceed.</p> <p>3) In the past, failure to utilize Geo-spatial data when undertaking regional development and failure to coordinate development between sectors and regions has resulted in a deterioration of the environment and the inappropriate use of natural resources.(RPJM:2004-2009)</p> <p>4) A number of government and research institutions have individually produced and maintained map data which has superimposed spatial information from various industries and research fields onto the basic map data ("thematic map data"). To avoid duplication in investment of work and money, the development of a network system that enables the sharing of basic map data and thematic map data ("national geo- spatial data") is becoming a pressing issue.</p>	<p>(2) Relevance to development needs</p> <ul style="list-style-type: none"> · Through discussions regarding the Project between BIG and the related agencies, communication between BIG and the related agencies has been strengthened. BIG exchanged memorandum of understanding concerning the areas of cooperation with the Central Statistics Agency, the Ministry of Agriculture, the Ministry of Public Works, and so on. Based on the laws and regulations mentioned above BIG will act at the center of the agencies which share Geo-spatial data through connections to National Spatial Data Infrastructure (hereinafter "NSDI system"). It is expected that there will be an increase in the need for Geo-spatial data provided by BIG. · Geo-spatial data is one form of basic data for a nation. For Indonesia it is a continuing issue to revise the existing data and to prepare basic data for underdeveloped areas because Indonesia is a large country with many islands. · BAPPENAS considers that it is necessary to develop a social and economic database in a region before making a regional development plan. Although Geo-spatial data is the basis for a development plan, so far, ministries or agencies have not used a common standard. BAPPENAS has high expectations that various databases will be developed based on the unified basic map data.

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)																		
Effectiveness	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="472 472 1211 715"> <thead> <tr> <th data-bbox="472 472 853 576">Indicator</th> <th data-bbox="853 472 1014 576">Baseline (2006)</th> <th data-bbox="1014 472 1211 576">Target (2016) 2 years after completion of the Project</th> </tr> </thead> <tbody> <tr> <td data-bbox="472 576 853 659">The number of request to the Geo-spatial data of Sumatra Island, which is created under the Project</td> <td data-bbox="853 576 1014 659">N.A.</td> <td data-bbox="1014 576 1211 659">2,000</td> </tr> <tr> <td data-bbox="472 659 853 715">The number of newly registered meta data* in NSDI Networking System</td> <td data-bbox="853 659 1014 715">5,000 records</td> <td data-bbox="1014 659 1211 715">20,000 records</td> </tr> </tbody> </table> <p data-bbox="472 715 1211 794">Note: * Metadata: text data which describes attribute information pertaining to national geo-spatial data (target areas, scale size, creator, date created, etc.) and which is utilized when searching for national geo-spatial data.</p> <p>(2) Qualitative Effects</p> <ol data-bbox="472 927 1211 1323" style="list-style-type: none"> 1) To carry out administrative works efficiently and to upgrade them by using geo-spatial data 2) To avoid duplication in investments and works by sharing geo-spatial data 3) To make a national mid-term development plan and a regional development plan by using geo-spatial data 4) To make a contribution to the management of natural resources, the conservation of environment, the prevention of disasters, etc. 5) To improve the various public services of government authorities and local governments 6) To vitalize economic activities through a policy to stimulate private investments 	Indicator	Baseline (2006)	Target (2016) 2 years after completion of the Project	The number of request to the Geo-spatial data of Sumatra Island, which is created under the Project	N.A.	2,000	The number of newly registered meta data* in NSDI Networking System	5,000 records	20,000 records	<p>(1) Quantitative Effect <u>Operation and Effect Indicators</u></p> <p data-bbox="1223 408 1989 472">BIG has no intention of changing the indicator set at the ex-ante evaluation.</p> <table border="1" data-bbox="1234 472 1977 715"> <thead> <tr> <th data-bbox="1234 472 1615 576">Indicator</th> <th data-bbox="1615 472 1787 576">Baseline (2006)</th> <th data-bbox="1787 472 1977 576">Target (2017) 2 years after completion of the Project</th> </tr> </thead> <tbody> <tr> <td data-bbox="1234 576 1615 659">The number of request to the Geo-spatial data of Sumatra Island, which is created under the Project</td> <td data-bbox="1615 576 1787 659">N.A.</td> <td data-bbox="1787 576 1977 659">2,000</td> </tr> <tr> <td data-bbox="1234 659 1615 715">The number of newly registered meta data* in NSDI Networking System</td> <td data-bbox="1615 659 1787 715">5,000 (estimate)</td> <td data-bbox="1787 659 1977 715">20,000</td> </tr> </tbody> </table> <p data-bbox="1223 751 1989 847">Acquisition of raw data for the production of the basic map was completed. Development of basic map data was on-going at the time of the mid-term review.</p> <p>(2) Qualitative Effects</p> <p data-bbox="1223 927 1989 991">It is expected that the qualitative effects mentioned left will be achieved by widely utilizing Geo-spatial data produced by BIG.</p> <p data-bbox="1223 991 1989 1158">Consultation between BIG and the 10 participating ministries and agencies regarding the introduction of NSDI system has just started. Cooperation between BIG and those parties will be strengthened through discussions about the concrete operation system and data sharing method.</p> <p data-bbox="1223 1158 1989 1254">BIG, together with central ministries and local governments will initiate workshops for the improvement of public services through the utilization of Geo-spatial data.</p>	Indicator	Baseline (2006)	Target (2017) 2 years after completion of the Project	The number of request to the Geo-spatial data of Sumatra Island, which is created under the Project	N.A.	2,000	The number of newly registered meta data* in NSDI Networking System	5,000 (estimate)	20,000
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	<p>(3) Impact Impact on 1) and 2) of (2) above, including the possibility of setting indicators, will be studied through the consulting service of the Project using case studies.</p> <p>(4) Other items influencing effectiveness 1) Project implementation structure, technical and financial aspects of the Executing Agency A project office will be set up under the supervision of BIG in order to implement and manage the project. Special Assistance for Project Implementation (SAPI) will be arranged, taking into account the fact that BIG does not have any experience in receiving Japanese ODA loan.</p> <p>2) Cooperation with NGO, universities etc. University staff in the target region with training will be provided.</p>	<p>(3) Impact At present, to increase the utilization of Geo-spatial data through an increase in connections with NSDI system and succeeding policy measures, based on the correct assessment of a current situation, will be counted as an impact of the Project. There is no plan to conduct surveys by consultants of the Project on the impact of the Project due to budget cuts.</p> <p>(4) Other items influencing effectiveness 1) Project implementation structure, technical and financial aspects of the Executing Agency The present implementing structure in BIG has not changed since the ex-ante evaluation. SAPI has not yet been carried out by JICA. All the contracts corresponding to each component under the Japanese ODA loan have been concluded and are smoothly under implementation.</p> <p>2) Cooperation with NGO, universities etc. Bandung Institute of Technology (ITB) has a GIS course and many staff members in BIG are from ITB. BIG has concluded agreements with the regional core universities including Gadjah Mada University (Yogyakarta), Syiah Kuala University (Aceh), Padang State University (Sumatra), Sepuluh Nopember Institute of Technology (Surabaya), Mulawarman University (East Kalimantan) and ITB for cooperation on technical and personnel aspects. In the future, it is expected that NSDI system will connect with these universities. With regard to the regional development plan, BAPPENAS has gained knowledge from Prof. Taslim of ITB.</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>3) Cooperation with Japanese grant aid and/or technical cooperation Cooperation with JICA's technical cooperation and cooperation with other ongoing and new projects for disaster prevention will be taken into account.</p> <p>4) Cooperation with other donors Nothing to mention.</p> <p>5) Effect on the natural environment Category C in accordance with JBIC Guidelines for Confirmation of Environment and Social Considerations. (2003)</p> <p>6) Land acquisition and resettlement Nothing to mention.</p> <p>7) Operation and maintenance structure and the technical and financial aspects of the executing agency BIG will manage and maintain the basic data for Sumatra. BIG and 10 participating organizations will operate and maintain the network system. Each province for which a development plan is made using the data is responsible for the operation and maintenance of such data.</p>	<p>3) Cooperation with Japanese grant aid and/or technical cooperation Nothing to mention.</p> <p>4) Cooperation with other donors Nothing to mention.</p> <p>5) Effect on the natural environment Nothing to mention.</p> <p>6) Land acquisition and resettlement There was no land acquisition at the Project site. The expansion of the GIS data center is as a part of the existing building within BIG.</p> <p>7) Operation and maintenance structure and the technical and financial aspects of the executing agency BIG is responsible for the operation and maintenance of Geo-spatial data. There will be a need to increase the number of personnel from an operational point of view. On the technical side, BIG's staff members have sufficient experience, and BIG are experiencing no difficulties. In the future, it will be necessary to renew data and equipment and to buy new software. Such additional costs will be covered by the Government budget. After the completion of NSDI system, the number of participating agencies, local governments, universities, etc. which connects with the system will increase. Discussion will take place about the equipment to be procured for the connection and about cost sharing.</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Efficiency	<p>(1) Project Outputs</p> <p>1) Acquisition and production of spatial data Mapping in Sumatra Island: a) 411,000 km² : scale 1: 50,000</p> <p>b) 2,250 km² : scale 1: 10,000 (Seven cities: Bandar Lampung, Bengkulu, Jambi, Medan, Padang, Pangkalpinang, Pekanbaru)</p> <p>2)-a) Development of NSDI networking system</p> <ul style="list-style-type: none"> · To construct a data sharing system between BIG and 10 participating institutions · To strengthen the existing GIS data center at BIG, including the back-up system · To organize training and to conduct capacity building for officers in BIG and the 10 institutions 	<p>(1) Project Outputs</p> <p>1) Acquisition and production of spatial data Mapping in Sumatra Island: a) 303,439km² : scale 1:50,000</p> <p>The reason for the decrease in the target area was that the target area at the ex-ante evaluation was based on the original ex-ante evaluation. The actual area had to be reduced because the loan amount was greatly reduced from the estimated amount at the time of the original ex-ante evaluation.</p> <p>The areas excluded from the original scope were the provinces of Ache, Lampung, and a part of Riau and Jambi. These excluded areas are covered by maps which were previously made by the scale 1:50,000 map.</p> <p>b) 2,252km² : scale 1:10,000</p> <p>The target cities were (1) Medan, (2) Pekanbaru, (3) Padang and (4) Jambi. The remaining 3 cities were out of scope because of the same budgetary reason as mentioned above. The reason why the target areas were almost same as the original ones is that the city boundaries have become wider than those at the time of planning</p> <p>2) -a) Development of NSDI networking system</p> <ul style="list-style-type: none"> · NSDI networking system is under development. Coordination for connection between BIG and the 10 participating institutions is on-going. · Since the status of BIG has risen according to Presidential Regulations, the number and size of data processing is expected to increase. In addition, because of the necessity to expand the GIS data center, additional contracts to increase servers are under the review of JICA for concurrence.

