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.
Contractor[1]	: 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	(1) Relevance to Development Policy 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.	(1) Relevance to Development Policy 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: · 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”. In accordance with the Law 9/2009, EEAA has prepared a policy action for industrial pollution control through the Project. The policy aims to: · 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.

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		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.
	(2) Relevance to Development Needs 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.	(2) Relevance to Development Needs 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. 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.

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<tr><th>Item</th><th>Ex-Ante Evaluation (2006)</th><th>Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)</th></tr>
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<u>Operation and Effect Indicators</u>
<table><tr><td>Indicator</td><td>Target (2013)
(2 years after completion of the Project)</td></tr><tr><td>Total number of sub-loans</td><td>50-75</td></tr><tr><td>Total value of sub-loans (million Japanese Yen)</td><td>4,720*</td></tr><tr><td>Emission standards clearance rate (%)</td><td>100</td></tr></table>Note:*Japanese ODA loan portion out of 13,334 million Japanese Yen equivalent in total from the participating donors.

(2) Qualitative Effects
(a) Increased Assessment Capacity of the Participating Banks on Environmental Sub-Projects</td><td>(1) Quantitative Effects
<u>Operation and Effect Indicators</u>
<table><tr><td>Indicator</td><td>Status at Mid-Term Review (Nov. 2012)</td><td>Target year (2016)
(2 years after completion of the Project)</td></tr><tr><td>Total number of sub-loans</td><td>25</td><td>30-40</td></tr><tr><td>Total value of sub-loans (million Japanese Yen)</td><td>3,108</td><td>4,720*</td></tr><tr><td>Emission standards clearance rate (%)</td><td>100</td><td>100</td></tr></table>Note: * Japanese ODA loan portion out of 14,393 million Japanese Yen equivalent in total from the participating donors.

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.

(2) Qualitative Effects
(a) Increased Assessment Capacity of the Participating Banks on Environmental Sub-Projects
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</td></tr>
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		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.
	(b) Increased Ability of EEAA to Advise Enterprises on Installation of Pollution Abatement Equipment	(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.
	(3) Impact There is nothing to mention.	(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 SO_2. In addition, the following impacts are, among others, anticipated as a result of the implementation of the Project: · 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

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		· reduced pollution through improved laws, regulations and standards related to the pollution control and management.
	(4) Other Items Influencing Effectiveness (a) Project implementation structure, technical and financial aspects of the Executing Agency 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. 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)	(4) Other Items Influencing Effectiveness (a) Project implementation structure, technical and financial aspects of the Executing Agency 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. 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).

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	and other financial consolidation in cooperation with an environment unit of NBE. 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. (b) Cooperation with NGO, universities, etc. There is nothing to mention. (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. (d) Cooperation with Other Donors EPAP II will be jointly financed by World Bank (WB), European Investment Bank (EIB) and	(b) Cooperation with NGO, universities, etc. There is nothing to mention. (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. (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

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	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.	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. 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. 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.
	(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).	(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.
	(f) Land Acquisition Not applicable as the end-users are assumed responsible for this.	(f) Land Acquisition As at MTR, no land acquisition and resettlement were needed under the Project.
	(g) Operation and Maintenance Structure and the Technical and Financial Aspects of the Executing Agency EEAA will prepare a monitoring plan on a	(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)

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	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.	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. 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.
Efficiency	(1) Project Outputs (a) Project Scope 1) Investment component	(1) Project Outputs (a) Project Scope 1) Investment component 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. According to EEAA, 25 sub-projects so far implemented or approved by August 2012 are categorized into the following sectors: · 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 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

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		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: (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. 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: (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.
	2) Technical Assistance Component	2) Technical Assistance Component 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.

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	3) Lake Mariout Water Quality Improvement Component (separate component but implemented in parallel with EPAP II) (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. (2) Project Inputs (a) Project Cost	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. (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: (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. (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:

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Unit: Million Japanese Yen

Component	Amount	
	Total	Japanese ODA Loan
Investment component	13,334	4,720
JICA	(4,720)	(4,720)
World Bank	(2,360)	
EIB	(6,254)	
Technical Assistance Component	1,137	0
Government of Finland	(118)	
EIB	(655)	
GOE	(364)	
Lake Mariout water quality improvement (GEF)	926	0
Total	15,397	4,720

Unit: Million Japanese Yen

Donor	Amount		
	Total	Japanese ODA Loan	Disbursed Amount
Investment component	14,393	4,720	2,298
JICA	(4,720)	(4,720)	(2,298)
WB	(1,567)	0	0
EIB	(4,053)	0	0
AFD	(4,053)	0	0
Technical Assistance Component	600.9	0	0
Government of Finland	(89.9)	0	0
EIB	(283)	0	0
GOE	(228)	0	0
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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		(NCB). 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: (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. 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.
	(b) Implementation Schedule June 2006-August 2011	(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.

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		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. (3) Internal Rate of Return: N/A
	(3) Internal Rate of Return: N/A	
Lessons Learned and Recommendations	[Lessons Learned] ● 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. [Recommendations to JICA and EEAA] ● 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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	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. ● 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. [Recommendations for Implementation of Similar Projects] ● 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	

Item	Ex-Ante Evaluation (2006)	Mid-Term Review results and Ex-Post Evaluation results estimated at the time of Mid-Term Review (2012)
	implementation, the disbursement procedures used by EIB and AFD are recommendable for implementation of similar projects. ● 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	Indicators set at the ex-ante evaluation: (i) Number of sub-loans (ii) Amount of sub-loan (iii) Ratio of sub-loans that cleared the emission standards	● 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.