Ex-Post Project Evaluation 2017
Package IV-4 (Pakistan, Jordan, Laos)

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The Islamic Republic of Pakistan

FY2017 Ex-Post Evaluation of Japanese ODA Loan Project
"Energy Sector Reform Program" and "Energy Sector Reform Program (II)"

External Evaluator: Juichi Inada, Waseda University

0. Summary

The objective of the project is to support the reform of the energy sector, with co-financing from the World Bank and the Asian Development Bank (ADB), by addressing the sector's structural problems that have led to the deterioration of Pakistan's financial status and international balance of payments.

The project coincides with the development policy and needs of Pakistan at the time of both appraisal and ex-post evaluation. The project also coincides with Japan's Official Development Assistance (ODA) policy at the time of the appraisal. As a result of examining the process of formulating the policy matrix in coordination with other donors, no major problems could be found in terms of the appropriateness of the project planning and approach. Therefore, the relevance is high.

With regard to effectiveness, the operation and effect indicators of power sector subsidies (ratio to the GDP), power transmission and distribution loss rates (%), and collection rate of electricity tariffs (%) reached their target values. However, the number of notifications of energy-efficiency standards did not reach its target. Of the 14 indicators set by the policy matrix formulated by the donors, 6 indicators did not reach or only partly reached their targets. With regard to impact, the deficits of the budgetary balance and international balance of payments have been improving up to 2015, but the deficits increased after 2016. It is difficult to verify how much the power sector reforms have made an impact on the financial status and vitalization of economic activities because several external factors other than the power sector reforms have affected them. Because the total national capacity of power generation and total electricity generation and sales have been increasing since 2015, partly because of the entry of many independent power producers (IPPs) and the decrease in total average hours of load shedding, the impact of the project on the sustainable and stable provision of electricity can be determined to some extent. Therefore, the effectiveness and impact of the project are fair.

With regard to sustainability, one of the challenges is the lack of a unitary system to monitor the progress of all aspects of the power sector reforms.

1. Project Description

Project Location[1]

National Electric Power Regulatory Authority (NEPRA)

2.1 Background

The Islamic Republic of Pakistan (Pakistan) faced a severe power shortage at the time of its appraisal. For example, the power shortage had reached more than 30% of the demand for electricity, and there were some areas where average hours of load shedding had reached ten and a half hours per day (statistics of 2012). The electricity necessary for the operation of factories and commercial activities could not be fully provided, causing a decrease in private investment, foreign direct investment, and hindering the development of economic activities. The shortage in the electricity supply was due to the fact that power generation plants could not operate fully because of a shortage of necessary revenue, caused by a number of factors, including inappropriate power tariffs, the low payment collection rate of tariffs, and a high level of power transmission and distribution losses, as well as the fact that the electricity supply could not keep up with the rapid increase in electricity demand. The Pakistani government provided subsidies to supplement the lack of money for operations, and this has caused considerable financial stress to the government. Under such conditions, power sector reforms were an urgent issue in Pakistan, in terms of both its economy and finance.

Against this backdrop of financial balance and deterioration in the international balance of payments, the Pakistani government requested that the International Monetary Fund (IMF) provide assistance to avoid a financial crisis resulting from further deterioration. Negotiations with the IMF were conducted after July 2013, and in September 2013 the IMF decided to offer an Extended Fund Facility (EFF) of 6.6 billion dollars for a period of three years, but a large financial gap still existed. In response, the Pakistani government requested additional financial support for its Energy Sector Reform Program from the World Bank and the ADB in November 2013, and from the Japan International Cooperation Agency (JICA) in February 2014.[2]

[1] The map is based on a map of the United Nation and modified by JICA. The depiction of boundaries, place names, and data shown on the map does not necessarily imply official endorsement or acceptance by JICA.
[2] Document provided by JICA.

2.2 Project Outline

The objective of this program is to support the reform of the energy sector in Pakistan, with co-financing from the World Bank and the ADB, by (1) establishing appropriate electricity tariffs and reducing the amount of subsidies, (2) reducing power generation costs, and (3) improving accountability and transparency in the energy sector, thereby contributing to a sustainable and stable power supply as well as contributing to improving Pakistan's financial status and its international balance of payments.