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>2)-b) Support for regional development planning To establish a spatial data base unit in BAPPENAS</p> <p>3)-a) Consulting service (I)</p> <ul style="list-style-type: none"> · Detailed design of 1) and 2)-a) above · Tendering assistance of 1) and 2)-a) and 2)-b) above · Supervision for 1) and 2)-a), 2)-b) above and 3)-b) <p>3)-b) Consulting service (II)</p> <ul style="list-style-type: none"> · Development of National Technique Guidance · Development of a regional development scenario, a strategic scenario and an investment plan for one major island in Indonesia · To organize training and workshops for local government officers and university staff members in the region 	<ul style="list-style-type: none"> · With regard to the back-up systems of GIS data center for Disasters Recovery (DRC), a proposed site is to be selected. The site must be more than 60 km away from BIG. · Training for BIG and the 10 participating entities will be carried out according to the progress of installation of equipment. <p>2)-b) Support for regional development planning</p> <p>This component has not been implemented because the budget was cut. The data base unit in BAPPENAS was set up using a part of the equipment used under the Consulting service (II) of the Project.</p> <p>3)-a) Consulting service (I)</p> <p>Detailed design and tendering assistance were completed. Supervision work is on-going.</p> <p>3)-b) Consulting service (II)</p> <ul style="list-style-type: none"> · Consultants have established the data base necessary for the making of a regional development plan by BAPPENAS, the development scenario, Technical Guidance necessary for regional development, and Spatial Dynamic Modeling which predicts the spillover effects of infrastructure investment on the economy by using a computer simulation model. The Technical Guidance will be used as a guide for the preparation of regional development in BAPPENAS. · Because of a large cut in budget, the target islands where training for regional development plans by Spatial Dynamic Modeling was to be conducted were reduced from the original 5 to just Kalimantan and Sulawesi islands. · A workshop for development modeling was carried out in Jakarta.

Item	Ex-Ante Evaluation (2006)		Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)																																																																									
	<p>(2) Project Inputs</p> <p>1) Project Cost (Million yen)</p> <table border="1" data-bbox="465 504 1205 783"> <thead> <tr> <th>Item</th> <th>Total cost</th> <th>Japanese ODA Loan</th> </tr> </thead> <tbody> <tr> <td>Data acquisition</td> <td>1,612</td> <td>1,612</td> </tr> <tr> <td>Data production</td> <td>968</td> <td>968</td> </tr> <tr> <td>NSDI networking system</td> <td>2,282</td> <td>2,282</td> </tr> <tr> <td>Price escalation</td> <td>600</td> <td>600</td> </tr> <tr> <td>Physical contingency</td> <td>273</td> <td>273</td> </tr> <tr> <td>Consulting services</td> <td>638</td> <td>638</td> </tr> <tr> <td>General administration</td> <td>510</td> <td>0</td> </tr> <tr> <td>Tax</td> <td>637</td> <td>0</td> </tr> <tr> <td>Total</td> <td>7,520</td> <td>6,373</td> </tr> </tbody> </table> <p>2) Implementation Schedule</p> <p>a) Selection of consultants</p> <p>From March 2007 to November 2007</p>		Item	Total cost	Japanese ODA Loan	Data acquisition	1,612	1,612	Data production	968	968	NSDI networking system	2,282	2,282	Price escalation	600	600	Physical contingency	273	273	Consulting services	638	638	General administration	510	0	Tax	637	0	Total	7,520	6,373	<p>The consulting services (II) were concluded in July 2011.</p> <p>(2) Project Inputs</p> <p>1) Project Cost (Million yen)</p> <table border="1" data-bbox="1227 504 1966 836"> <thead> <tr> <th>Item</th> <th>Total cost</th> <th>Japanese ODA Loan</th> <th>Actual</th> </tr> </thead> <tbody> <tr> <td>Data acquisition</td> <td>1,612</td> <td>1,612</td> <td>2,225</td> </tr> <tr> <td>Data production</td> <td>968</td> <td>968</td> <td></td> </tr> <tr> <td>NSDI networking system</td> <td>2,282</td> <td>2,282</td> <td>1,968</td> </tr> <tr> <td>Price escalation</td> <td>600</td> <td>600</td> <td>—</td> </tr> <tr> <td>Physical contingency</td> <td>273</td> <td>273</td> <td>—</td> </tr> <tr> <td>Consulting services</td> <td>638</td> <td>638</td> <td>CS-(I) 363 CS-(II) 186</td> </tr> <tr> <td>General administration</td> <td>510</td> <td>0</td> <td>—</td> </tr> <tr> <td>Tax</td> <td>637</td> <td>0</td> <td>—</td> </tr> <tr> <td>Total</td> <td>7,520</td> <td>6,373</td> <td>4,742</td> </tr> </tbody> </table> <p>("Actual" shows the Japanese ODA loan portion only as of August 31, 2012 based on the JICA procurement monitoring sheet. The additional contract for NSDI system is not included here.)</p> <p>So far the Project has been implemented within the estimate for each item. Even including the additional contract for the expansion of the GIS data center, the total cost is covered within the Japanese ODA loan amount.</p> <p>2) Implementation Schedule</p> <p>a) Selection of consultants</p> <p>Consultant (I): Detailed design, Tendering Assistance, Supervision of implementation</p> <p>From March 2007 to May 2008</p>				Item	Total cost	Japanese ODA Loan	Actual	Data acquisition	1,612	1,612	2,225	Data production	968	968		NSDI networking system	2,282	2,282	1,968	Price escalation	600	600	—	Physical contingency	273	273	—	Consulting services	638	638	CS-(I) 363 CS-(II) 186	General administration	510	0	—	Tax	637	0	—	Total	7,520	6,373	4,742
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	<p>b) Consulting services From December 2007 to June 2013 With regard to Consultant (II): From August 2008 to December 2009</p>	<p>Consultant (II): Support services necessary for the making of a regional development plan by BAPPENAS, Elaboration of a regional development model From March 2007 to March 2010</p> <ul style="list-style-type: none"> · From March 2007 to April 2008: Delay was caused by an incident in which the original consulting firm was involved with subsequent legal action in Japan. The consulting firm declined the contract and re-bidding took place. · From August 2008 to March 2010: Since the highest evaluated proposal could not meet technical demands, re-re-bidding was called. <p>Consultants (I) and (II) were originally scheduled to procure at the same time. However, as a result of the delay, consultant (II) was procured 3 years and 4 months behind the original schedule which had been set at the time of the ex-ante evaluation.</p> <p>b) Consulting services Consultant (I): From June 2008 to January 2014 (schedule) Since the consulting services started late, their completion will be late also depending on the progress of the development of geo-spatial data.</p> <p>Consultant (II): From April 2010 to July 2011 (completed)</p> <p>Consultant (I) started with a 6 months delay from the original schedule and completion will be delayed by 7 months from the January 2013 date of the ex-ante evaluation. Consultant (II)</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>c) Bidding and contract From June 2007 to June 2009</p> <p>d) Data acquisition From August 2009 to July 2011</p>	<p>completed its services with a one year and 7 months delay compared to the original schedule.</p> <p>c) Bidding and contract</p> <ul style="list-style-type: none"> · Acquisition of Geo-spatial data: From January 2009 to December 2010 3 (Three) firms participated in the pre-qualification (hereinafter "PQ") but only 1 (one) firm passed PQ. Re-PQ was required and this caused delay. · Development of NSDI system: From February 2009 to December 2010 3 (Three) firms participated in PQ but only 2 (two) firms passed PQ. Re-PQ was required and this cause delay. The ex-ante evaluation estimated that the contract would be concluded in June 2009. There was a delay of one year and 6 months. <p>d) Data acquisition From April 2011 to December 2012 (schedule) It is indispensable that data is acquired by airplane for the production of the 1:50,000 map. It took a long time for officials in the relevant agencies in Indonesia to understand the need for the use of a foreign airplane with a foreign pilot. Because of this, there was a 6 (Six) months delay in obtaining flight permission. There was a further 3 (Three) months delay in obtaining flight permission because the original permission was applicable to each province only and did not cover the borders between provinces. At the time of the ex-ante evaluation data acquisition would be complete in July 2011. There will be a one year and 5 months delay</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>e) Data production From January 2010 to December 2012</p> <p>f) NSDI networking system From August 2009 to June 2013</p> <p>g) Guarantee period From July 2013 to June 2014</p> <p>(3) Internal Rate of Return Quantitative analysis of the Internal Rate of Return is difficult as this project is aimed at contributing to the formulation of plans for development projects rather than at the generation of direct benefits.</p>	<p>from the original schedule for the completion of data acquisition at this moment.</p> <p>e) Data production From October 2011 to June 2014 (schedule) The 9 months delay in the acquisition using Airborne IFSAR technology for the development of basic map affected data production. The acquired data has been validated in the field. In order to catch up with the original schedule, the contractor has increased the number of operators. At the time of the ex-ante evaluation, data production was to be complete in December 2012. There will be a one year and 6 months delay compared to the original schedule.</p> <p>f) NSDI networking system From January 2011 to February 2014 (schedule) Since the expansion of the GIS data center was ordered as an additional contract, the completion of NSDI networking system will be extended by 9 months from the original date of June 2013 which was scheduled at the ex-ante evaluation</p> <p>g) Guarantee period From February 2014 to February 2015 (schedule) (Maintenance period will be up to May 2015)</p> <p>(3) Internal Rate of Return Because of difficulties in quantitative analysis, IRR has not been calculated.</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Lessons learned and Recommendations	<p>Recommendations to the JICA operation</p> <p>(1) Understanding of the Procurement Guidelines of JICA</p> <p>The Indonesian executing agency lacks an understanding of the procurement rules stipulated in the Loan Agreement (L/A) which shall take precedence over the national procurement rules, if any procurement rule in Indonesia is in conflict with the provision of L/A. Under the Indonesian procurement rules, if there are not more than 3 entities who passed the prequalification (PQ), PQ should be re-executed. Under JICA's Guidelines for Procurement under Japanese ODA Loans even if one entity should pass PQ, such an entity is regarded as qualified through competition. Such executing agencies as have received several Japanese ODA loans have no problem with the procurement procedures with JICA. Therefore JICA should confirm the contents and method of procurement with the executing agency before it starts procurement. In addition, JICA should give some tips on understanding its procurement guidelines and procedures to any executing agency like BIG who is receiving its first Japanese ODA loan.</p> <p>(2) Procurement Appraisal</p> <p>With regard to geo-spatial business, the number of firms who participate in the market is very limited. Under such circumstances there is a need for verification of whether or not it is necessary to conduct PQ. JICA should study in advance the procurement method and international business and market conditions, taking into account consistency between the requirements of the STEP loan, such as ratio of Japanese origin of goods and services to be procured, and the needs of the executing agency who wants to use the common equipment and software used so far and who wants to receive technical transfer from Japanese firms. Otherwise, a project will be delayed at the procurement stage of PQ or at bidding due to unexpected coordination. In the process of project formation, not only for STEP loans but also for other Japanese ODA loan projects, procurement issues may have not been sufficiently discussed between JICA and executing agencies. Therefore it is necessary for JICA to make an appraisal specifically for the procurement aspect on a case by case basis.</p> <p>(3) What a STEP loan should be</p> <p>A STEP loan is provided selectively on a tide basis taking into consideration the advantages of the technical aspects, high quality etc. of Japanese firms which are highly appreciated in the world market. In the case of system design, such as in this Project, which has great promise in future, JICA's cooperation through a STEP loan should not be transient but should include a follow-up stage after the completion of the Project. The Project covers the development of NSDI system only, but at the operation stage the system will form a large network, including not only central government agencies but also local governments and universities. In the case of projects to be assisted by STEP loan which have the possibility of greater impact in future, JICA's cooperation should be not only to support the basic system or the production base but also to maintain cooperative relations, including technical support, with the agencies relevant to the projects. Through this kind of continuous support the reliability of Japanese technology and equipment can be expected to be further strengthened.</p>	

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)						
Indicators for the Ex-post Evaluation	<p>Indicators assumed at the Ex-ante Evaluation</p> <p>(1) The number of request to the Geo-spatial data of Sumatra Island, which is created under the Project</p> <p>(2) The number of newly registered meta data in NSDI Networking System</p>	<p>The following can be added as an indicator.</p> <p>(3) The number of entities to be connected to NSDI system</p> <p>From the point of view of the effective use of NSDI system, it is expected that many entities will connect to the system. The Presidential Regulation No.85 will enhance the dependence of BIG data in future.</p> <table border="1" data-bbox="1234 571 1975 651"> <thead> <tr> <th data-bbox="1234 571 1603 600">Indicator</th> <th data-bbox="1603 571 1787 600">Baseline (2006)</th> <th data-bbox="1787 571 1975 600">Target (2014)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1234 600 1603 651">No. of entities to be connected to NSDI system</td> <td data-bbox="1603 600 1787 651">0</td> <td data-bbox="1787 600 1975 651">10</td> </tr> </tbody> </table> <p>Note: The system is subject to operation in June 2014. The 10 entities in the "Target" mean the original participating entities.</p>	Indicator	Baseline (2006)	Target (2014)	No. of entities to be connected to NSDI system	0	10
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No. of entities to be connected to NSDI system	0	10						

Mid-Term Review Report of Japanese ODA Loan Project for FY2012

External Evaluator: Tadayuki Kanazawa (OPMAC Corporation)
Field Study: October-November 2012

Project Name: Mozambique “Montepuez-Lichinga Road Project” (L/A No. MZ-P1)

[Project Description]

Loan Amount / Disbursed Amount : 3,282 Million Japanese Yen / 1,037 Million Japanese Yen (as of the end of July 2012)
Loan Agreement Signing Date : March 2007
Original Date of Project Completion : August 2011
Executing Agency : National Roads Administration/ANE
Operation and Maintenance Organization : National Roads Administration/ANE

[Project Objectives]

The objective of this Project is to increase transport capacity and improve access to distribution bases by widening and improving the national road between Montepuez in Cabo Delgado province and Lichinga in Niassa province, in northern Mozambique, thereby improving the livelihood of local residents and contributing to the revitalization of the local economy and poverty reduction.

Consultant : Aurecon AMEI/Studi JV (previously called Ninham Shand & Studi), South Africa (Lot A)
SNC LAVALIN in association with COB and Consultec, Canada (Lot C)
Contractor¹ : CMC/CMCAA Co. Ltd. JV, Italy (Lots A and C)

¹ The names and nationalities of consultants and contractors are entered only when they have been made public in JICA’s annual statistical report, “List of Names of Major Companies and their Contract Amount of Japanese ODA Loan” (these are names for which the contract amount is not less than 1 billion Japanese Yen for contractors and not less than 100 million Japanese Yen for consultants were entered). Where the names have not been entered in JICA’s annual statistical report, they are described only as “local contractors/consultants” or “Japanese contractors/consultants”. These names can be provided by JICA.

Item	Ex-ante Evaluation (2007)	Mid-term Review results and Ex-post Evaluation results estimated at the time of Mid-term Review (2012)
Relevance	<p>(1) Relevance to Development Policy</p> <p>In 1991, the Government of Mozambique (GOM) launched the 10year Roads and Costal Shipping Projects (ROCS) to strengthen the transport infrastructure. Under the 3rd ROCS (ROADS-3), the Road Sector Strategy (RSS) 2007-2011 has been implemented. In order to implement the RSS effectively in cooperation with donors, GOM initiated a sector-wide approach (SWAP) and drafted a code of conduct in January 2007. The draft code of conduct (DCC) provides a three-year implementation program to be materialized through the donor cooperation. The DCC requires that all the donors intending to provide assistance in the road sector should prioritize assistance to those projects listed in the RSS.</p> <p>(2) Relevance to Development Needs</p> <p>Mozambique road development is far behind other developing countries due to the prolonged civil war. The per capita road density is 0.02km/m² in Mozambique, compared with 0.2km/m² in average in the other developing countries. The road pavement ratio is as low as 20%, and the east-west road corridor is in particular low. The improvement of the east-west corridor is, therefore, essential in view of the integrated regional development. GOM considers that the investment in construction and maintenance in the road sector is vitally important to achieve regional integration,</p>	<p>(1) Relevance to Development Policy</p> <p>Road Sector Strategy (RSS) 2007-2011 has been updated as RSS 2012-2014(ROADS-4). In order to implement the ROADS-4, an Integrated Programme for Roads Sector (PRISE) was prepared and presented to the annual donors meeting held on October 11, 2012. According to ANE, PRISE is a three-year road project implementation program for 2012-2014, which designates the northern provinces as one of the prioritized areas. Since GOM is planning to continue road improvement projects in cooperation with the donors, the Project is considered relevant to the current GOM development policy. In addition to Montepuez-Lichinga and Nampla-Cuamba corridor projects, which are under implementation, GOM is planning to prioritize the implementation of Lichinga-Cuamba road project. GOM is also attempting to secure funds from AfDB to prepare a program for the improvement of secondary and feeder roads linking the national and provincial roads in 2013. GOM has successfully applied for a grant from AfDB toward the feasibility and detailed engineering design of a road linking Mueda –Nagomane. The Project is therefore considered relevant in terms of current GOM development policy.</p> <p>(2) Relevance to Development Needs</p> <p>Niassa and Cabo Delago provinces are behind in terms of infrastructure development and poverty ratio, compared to the other provinces. GOM considers it important to improve the transport system to accelerate agricultural produce in these provinces, and prioritizes the improvement of the northern corridor. As part of the northern corridor, the Project is considered important in the context of connectivity with the other part of the northern corridor. The Project is therefore considered relevant to the current development needs.</p>

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	<p>economic development and provision of access to basic social services in view of the poverty mitigation, in particular, for Niassa and Cabo Delgado provinces in the northern region, which suffer from enormous lack of road infrastructure. GOM has prepared a poverty alleviation strategy called PARPA II 2006~2009, in which the basic infrastructure and the regional development are considered crucial for the poverty alleviation.</p>																																							
Effectiveness	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="472 746 1196 943"> <thead> <tr> <th colspan="2">Indicator</th> <th>Baseline (2005)</th> <th>Target (2010, at completion)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Annual average daily traffic volume (vehicles/day)</td> <td>Mt - Bl Section (54km)</td> <td>264</td> <td>611</td> </tr> <tr> <td>Bl - Lt Section (81km)</td> <td>204</td> <td>518</td> </tr> <tr> <td>Lt - Lc Section (66km)</td> <td>130</td> <td>401</td> </tr> <tr> <td colspan="2">Vehicle operation cost saving (USD/unit/km)</td> <td>0.443</td> <td>0.222</td> </tr> <tr> <td colspan="2">Time saving (opportunity cost: USD/day)</td> <td>192</td> <td>110</td> </tr> </tbody> </table> <p>Note: Mt: Montepuez; Bl: Balama; Lt: Litunde; Lc: Lichinga</p>	Indicator		Baseline (2005)	Target (2010, at completion)	Annual average daily traffic volume (vehicles/day)	Mt - Bl Section (54km)	264	611	Bl - Lt Section (81km)	204	518	Lt - Lc Section (66km)	130	401	Vehicle operation cost saving (USD/unit/km)		0.443	0.222	Time saving (opportunity cost: USD/day)		192	110	<p>(1) Quantitative Effects <u>Operation and Effect Indicators</u></p> <p>The projections for the target year have not been revised until the time of the mid-term review (MTR).</p> <table border="1" data-bbox="1218 746 1964 943"> <thead> <tr> <th colspan="2">Indicator</th> <th>Mid-Term Review (Oct. 2012)</th> </tr> </thead> <tbody> <tr> <td rowspan="3">Annual average traffic volume (vehicles/day)</td> <td>Mt - Bl Section (54km)</td> <td>375</td> </tr> <tr> <td>Bl - Lt Section (81km)</td> <td>113</td> </tr> <tr> <td>Lt - Lc Section (66km)</td> <td>210</td> </tr> <tr> <td colspan="2">Vehicle operation cost saving (USD/unit/km)</td> <td>0.340</td> </tr> <tr> <td colspan="2">Time-saving (opportunity cost: USD/day)</td> <td>165</td> </tr> </tbody> </table> <p>Sources: ANE Note: Mt: Montepuez; Bl: Balama; Lt: Litunde; Lc: Lichinga</p> <p>No major change is noted in the traffic volumes from baseline, although the quantity shown for MTR is the result of one time survey, not an annual average. The decrease of traffic volume in Balama and Lichinga section is because of their inland location far from town areas. ANE and the Project consultant anticipate that the traffic will significantly increase when the local economy becomes active after the Project is completed.</p>	Indicator		Mid-Term Review (Oct. 2012)	Annual average traffic volume (vehicles/day)	Mt - Bl Section (54km)	375	Bl - Lt Section (81km)	113	Lt - Lc Section (66km)	210	Vehicle operation cost saving (USD/unit/km)		0.340	Time-saving (opportunity cost: USD/day)		165
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	<p>(2) Qualitative Effects (a) Improved road transport network, trade activation, improved access to social services(education and/or health facility), improved livelihood of the local population, economic development of the inland region and mitigation of regional gap, etc.</p> <p>(3) Impacts There is nothing to mention.</p> <p>(4) Other items influencing effectiveness (a) Project implementation structure, technical and financial aspect of the Executing Agency National Roads Administration (Administracao National de Estradas/ANE) is the Project Executing Agency. ANE's Directorate for National Roads has 29 staffs, of whom 24 staffs are civil engineers. According to AfDB project completion report for Pemba-Montepuez Road Project, July 2002, ANE's capacity for project implementation was assessed adequate, and therefore there will be no major problem for implementing the Project. Necessary funds for project implementation will be financed from the Road Fund, government budget and the participating donors. It is part of the loan conditions that project local cost should be financed from the Road Fund.</p>	<p>(2) Qualitative Effects The qualitative effects anticipated at ex-ante evaluation will be viable, given that needs for regional economic development and livelihood improvement remain unchanged in the region from those assessed at ex-ante evaluation. In view of increased economic activities in the northern part of Mozambique, the Project will contribute as basic infrastructure to enhance economic activities and local transport for the population and goods in the region.</p> <p>(3) Impacts Same as (2) Qualitative Effects</p> <p>(4) Other items influencing effectiveness (a) Project implementation structure, technical and financial aspect of the Executing Agency The capacity of ANE, Executing Agency (EA) in terms of organization and the numbers of staff and engineers remains basically unchanged from the time of ex-ante evaluation. While ANE's key staff are well qualified and experienced, the number of qualified staff is still insufficient to absorb the current workloads. There are three full-time persons assigned in the Project Management Unit (PMU). While they are all well qualified, the PMU Head is held responsible for handling the other projects being implemented over the country. Even the project coordinator for the Project is responsible to supervise several projects within the northern corridor. Under these circumstances, it appears that sufficient person-time is not allocated to handle various implementation issues that the Project has been encountering and to coordinate with AfDB in a timely manner. As for financing arrangements, sufficient funds have been so far allocated for the Project from the Road Fund, given that the Project is</p>

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	<p>(b) Cooperation with NGO, universities, etc. There is nothing to mention.</p> <p>(c) Cooperation with Japanese grant aid and/or technical cooperation No mention</p> <p>(d) Cooperation with other donors According to the financing plan, the AfDB and JICA are to jointly co-finance with GOM the road works and consulting services for Lots A and C. SIDA will co-finance as grant to GOM the road works and consulting services under Lot B. SIDA will also entirely finance road safety and GOM will finance the</p>	<p>designated as one of the important national projects. The cost overrun was resolved by a supplementary loan from AfDB, which was signed between GOM and AfDB in September 2010. The supplementary loan agreement stipulates that GOM will absorb further cost overrun, if happens. The GOM's position for this arrangement will remain the same as in November 2012.</p> <p>(b) Cooperation with NGO, universities, etc. There is nothing to mention.</p> <p>(c) Cooperation with Japanese grant aid and/or technical cooperation “The Project for the Capacity Development of Road Maintenance in the Republic of Mozambique” (hereafter “TC”) is now under implementation under JICA technical cooperation. The TC aims to develop the capacity of ANE staff concerned with road maintenance work. It will help ANE develop field inspection and O&M planning techniques in a model area and establish an adequate O&M mechanism for paved road maintenance. The TC will contribute to ANE for O&M of the roads completed under the Project. The implementation of the TC is from August 2011 to July 2014. The team is assigned in the ANE Road Maintenance Division. Under the Program, several ANE engineering staffs including General Director were dispatched to Japan for road maintenance training once in a year.</p> <p>(d) Cooperation with other donors The Project is jointly co-financed by AfDB and JICA. JICA's project implementation supervision has been delegated to AfDB, and therefore Japanese ODA loan disbursements to ANE is made subject to AfDB's prior review and payment to the clients. At the time of MTR, Japanese ODA loan disbursement ratio stands at as low as 35%,</p>

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	<p>resettlement and compensation costs. Audits services for Lots A and C will be financed by AfDB.</p> <p>(e) Effect on the natural environment</p> <p>In accordance with JBIC Guidelines for Confirmation of Environmental and Social Consideration, April 2002, the Project belongs to Category "A." The Environmental Impact Assessment (EIA) was prepared and approved in September 2006.</p>	<p>while 5 years has passed since the loan signing. The major reason behind this was said to be delays in payment to the contractor by AfDB. However, AfDB, ANE and the consultant attribute the delayed payment by AfDB mainly to: (a) the poor quality of contractor's invoices, and (b) different interpretation of condition of contract for contract price adjustment (CPA) and price indices used by the contractor. Namely, the contractor includes, in addition to the base cost, the CPA amount calculated by applying certain price indices, with which AfDB was unsatisfied and rejected the payment.</p> <p>SIDA is financing as grant for the implementation of Lot B: Ruaca-Marrupa section. According to ANE report, the implementation progress of Lot B was 31% as in November 2012.</p> <p>(e) Effect on the natural environment</p> <p>ANE has the Cross Cutting Unit, which is responsible for handling all cross cutting issues including environmental and social issues. Environment Impact Assessment (EIA) was conducted by ANE Cross Cutting Unit with assistance by the consultant before the construction work, and the EIA report was submitted to all the agencies concerned including AfDB. Given a limited number of inhabitants living along the project sites and the works being implemented along the existing road alignment, negative impact to the social and natural environment is considered minimal. According to AfDB Project appraisal report, the Project will be implemented in accordance with Environmental and Social Management Plan (ESMP). Under the ESMP, the contractor is required to dispatch an environmental expert, but is yet to be materialized. To date, no report on environmental monitoring has been submitted by the contractor. ANE has been requesting the contractor to field the environmental expert and submit the report as required.</p>

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	<p>(f) Land acquisition The Project will involve the resettlements of 72 resident households. The resettlements and compensations will be undertaken in accordance with the GOM law.</p> <p>(g) Operation and maintenance structure and the technical and financial aspects of the executing agency Maintenance of national roads is under the responsibility of ANE, which engages local contractors and supervises the performance of the contractors for maintenance works through its 10 regional offices. The road section to be financed by JICA will be under the responsibility of Cabo Delgado and Niassa offices. In order to undertake O&M works in an efficient manner, ANE is improving its road database. The O&M capacity of ANE is considered adequate given its capacity strengthened under a World Bank (WB) technical assistance.</p>	<p>(f) Land acquisition Due to changes in road alignments in preparation of detailed design, a resettlement action plan (RAP) 2003 was revised and approved by ANE and AfDB. The land acquisition and resettlement under the Project have therefore been implemented in accordance with the revised RAP. To date, the land acquisition for AfDB financed section (Lots A and C) of Montpuez-Lichinga section totaled at 1,843 ha and the affected resident households at 1,284, of which 799 resident households have been resettled. The resettled resident households in Lot A: Montpuez-Ruaca section was 158 resident households. The RAP was prepared in accordance with GOM land law and its involuntary resettlement policy.</p> <p>During the site visit, the MTR mission had interviews with several affected resident households and found that they were all satisfied with the arrangements for compensation and the relocated places. A monitoring structure for land acquisition and resettlements has been established. The land acquisition and resettlements were undertaken in accordance with the RAP and the reports were prepared.</p> <p>(g) Operation and maintenance structure and the technical and financial aspects of the executing agency ANE has a total of 472 staff, of which 15 staffs are assigned for maintenance. Since 1992, ANE has been developing its capacity for road improvement and maintenance through assistance by various donors including World Bank (WB) and AfDB. However, it is actually the case that road maintenance data are mostly kept by consultants who have been engaged for maintenance services.</p>

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		<p>(h) ANE is furthering to outsource road maintenance works in the private sector. ANE is in the process of selecting a contractor who will be engaged for the maintenance works in the pilot project for maintenance of N1 road between Pambara and Rio Save. The project is financed through WB technical assistance program. The WB technical assistance also provides assistance to ANE in strengthening its Highway Information Management System (HIMS) through data gathering and staff training. With these assistance programs, the ANE capacity for O&M will be strengthened. However, strengthening the capacity of local contractors including mobilization of equipment, materials and funds is essential to proceed with outsourcing O&M works. ANE intends to strengthen the capacity of local contractors with external donors including WB.</p> <p>(i) HIV/AIDS and Traffic Accident Prevention Programs</p> <p>In order to avoid increased cases of HIV/AIDS and traffic accidents as a result of the implementation of the Project, awareness campaign and medical check-up programs are envisaged. As scheduled, a HIV/AIDS services provider was dispatched by the consultant. With cooperation of the service provider and local government officers, ANE has carried out public awareness programs for local communities.</p> <p>Traffic accident prevention program is conducted under a road safety component financed by SIDA. Under the program, the communities in the zone of influence are re-oriented through awareness campaigns on road utilization, the importance of following road signs and other road furniture.</p> <p>(j) Gender Consideration</p> <p>As requested by ANE, the contractor has engaged female workers</p>

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		<p>in carrying out construction works. The number of local workers mobilized in the works is given by gender in the consultant progress reports. As at August 2012 when the construction works were basically suspended, the number of female works was 16 out of about 190 workers in total.</p>
Efficiency	<p>(1) Outputs (a) Civil Works 1) Montepuez-Ruaca (135km) road expansion and pavement (Lot A)</p>	<p>(1) Outputs (a) Civil Work 1) As a result of bidding where the lowest bid for civil work was much higher than that estimated at ex-ante evaluation, the scope of Japanese ODA loan was limited only to Lot A: Montepuez-Ruaca section (135km) for road widening and pavement works after JICA's concurrence dated March 2011. Lot A consists of the following 3 sections: Section I : Montepuez-Balama (55km) Section II : Balama-Kwekwe (30km) Section III : Kwekwe-Ruaca (50km)</p> <p>As at the time of MTR, the physical progress of civil works was 20.5%. Namely, the progress of construction works for Section I is estimated at 60-70% with completion of soil foundation and base course while bridge and culvert construction is still under way, whereas almost no progress except landmine removal was noted for Sections II and III. The overall progress is therefore significantly delayed. The completion of the Project is expected to be much later than November 2012 originally estimated.</p> <p>A limited capacity of the contractor is considered one of the reasons for delays. ANE and AfDB viewed that the volume of works that the contractor has in his hand far exceeds his capacity and therefore he is</p>

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	<p>2) Litunde-Lichinga (66km) road expansion and pavement (Lot C-I)</p> <p>3) Marrupa-Litunde 5 bridges and 2 box culverts construction (Lot C-II)</p> <p>4) Ruaca-Marrupa (68km) road expansion and pavement (Lot B: SIDA portion)</p> <p>(b) Consulting Services</p> <ul style="list-style-type: none"> · Assistance for bid processing, construction supervision, etc · Project audit services (AfDB) · Traffic safety provision (SIDA) 	<p>unable to allocate such resources (equipment, materials and laborers) as necessary for the Project. However, ANE indicated its satisfaction with the quality of the works the contractor has produced.</p> <p>2) and 3)</p> <p>As stated above, Lots C-I and C-II: Litunde-Lichinga section were excluded from Japanese ODA loan, and therefore are implemented through AfDB supplementary loan with GOM. The contract for Lot C has been already awarded to the same contractor as for Lot A. The work for Lot C is at preliminary stage (survey and marking), while advance payment has been already made.</p> <p>4) Lot B: Ruaca-Marrupa section (68km) is financed by SIDA. ANE reported that the progress for Lot B is 31%.</p> <p>(b) Consulting Services</p> <p>As a result of exclusion of civil works under Lots C-I and C-II from Japanese ODA loan, the loan has been provided for consulting services for detailed design and bid processing for Lots A, C-I and C-II, but not for construction supervision for Lot C-I and C-II. The construction supervision services for Lot A are co-financed by JICA and AfDB with GOM. The consulting services for construction supervision of Lot C-I and C-II are financed by AfDB with GOM.</p> <p>According to ANE, they requested to exchange the team leader of the consultants because of their poor performance. The performance of the consultants is in general satisfactory since the team leader was replaced in June 2012. However, AfDB has viewed that the consultant is lack of professionalism, only reporting the progress of works and accepting contractor's proposed design changes and invoices as they were. AfDB also viewed that insufficient review and checking of</p>

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	<p>(2) Inputs</p> <p>(a) Project Cost: 3,282 million Japanese Yen</p> <ul style="list-style-type: none"> · Civil Works: 2,762 million Japanese Yen · Consulting Services: 208 million Japanese Yen · Contingencies: 312 million Japanese Yen <p>(b) Implementation Period: November 2006-August 2011 (57 calendar months)</p>	<p>contractor's invoices by the consultant was part of the reasons that resulted in delayed payment to the contractor, and subsequently the contractor withdrew their resources from the site, leading to further delays in the implementation.</p> <p>(2) Inputs</p> <p>(a) Project Cost</p> <p>Due to global inflation that happened during 2007-2008, the bid prices for the civil work in 2009 exceeded the estimated cost at ex-ante evaluation by about 80%. Accordingly, JICA agreed to reallocate unallocated contingencies amounting to 290 million Japanese Yen to the civil work out of 3,282 million JPY as requested from ANE. At the time of MTR, the Japanese ODA loan proceeds are allocated as follows:</p> <ul style="list-style-type: none"> · Civil Work: 3,052 million Japanese Yen · Consulting Services: 230 million Japanese Yen · Contingencies: 0 <p>Due to delays in the civil work, another cost overrun coupled with CPA adjustments and interest for delayed payment to the contractor is likely.</p> <p>(b) Implementation Period</p> <p>The loan agreement was signed on 19 March 2007 and became effective on 14 November 2007. The loan expiry date is 14 November 2013. The selection of contractor for civil work started in 2009 and concluded in May 2010. The contractor commenced the work in June 2010 with the date of completion in November 2012 under the contract between ANE and the contractor. However, as at MTR, the progress of physical work is only 20.5%, far behind the schedule</p>

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		<p>under the contract.</p> <p>According to the contractor, the major reason for this delay is due to delayed payments to the contractor from AfDB. For this reason, the contractor suspended almost all the construction works and withdrawn workers and equipment from the construction sites from February to August 2012. Upon the receipt of almost all pending payments in August 2012, the contractor has gradually resumed the construction works since September 2012. However, with the rainy season to come, the progress rate at the moment is only about 30% of the normal work rate.</p> <p>According to information from the parties concerned, the delay in project implementation was also attributed to the following:</p> <ul style="list-style-type: none"> a. Front-end delays such as land acquisition and resettlements, employment of a contractor, removal of landmines, etc. b. Cost overrun due to the bid price exceeding the estimated cost at ex-ante evaluation by 80% c. Poor performance of the consultant d. Limited capacity of the contractor e. Limited number of ANE staff members concerned f. Delays in AfDB processing invoices from the consultant and the contractor, resulting in delayed payments by the donors g. Major changes in design h. Adverse weather conditions <p>Major changes in design works were made as during the feasibility study no removal of land mines was made and the conceptual design was prepared based on aerial photos, and therefore, there were a number of sites where the conceptual design did not match actual site conditions. Accordingly, the alignment and elevation of the roads were changed from those prepared at F/S. In addition, base course has</p>

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	<p>(3) Internal Rate of Return</p> <p><u>Economic Internal rate of Return (EIRR)</u> Overall: 19.6% Lot A Montepuez - Balama Section: 20.02% Lot A Balama - Ruaca: 18.53% Cost: Project cost excluding local taxes, administration and operation costs Project Benefits: vehicle operation cost saving, reduced travel time</p>	<p>been changed to 2-layer crush stone construction from single layer cement mixed crush stone construction to lower the cost of construction.</p> <p>On 26 November 2012, ANE hold a tripartite meeting to discuss various issues facing the Project. As a result, ANE found it essential to accept the extension of the completion date to September 2014 (delays by 22 months) and sent a letter to AfDB for approval on 27 November 2012 to extend the Project Completion Date until 30 September 2014.</p> <p>(3) Internal Rate of Return</p> <p>Economic internal rate of return (EIRR) has been recalculated by AfDB, due to changes in scope works (cf. Lot. A) made on 1 March 2009. The recalculated EIRRs are as follows:</p> <p><u>Economic Internal rate of Return (EIRR)</u> Overall: 19.6% Lot A Montepuez - Balama Section: 12.8% Lot A Balama - Ruaca: 16.4%</p> <p>These EIRRs are considered valid while both ANE and AfDB have not updated the calculations since the change in scope was made.</p>

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Lessons learned and Recommendations	<p data-bbox="472 341 667 368">[Lessons learned]</p> <ul style="list-style-type: none"> <li data-bbox="472 373 1989 536">· The project implementation period was estimated at 30 calendar months at appraisal. Given, however, the amount of works, needs of major changes or modification of conceptual designs prepared at F/S, and adverse geographical conditions to transport equipment and materials to the site, the estimated number of months at appraisal appears insufficient. During project appraisal, the implementation period for inland civil work should be determined taking fully into account the local conditions such as location, means of transport, likeliness of design changes, etc. <li data-bbox="472 541 1989 735">· A limited number of qualified civil work contractors available in Mozambique are a problem in the construction industry. This has affected the implementation of the Project. In order to develop the capacity of local contractors as a whole, participation of Japanese contractors in the construction industry in the country will be one solution. For the countries where the capacity of local civil work contractors needs to be strengthened, consideration should be placed on Japanese ODA loan to facilitate Japanese contractors' in participating construction works or technical assistance programs, such that technology transfer, etc. are made to the local construction industry. <li data-bbox="472 740 1989 871">· The Project is jointly financed by JICA and AfDB. JICA has two co-financing schemes, joint financing and parallel financing. While there are pros and cons for each scheme, the use of parallel financing scheme may be considered appropriate in case that the capacity of the co-financing partner appears weak. In case of the parallel financing, JICA needs to administer the project implementation supervision by itself, for which JICA may wish to strengthen its organization and staffing. <p data-bbox="472 908 920 935">[Recommendations to JICA/AfDB/ANE]</p> <ul style="list-style-type: none"> <li data-bbox="472 940 1989 1134">· The limited capacity of the consultant and the contractor to carry out the works under their contracts is considered a major reason for the delayed progress of the project after the procurement. However, lack of communication among ANE, the consultant, the contractor and the donors, mainly AfDB, mutual distrust, and minimal effort to resolve issues by the parties concerned have exacerbated the situation. It is therefore recommended that a tripartite meeting including AfDB representative is held as soon as possible to discuss and resolve all issues. The discussions and agreements reached during the meeting should be recorded in the minutes of meeting and signed by the representatives of all the parties concerned. <li data-bbox="472 1139 1989 1238">· The contractor stated that delayed payment by the donors attributed to the delays in their construction work. The interpretation of conditions of contract for CPA differs among ANE, the contractor and the donors, and it also should be discussed and agreed at the tripartite meeting. <li data-bbox="472 1243 1989 1342">· The contractor has neither mobilized a person responsible for environment nor prepared an environmental monitoring report as required under the contract. ANE should strongly request the contractor to do it. In case that the contractor fails to respond, ANE should consider the recruitment of another party to handle the environmental aspect. 	

Item	Ex-ante Evaluation (2007)	Mid-term Review results and Ex-post Evaluation results estimated at the time of Mid-term Review (2012)
	<p>[Recommendations to JICA]</p> <ul style="list-style-type: none"> · JICA has delegated its responsibility for project implementation supervision to AfDB. Given that AfDB's insufficient project supervision is part of the reasons for the delays in project implementation, it is recommended that JICA always participates in AfDB review activities, express its view and present its ideas to resolve various issues cooperatively with AfDB members. · It is likely that the completion of the Project will result in another substantial cost overrun. The use of the unallocated fund, if any, should be considered, only in case that GOM is unable to absorb the overrun and requests JICA for reallocation. 	
Indicators for the Ex-post Evaluation	<p>Indicators established at the ex-ante evaluation</p> <ol style="list-style-type: none"> (1) Average annual daily traffic (unit/day) (2) Reduced vehicle operation cost (USD/unit · km) (3) Reduced travel time (opportunity cost: USD/day) (4) Economic Internal Rate of Return (EIRR) (%) 	<p>No change is needed for the indicators established at the ex-ante evaluation.</p>

Mid-Term Review Report of Japanese ODA Loan Project for FY2012

External Evaluator: Tadayuki Kanazawa (OPMAC Corporation)
Field Study: October-November 2012

Project Name: Egypt “Environmental Pollution Abatement Project” (EPAP II) (L/A No.EG-P29)

[Project Description]

Loan Amount / Disbursed Amount : 4,720 Million Japanese Yen / 2,298 Million Japanese Yen (as of 30 November 2012)
Loan Agreement Signing Date : May 2006
Original Date of Project Completion : August 2011
Project Completion after Review : August 2014
Loan Expiry Date : August 2014
Executing Agency : Egyptian Environmental Affairs Agency (EEAA)
Operation and Maintenance Organization : Project Management Unit (PMU) within EEAA is responsible for technical and financial management of project implementation in cooperation with National Bank of Egypt (NBE). Under Two Step Loan: TSL scheme, NBE is the apex bank to finance participating enterprises for investing in their sub-projects together with the other participating commercial banks. NBE is responsible for reporting to the PMU on the status of its fund utilization including those of the other participating banks.

[Project Objectives]

The Project aims at abating pollutants emitted by factories in Greater Cairo (Qalyobia Governorate in particular) and the Alexandria Area by providing finance by way of local intermediary financial institutions to enable Egyptian firms to install pollution abatement facilities and equipment, thereby contributing to environmental improvement in the target areas.

Consultant : Technical assistance provided by other donors including EIB and the Government of Egypt.
Contractor¹ : Not applicable because of TSL

¹ The names and nationalities of consultants and contractors are entered only when they have been made public in JICA’s annual statistical report, “List of Names of Major Companies and their Contract Amount of Japanese ODA Loan” (these are names for which the contract amount is not less than 1 billion Japanese Yen for contractors and not less than 100 million Japanese Yen for consultants were entered). Where the names have not been entered in JICA’s annual statistical report, they are described only as “local contractors/consultants” or “Japanese contractors/consultants”. These names can be provided by JICA.

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
Relevance	<p>(1) Relevance to Development Policy</p> <p>The Government of Egypt has valued equally both economic development and environment conservation in its Fifth Five-year Plan for Socio-Economic Development (2002-2007). The National Environmental Action Plan of Egypt (2002-2017) prepared in 2002 has placed a priority on such as reducing air and water pollution, and improving industrial pollution especially in the urbanized areas along the Nile River and the Greater Cairo.</p>	<p>(1) Relevance to Development Policy</p> <p>The Fifth Five-Year Plan for Socio-Economic Development (2002-2007) has been updated as the Sixth Five-Year Plan for Socio-Economic Development (2007-2012). The plan aims to achieve high and sustainable economic development and poverty and disparity reduction. It values equally economic development and environmental conservation. The National Environmental Action Plan of Egypt (2002-2017) remains valid, determining that environment conservation with community participation is important for sustainable growth. The first Environmental Law 4/1994 was updated as the Environmental Law 9/2009. Some important changes include:</p> <ul style="list-style-type: none"> · Setting the emission standards with qualitative loads; · strengthening industrial pollution control for the coastal zone; · increasing penalties; · strengthening Environment Impact Assessment (EIA) requirements; · setting compensation requirements that include reparation for the costs of the restoration of the environment to its original state or the rehabilitation thereof; and · extending the definition of environmental pollution to cover “causing damage and/or destruction to natural habitats, or living organisms”. <p>In accordance with the Law 9/2009, EEAA has prepared a policy action for industrial pollution control through the Project. The policy aims to:</p> <ul style="list-style-type: none"> · Promote the use of cleaner fuels and energy conservation; · require the enterprises to obtain environmental assessment by EEAA prior to their investments; · strengthen public disclosure of information; · continue the monitoring of emission to effectively regulate pollutant discharges; and · support introduction of new facilities for environmental conservation to existing pollution hot spots.

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(2) Relevance to Development Needs</p> <p>Egypt suffers from various kinds of pollutions such as air, water and solid waste pollutions due to rapid economic growth and increased population. Pollution is particularly significant in the Greater Cairo area (Cairo, Giza and Qalyobia Governorate) and Alexandria areas (Alexandria and Beheira), where a large number of the population and industrial factories exist. Under the circumstances, a wastewater and polluted air abatement program has been prepared to substantiate the First Five-Year Plan (2002-2007) of The National Environmental Action Plan of Egypt 2002/2017. Reducing polluted air and water emission along the River Nile and the Greater Cairo area is one of the important purposes of the program.</p>	<p>EEAA issued the revised EIA guidelines in January 2009 to control comprehensively the pollution from new investment. Main modifications include requirement for community participation and public disclosure of EIA reports. As stated above, the government policy for environmental pollution has been strengthened, compared with that at the time of the ex-ante evaluation. The Project is, therefore, highly relevant to the current government environment policy.</p> <p>(2) Relevance to Development Needs</p> <p>Environmental pollution in Egypt is still serious, especially with polluted air, wastewater and solid waste. EEAA set up the ambient Air Quality Monitoring Network (AQMN) in 1997 across the country with 87 air-monitoring stations. EEAA plans to increase the number of AQMN to 120, of which 48 will be placed in the Greater Cairo, most populated area.</p> <p>In addition, EEAA started the Industrial Emission Monitoring Network (IEMN) with telemetry network in 2004 to strengthen its monitoring system for industrial pollution. EEAA considers that financial support is essential to the Greater Cairo and Alexandria, where a large number of polluting factories and potential end-users who have keen interest in pollution abatement investment exist. The Project is therefore, considered highly relevant to the current development needs.</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)																						
Effectiveness	<p>(1) Quantitative Effects</p> <p><u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="465 403 1010 643"> <thead> <tr> <th data-bbox="465 403 797 512">Indicator</th> <th data-bbox="797 403 1010 512">Target (2013) (2 years after completion of the Project)</th> </tr> </thead> <tbody> <tr> <td data-bbox="465 512 797 539">Total number of sub-loans</td> <td data-bbox="797 512 1010 539">50-75</td> </tr> <tr> <td data-bbox="465 539 797 592">Total value of sub-loans (million Japanese Yen)</td> <td data-bbox="797 539 1010 592">4,720*</td> </tr> <tr> <td data-bbox="465 592 797 643">Emission standards clearance rate (%)</td> <td data-bbox="797 592 1010 643">100</td> </tr> </tbody> </table> <p data-bbox="465 651 1010 722">Note: *Japanese ODA loan portion out of 13,334 million Japanese Yen equivalent in total from the participating donors.</p>	Indicator	Target (2013) (2 years after completion of the Project)	Total number of sub-loans	50-75	Total value of sub-loans (million Japanese Yen)	4,720*	Emission standards clearance rate (%)	100	<p>(1) Quantitative Effects</p> <p><u>Operation and Effect Indicators</u></p> <table border="1" data-bbox="1032 403 1939 643"> <thead> <tr> <th data-bbox="1032 403 1379 512">Indicator</th> <th data-bbox="1379 403 1671 512">Status at Mid-Term Review (Nov. 2012)</th> <th data-bbox="1671 403 1939 512">Target year (2016) (2 years after completion of the Project)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1032 512 1379 539">Total number of sub-loans</td> <td data-bbox="1379 512 1671 539">25</td> <td data-bbox="1671 512 1939 539">30-40</td> </tr> <tr> <td data-bbox="1032 539 1379 592">Total value of sub-loans (million Japanese Yen)</td> <td data-bbox="1379 539 1671 592">3,108</td> <td data-bbox="1671 539 1939 592">4,720*</td> </tr> <tr> <td data-bbox="1032 592 1379 643">Emission standards clearance rate (%)</td> <td data-bbox="1379 592 1671 643">100</td> <td data-bbox="1671 592 1939 643">100</td> </tr> </tbody> </table> <p data-bbox="1032 651 1975 699">Note: * Japanese ODA loan portion out of 14,393 million Japanese Yen equivalent in total from the participating donors.</p> <p data-bbox="1032 738 1975 1066">The total loan amount available for the Project was estimated at 13,334 million Japanese Yen (JPY) equivalent at the ex-ante evaluation. With participation of Agence Française de Développement (AFD), thereafter, the total loan amount has increased and the total amount is estimated at 14,393 million JPY (or \$184 million) at the Mid-Term Review (MTR). According to EEAA's estimate at MTR, the number of sub-loans will reach around 35 with the total lending amount of 14,393 million JPY, of which 4,720 million JPY will be financed from Japanese ODA loan until the loan expiry date of August 2014. To date, all the factories that have installed new equipment under the Project have successfully met the emission target required under the sub-loan agreements.</p>			Indicator	Status at Mid-Term Review (Nov. 2012)	Target year (2016) (2 years after completion of the Project)	Total number of sub-loans	25	30-40	Total value of sub-loans (million Japanese Yen)	3,108	4,720*	Emission standards clearance rate (%)	100	100
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<p>(2) Qualitative Effects</p> <p>(a) Increased Assessment Capacity of the Participating Banks on Environmental Sub-Projects</p>	<p>(2) Qualitative Effects</p> <p>(a) Increased Assessment Capacity of the Participating Banks on Environmental Sub-Projects</p> <p data-bbox="1032 1209 1975 1331">According to information from EEAA and the participating banks, i.e. National Bank of Egypt (NBE) and National Societe General Bank (NSGB), the capacity of both NBE and NSGB for assessing environmental sub-projects has been strengthened through the guidance and assistance provided by EEAA and the consultant. They have been</p>																							

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(b) Increased Ability of EEAA to Advise Enterprises on Installation of Pollution Abatement Equipment</p> <p>(3) Impact There is nothing to mention.</p>	<p>assessing and processing sub-loan applications in accordance with the Operation Manual without serious delays. With support of PMU and the consultant, NBE developed an Environmental Policy and Environmental Management Framework, under which NBE has conducted screening and financing pollution abatement sub-projects proposed by the end users.</p> <p>(b) Increased Ability of EEAA to Advise Enterprises on Installation of Pollution Abatement Equipment Though the implementation of World Bank (WB) financed EPAP I (1997-2004), EEAA has acquired sufficient knowledge about equipment and technology for pollution abatement, and therefore EEAA's ability to advise end-users on equipment and facilities are considered to be satisfactorily developed. With assistance by the consultant, EEAA has been providing end-users with technical advices, based on which end-users have submitted their proposals for borrowing a sub-loan. EEAA has acquired broader knowledge and experience regarding installation of pollution abatement equipment through the implementation of the Project and their ability for advisory services is being strengthened.</p> <p>(3) Impact There is a significant reduction in air pollutants achieved from the 11 sub-projects with an overall 79% reduction in particulates and 83% reduction in SO₂. In addition, the following impacts are, among others, anticipated as a result of the implementation of the Project:</p> <ul style="list-style-type: none"> · Strengthened monitoring of end-users to implement the agreed actions through the introduction of the Compliance Action Plan (CAP) as a tool; · reduced emissions from polluting factories through the engagement of communities as a "watchdog" on polluters; · involvement of commercial banks in lending enterprises for their pollution abatement programs and increased funds for installation of pollution abatement equipment, resulting in reduction of pollution as a whole; and

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>(4) Other Items Influencing Effectiveness (a) Project implementation structure, technical and financial aspects of the Executing Agency</p> <p>Executing agency EEAA was established in 1982. EEAA organization was strengthened under the Environmental Law No. 4 enacted in 1994. Given its experience in satisfactorily implementing EPAP I with an aggregate sub-loan amounting to \$35 million equivalent to 25 sub-projects, the capacity of EEAA for implementation of EPAP II will be sufficient. EEAA will be able to secure adequate counterpart fund, given the Government of Egypt (GOE)'s priority placed on the Project and sufficient fund allocated for EPAP II.</p> <p>Within EEAA, a Project Management Unit (PMU) was established by ministerial decree dated December 18, 2005. The PMU consists of a Technical Support Unit (TSU) and a Financial Unit (FU). TSU is in charge of advising and assessing the pollution abatement equipment installed for sub-projects etc. TSU is also in charge of monitoring the pollution level after completion of each sub-project. FU is in charge of operating the special accounts of Two Step Loan, follow-up of sub-loan disbursements as well as grant disbursement (technical assistance portion)</p>	<p>reduced pollution through improved laws, regulations and standards related to the pollution control and management.</p> <p>(4) Other Items Influencing Effectiveness (a) Project implementation structure, technical and financial aspects of the Executing Agency</p> <p>EEAA was established under the Environmental Law No. 4 enacted in 1994. The Law was amended in September 2009. Through the issuance of Decrees 1741/2005, 1095/2011, and 7/10/2012, EEAA has been strengthening its authority; it has been given the power to set criteria and conditions for pollution control, monitor compliance and take actions against violators of these criteria and conditions. The Project Management Unit (PMU) consists of 13 qualified personnel who have experienced in the implementation of EPAP I, and is therefore considered to possess sufficient capacity to implement the Project. On the top of the EEAA, there is the Project Steering Committee (PSC), which convenes a meeting once a year to provide policy guidance to the PMU regarding budgets, sub-project selection, appraisal and inter-ministerial coordination for project implementation.</p> <p>NBE and the other participating banks have been processing sub-loan applications from the interested end-users without serious delays. Given their experience in EPAP I, their capacity is considered sufficient to assess the applications from the end-users in accordance with the appraisal criteria as stated at Effectiveness (2).</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>and other financial consolidation in cooperation with an environment unit of NBE.</p> <p>In addition, a Steering Committee (SC) will be established to oversee the overall progress of the Project and to coordinate with government agencies concerned and participating donors.</p> <p>(b) Cooperation with NGO, universities, etc. There is nothing to mention.</p> <p>(c) Cooperation with Japanese grant aid/and or Technical Cooperation JICA provided Egypt with a technical assistance "Regional Environmental Management Improvement Project" (hereafter "TA") on a grant basis since November 2005. At the time, JICA considered to provide technical assistance for the Project such as strengthening the capacity of EEAA for project implementation, using part of TOR given in the TA.</p> <p>(d) Cooperation with Other Donors EPAP II will be jointly financed by World Bank (WB), European Investment Bank (EIB) and</p>	<p>(b) Cooperation with NGO, universities, etc. There is nothing to mention.</p> <p>(c) Cooperation with Japanese Grant Aid and/or Technical Cooperation The Regional Environmental Management Improvement Project was implemented under technical assistance by JICA. According to the terminal evaluation report dated July 2008, the project was implemented from November 2005 to November 2008, aiming at developing EEAA's capacity such as the capacities for advising on environment conservation measures, conducting seminars and awareness campaigning. Actually, the project assisted EEAA in building capacity of gathering, organizing, and analyzing air and water pollution data, suggesting improvement measures, public awareness campaigning and disclosure of information. The staff of the PMU and Air Quality Department were provided with various local trainings including computerized software called "SCREEN 3" and "AERMOD 7", which have subsequently been applied for the evaluation of sub-projects in the Project. In addition, a total of 17 EEAA staff were dispatched to Japan to get trained on environment management, noxious chemicals, air pollution issue management, and public awareness. The project has improved the ability of EEAA for data gathering, analyses and pollution abatement planning, and accordingly served to implement EPAP II in a satisfactory manner.</p> <p>(d) Cooperation with Other Donors EPAP II consists of two components, investment and technical assistance components. At the ex-ante evaluation, the investment component was scheduled to be</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>Japan International Cooperative Agency (JICA). For project implementation and supervision, comprehensive and cooperative approach is envisaged though participation of all the donors in the co-financiers mission regularly upon the arrival of WB review mission. The co-financiers mission will review the progress of the investment components as well as the technical assistance components.</p> <p>(e) Effect on the Natural Environment The Project aims to finance through financing intermediaries the polluting enterprises (end-users) to help their effort to reduce the emissions. Because of this reason, the environmental impact is considered minimal, and the Project is categorized FI in accordance with "JBIC's Guidelines for Environmental and Social Consideration" (April 2001).</p> <p>(f) Land Acquisition Not applicable as the end-users are assumed responsible for this.</p> <p>(g) Operation and Maintenance Structure and the Technical and Financial Aspects of the Executing Agency EEAA will prepare a monitoring plan on a</p>	<p>financed by WB, JICA and EIB in a total amount of 13,334 million JPY (\$114 million) equivalent. The technical assistance component was scheduled to be financed as grant assistance by the Government of Finland, EIB, Global Environmental Fund (GEF) and GOE. With the participation of AFD in the investment component, thereafter, the total fund available for the Project becomes about 14,393 million JPY (\$184 million) equivalent, as of November, 2012.</p> <p>Project supervision is conducted comprehensively through the co-financiers mission upon the arrival of WB review mission, which is regularly conducted twice a year, with participation of all the donors including JICA.</p> <p>In accordance with the Environmental Law 4/2009, EEAA is planning to implement EPAP III, for which some donors have already expressed their interest to contribute.</p> <p>(e) Effect on the Natural Environment EEAA has required the end-users to submit an Environmental Impact Assessment and obtain EEAA's approval in accordance with GOE guidelines. The guidelines categorize projects into A, B and C. With some adjustments under the Use of Country System, the GOE guidelines are acceptable to WB. All the sub-projects to date have been categorized as Category B and approved as consistent with the GOE guidelines by EEAA. EEAA monitors the sub-project implementation and prepare a monitoring report based on the Environmental Management Plan (EMP) with assistance of the participating banks.</p> <p>(f) Land Acquisition As at MTR, no land acquisition and resettlement were needed under the Project.</p> <p>(g) Operation and Maintenance Structure and the Technical and Financial Aspects of the Executing Agency EEAA prepares a monitoring plan on a monthly basis in accordance with the Environmental Law and regulations and let the Centre Inspection Department (CID)</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>monthly basis to monitor the discharged pollutants from industries. The EEAA's monitoring plan will also cover the industries who have borrowed the sub-loans to see if they have cleared and are still clearing the emission standards as required under their sub-loan agreements.</p>	<p>and Regional Branch Offices (RBOs) carry out inspection and monitoring of emissions from factories continuously. Based on the monitoring result, EEAA imposes penalty to those factories that are non-compliance with the regulations. Of those factories inspected in Cairo and Alexandria areas, over 80% were found non-compliant and, therefore referred to EEAA legal department to determine follow-up actions. For those industries such as cement and steel factories that are producing a large amount of emission, continuous self-monitoring and reporting are imposed.</p> <p>Every end-user who has improved the facilities under the Project is required to monitor the emission for one year after the completion of the sub-project. EEAA has given a 20% grant to those end-users who have cleared the targeted level of emission reduction as planned. Furthermore, a Compliance Action Plan (CAP) should be submitted by the end-users for approval by EEAA. If any slippage is observed in the CAP, then the notice is brought to the inspection department for appropriate action.</p>
Efficiency	<p>(1) Project Outputs (a) Project Scope 1) Investment component</p>	<p>(1) Project Outputs (a) Project Scope 1) Investment component</p> <p>The loan agreement stipulates that the location of the end-users should be Greater Cairo and Alexandria. At present, EEAA considers that there are sufficient numbers of potential enterprises, which will have interest in borrowing sub-loan and therefore no problem to utilize the loan funds fully by the end of 2014.</p> <p>According to EEAA, 25 sub-projects so far implemented or approved by August 2012 are categorized into the following sectors:</p> <ul style="list-style-type: none"> · Cement factories: 6 sub-projects · Chemical fertilizers: 5 sub-projects · Food production factories: 5 sub-projects · Others including steel, paper, petrochemicals, etc.: 9 sub-projects <p>From the interviews with some end-users, it was learned that end-users are in general satisfied with the lending conditions from participating banks to end-users (interest</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>2) Technical Assistance Component</p>	<p>rate, collateral, etc.) that were softened since 2009. The interviewed end-users informed the reasons why they decided to take EPAP II financing as follows:</p> <ul style="list-style-type: none"> (i) Technical support free of charge and available from the PMU such as technical advices, preparation of technical specifications and bidding documents, and evaluation; (ii) favorable sub-loan conditions such as interest rates, repayment period and incentive of 20% grant; and (iii) limited financial resources of the companies to improve their facilities. <p>The MTR mission visited three factories, one located in Cairo and the other two in Alexandria. The sub-project in Cairo was completed, whereas the one in Alexandria was completed and is under commissioning test, and the other is in process of preparation of a sub-loan agreement. The following were found during the site visit:</p> <ul style="list-style-type: none"> (i) Some factory in Cairo- after the completion of the new systems installed upon EEAA's advice, the end-user has achieved the reduced quantity and the improved quality of wastewater and cleared the targeted level. (ii) Some factory in Alexandria-the newly installed equipment under the sub-project has brought the improved quality of wastewater and cleared the required standard. In addition, production cost has been reduced and the profit has been increased by the reduced use of water and recycling. (iii) Some factory in Alexandria-with the proposed installation of a wastewater treatment system, untreated wastewater currently being discharged to Lake Mariout will be treated to the allowable level. <p>2) Technical Assistance Component</p> <p>The consultant referred in item (b) below has been engaged by other donor that provided a grant from the beginning of the Project. The consultant has been providing technical advices to EEAA and its regional offices, supporting their conduct of monitoring and inspection activities.</p>

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	<p>3) Lake Mariout Water Quality Improvement Component (separate component but implemented in parallel with EPAP II)</p> <p>(b) Consulting Services A team of consultants will be engaged under technical assistance program financed as a grant from the Government of Finland, EIB and the others. The team will support EEAA for project implementation and advise the end-users on the selection and installation of pollution abatement equipment and facilities.</p> <p>(2) Project Inputs (a) Project Cost</p>	<p>3) Lake Mariout Water Quality Improvement Component No information and data were obtained as this is separate component not financed by JICA, while implemented in parallel with EPAP II.</p> <p>(b) Consulting Services The consultant has been engaged for project implementation services, the cost of which is financed as a grant by donors such as EIB. In addition to an international expert fielded on a long-term basis, other experts in the fields of environment, wastewater treatment, procurement, etc. have been dispatched on a short-term basis to provide EEAA with whatever support as required. The performance of the consultants is well appreciated by EEAA. The services by the consultants include, among other, the following:</p> <ul style="list-style-type: none"> (i) Advise end-users on selection and installation of equipment and facilities to reduce pollution; (ii) assist end-users in procurement; (iii) assist EEAA in project implementation including coordination with donors; and (iv) assist EEAA in conducting awareness campaigns on pollution to the public and enterprises. <p>(2) Project Inputs (a) Project Cost At the ex-ante evaluation, the total loan amount available was 13,334 million JPY equivalent, of which Japanese ODA loan amounted to 4,720 million JPY. With participation of AFD, the total loan amount was 14,393 million JPY (\$184 million) equivalent. The disbursement status from the donors as at November 2012 is as follows:</p>

Item	Ex-Ante Evaluation (2006)		Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)			
	Unit: Million Japanese Yen		Unit: Million Japanese Yen			
	Component	Amount	Donor	Amount		
		Total		Total	Japanese ODA Loan	Disbursed Amount
	Investment component	13,334	Investment component	14,393	4,720	2,298
	JICA	(4,720)	JICA	(4,720)	(4,720)	(2,298)
	World Bank	(2,360)	WB	(1,567)	0	0
	EIB	(6,254)	EIB	(4,053)	0	0
	Technical Assistance Component	1,137	AFD	(4,053)	0	0
	Government of Finland	(118)	Technical Assistance Component	600.9	0	0
	EIB	(655)	Government of Finland	(89.9)	0	0
	GOE	(364)	EIB	(283)	0	0
	Lake Mariout water quality improvement (GEF)	926	GOE	(228)	0	0
	Total	15,397	Lake Mariout water quality improvement (GEF)	614.9	0	0
			Total	15,608.8	4,720	2,298

Note: Exchange rates: October 2012
\$1.0=JPY78.38=EGP6.1; EGP1.0=JPY12.8; EUR1.0=JPY101.35

The loan expiry date is August 23, 2014. As of June 2012, 2,032 million JPY or 45% of total loan amount has been disbursed, and 3,523.7 million JPY or 75% of total loan amount is scheduled to be disbursed by December 2013. EEAA informed that a low level of disbursements is attributed to the following:

- (i) External factors such as global financial crisis in 2009, resulting in temporarily declined number of applications by potential enterprises;
- (ii) popular uprising (Arab Spring) in January 2011, which has adversely affected the local economy, resulting in temporary delays in sub-project implementation;
- (iii) reduced incentive for local industries to invest in pollution abatement project under the economic downturn, while the lending conditions are better or competitive with those of commercial lending conditions; and
- (iv) lengthy procurement, in particular, procurement under international competitive bidding (ICB) in comparison with national competitive bidding

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	<p>(b) Implementation Schedule June 2006-August 2011</p>	<p>(NCB).</p> <p>Of these four factors, the first two were considered major. In order to recover the delays in implementation, sub-loan lending conditions were modified to attract potential end-users in applying the lending during the co-financiers mission in November 2009. The following were salient points of modifications:</p> <ul style="list-style-type: none"> (i) Modification or softening of lending conditions such as collateral requirements; (ii) increase of the lending amount from \$15 million to \$20 million at the maximum; (iii) exempting 20% of the repayment amount right after the completion of sub-project, when complying with the emission standards; and (iv) increase of the threshold of ICB procurement from \$5 million to \$8 million to accelerate procurement. <p>Eligible items for financing from the donors are goods and works, while the end-user shall pay 10% of the total cost. However, the loan agreement between WB and the GOE stipulates that the cost of civil work will normally be limited to those civil works required for the installation of equipment provided it is part of a turnkey project and their cost represents a minor fraction of the overall contract price. As a result, the end-user has to shoulder the excess of the cost of civil works. Given the cost of wastewater treatment system for which the civil work will share more than 50% of the total project cost, this condition will be a heavy burden on the end-user who plans to build wastewater treatment plant through the Project.</p> <p>(b) Implementation Schedule The project implementation period originally established was from June 2006 to August 2011. At MTR, it is anticipated that the Project will be completed in August 2014.</p>

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	(3) Internal Rate of Return: N/A	<p>While the delays in completion were due to those reasons stated above, another reason that has affected the delay in disbursement, in particular, of the Japanese ODA loan portion was the appreciation of Japanese Yen value. At the ex-ante evaluation, the value of Japanese Yen was 118 against \$1.0 and parris passu ratio was determined to complete each donor's disbursement simultaneously. At the November 2012 co-financiers meeting, it was estimated that the loan funds from all the donors except JICA would be totally disbursed by December 2013, whereas Japanese ODA loan will remain undisbursed in the amount of 1,196 million JPY or 25.3% of the total loan amount. In terms of US dollars, total amount of Japanese ODA loan is \$58.2 million equivalent as in November 2012, compared with \$40 million equivalent at the ex-ante evaluation.</p> <p>(3) Internal Rate of Return: N/A</p>
Lessons Learned and Recommendations	<p>[Lessons Learned]</p> <ul style="list-style-type: none"> ● Procurement by the end-user is required to follow the Operations Manual. When procurement exceeds \$8 million (initially \$5 million), it must follow ICB procedures given in the WB Guidelines for Procurement. The use of ICB involves WB approval on every step of activities, which took 20-30 calendar months from bid call to the award of contract. Given the project, i.e. a Two Step Loan for the private sector where efficient and speeding implementation is considered imperative, the use of rules and procedures normally applied for the implementation of public sector projects need to be reconsidered from the points of Project purpose (investment by private enterprises in pollution abatement equipment) and the acceleration of project implementation. ● In establishing an implementation schedule, time needed for application by the end-users, consultation about selection of equipment and procurement should be fully taken into account to minimize delays in implementation. ● The number of enterprises not complying with the environmental standards is still increasing. Carrot (concessional finance) and stick (law enforcement) approach has been effective to achieve the objectives of the Project. Given this fact, increased legal enforcement will be critical for the success of the implementation of similar projects in future. <p>[Recommendations to JICA and EEAA]</p> <ul style="list-style-type: none"> ● As in November 2012, the disbursed loan amount was 2,218 million JPY against total loan amount of 4,720 million JPY. In order to have 	

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		<p>the remaining loan amount fully disbursed by the loan expiry date of August 2014, it is essential that all the on-going sub-projects are implemented in a timely manner and the 8 projects on board are processed early 2013. Therefore, EEAA together with the participating banks should make every effort to meet the schedule. Given the increased number of sub-projects and corresponding disbursements expected early 2013 and thereafter, it is recommended that the ceiling of initial disbursement to the special account is raised from 10% agreed under the loan agreement to the level as appropriate.</p> <ul style="list-style-type: none"> ● EEAA prepares a monitoring plan on a monthly basis to monitor industrial pollution from factories. Basically, self-monitoring is required for all polluting factories. In particular, large factories discharging a large amount of emission like cement, steel and fertilizer factories are imposed to carry out self-monitoring on a continuous basis. The end-users of EPAP II are required to submit monitoring reports based on the Compliance Action Plan (CAP). In case that the end-user failed to follow the CAP, a notice is issued and simultaneously brought to the inspection department for appropriate action. Given a weak ability of the end-users for monitoring and its report, their quality is not satisfied level. EEAA's continued effort to assist the end-users in preparation of the reports is essential. <p>[Recommendations for Implementation of Similar Projects]</p> <ul style="list-style-type: none"> ● EPAP II is financed by four external donors including WB, JICA, EIB and AFD. The parris passu ratio among the donors (WB: 12.5%, JICA: 25%, EIB: 31.25% and AFD: 31.25%) was determined based on the respective loan amounts and the sub-projects are financed accordingly. Given, however, the different loan expiry dates among the donors, it is complicated to manage disbursements. For example, AFD had disbursed fully its loan amount by March 2012 as their loan expiry date for disbursements including liquidation is December 2013. As a result, the original parris passu ratio was temporarily amended between AFD and EIB to accelerate the use of AFD fund. Both AFD and EIB have used tranche transfer payment ahead of expenditure. Because of the JPY strength over the USD since project commencement, the financing arrangement applied for EPAP II, i.e. financing each sub-project, jointly by all the four co-financiers based on the predetermined parris passu ratio has posed a question whether it is appropriate for the implementation of EPAP III. Parallel financing scheme will be one of the options. ● Eligible items for financing originally planned under EPAP II were equipment and installation works. Accordingly, the WB loan agreement stipulates that the cost of civil work component should be a minor fraction of the sub-project cost. As a result, the end-user has to shoulder the excess of the cost of civil works. This condition will be a heavy burden on the end-user. Given that the civil work involved in the construction of a wastewater treatment plan will cost more than 50% of the total cost, it is recommended that all the items including civil work are considered eligible for financing in the follow-on project. ● Disbursements of loan proceeds by WB and JICA are made against the Statement of Expenditures (SOE) prepared and submitted by NBE and are deposited into the Special Account (S/A). Payments by EIB and AFD are made by tranche transfer, followed by reconciliation and liquidation of actual expenditure after final SOE submission. In view of the nature of the Project and for acceleration of project

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	<p>implementation, the disbursement procedures used by EIB and AFD are recommendable for implementation of similar projects.</p> <ul style="list-style-type: none"> ● There are a number of national and public owned enterprises that discharge a large amount of emission. Given their financial weakness, however, these factories were sometimes disqualified for lending by the bankers. It is therefore recommended that the donors discuss and consider with EEAA how to accommodate these enterprises when discussing a long-term pollution abatement strategy for the country. ● The application of 20% grant was effective to attract the enterprises in pollution abatement investment, whereas 90% of the remaining sub-project cost are financed from the loans. However, the adoption of flexible financing ratio based on type of emission, emission quantity or unit cost per reduction, etc. should be considered as one of the options to attract more potential end-users for investment. 	
Indicators for the Ex-post Evaluation	<p>Indicators set at the ex-ante evaluation:</p> <ul style="list-style-type: none"> (i) Number of sub-loans (ii) Amount of sub-loan (iii) Ratio of sub-loans that cleared the emission standards 	<ul style="list-style-type: none"> ● The selection of sub-projects was initially undertaken based on the predetermined criteria at the ex-ante evaluation. However, some procurement criteria were softened and modified during the November 2009 co-financiers meeting by the donors to accelerate project implementation progress. Projects in an amount of above \$15 million could be financed subject to co-financier approval. To date, however, there is only one sub-project that amounted to about \$20 million. It is anticipated that the total number of sub-projects will decrease while those with high value will increase at project completion. At MTR, the total number of sub-projects was estimated around 35 at the completion. The ex-post evaluation should take into account this fact when conducted. ● No other modification is needed.