Loan Approved Amount/Disbursed Amount	(Phase 1) 5,000 million yen/5,000 million yen (Phase 2) 5,000 million yen/5,000 million yen
Exchange of Notes Date/Loan Agreement Signing Date	(Phase 1) June 2014/June 2014 (Phase 2) February 2016/February 2016
Terms and Conditions	Interest Rate (Phase 1) yen LIBOR-10bp% (Phase 2) yen LIBOR+10bp% Repayment Period 30 years (Grace Period 10 years) Conditions for Procurement General untied
Borrower/Executing Agency	The President of the Islamic Republic of Pakistan/Ministry of Finance
Project Completion	February 2016
Main Contractor	—
Main Consultant	—
Related Studies (Feasibility Studies, etc.)	Information Collection Survey on Energy Sector Reform in Pakistan (2014)
Related Projects	［Technical Assistance］ ・Project for Least Cost Generation and Transmission Expansion Plan (Technical Assistance related to ODA Loan) (2014–2016) ・Dispatch of Expert for Promoting Institution Building of Energy Conservation and Efficiency (Technical Assistance related to ODA Loan) (2014) ・Dispatch of Expert for Energy Conservation and Efficiency (Technical Assistance related to ODA Loan) (2015–2016) ・Dispatch of Expert for Implementing Energy Sector Reform (Technical Assistance related to ODA Loan) (2016–2017) [Grant Aid] ・Project for Strengthening of Training Center on Grid System Operation and Maintenance (2016) ［Yen loan］ ・National Transmission Lines and Grid Stations Strengthening Project (2010) ・Islamabad and Burhan Transmission Line Reinforcement Project (Phase 1) (2017) ［Other organizations］ (Phase 1) ・The World Bank (WB), Power Sector Reform: First Development

	Policy Credit (2014–2015) ・ADB, Sustainable Energy Sector Reform Program: Subprogram 1 (2014–2015) (Phase 2) ・WB, Power Sector Reform: Second Development Policy Credit (2015–2016) ・ADB, Sustainable Energy Sector Reform Program: Subprogram 2 (2015–2016) (Phase 3) ・ADB, Sustainable Energy Sector Reform Program: Subprogram 3 (2016–2017) ・Agence Française de Développement (AFD), Sustainable Energy Sector Reform Program 3 (2016–2017)

2. Outline of the Evaluation Study

2.1 External Evaluator

Juichi Inada, Waseda University[3]

2.2 Duration of the Evaluation Study

This evaluation study was conducted according to the following schedule.

Duration of the Study: November 2017–January 2019

Duration of the Field Study: January 2018–September 2018 (information collection survey conducted by local consultant)

2.3 Constraints during the Evaluation Study

In this ex-post evaluation, for security reasons, based on the instructions of JICA evaluation department, the evaluator did not conduct a field survey, instead conducting a desk survey based on relevant documents and on information collected by a local consultant under the supervision of the evaluator.

As the project concerned a program loan, the evaluation analysis was made mainly on t "Relevance," "Effectiveness," "Impacts," and, to the extent possible, "Sustainability," while the basic evaluation framework was based on the five evaluation criteria of the Development Assistance Committee (DAC).

3. Results of the Evaluation[4]

3.1 Relevance（Rating：③[5]）

3.1.1 Consistency with the Development Plan of Pakistan

[3] Professor in the School of Economics at Senshu University and a supplementary staff member at Waseda University (the main contractor).

[4] Sub-rating is made only on "Relevance," "Effectiveness," and "Impacts," and there is no overall rating.

[5] ③: High, ②: Fair, ①: Low

At the time of the appraisal, the Pakistani government had made reform of the energy sector an agenda with highest priority and was tackling energy sector reform under its *National Power Policy 2013* published in July in 2013, which described its vision as follows: "Pakistan will develop the most efficient and consumer centric power generation, transmission, and distribution system that meets the needs of its population and boosts its economy in a sustainable and affordable manner."

Energy sector reform was regarded as indispensable to strengthening the financial status of the Pakistani government under the IMF's EFF, which was approved in September 2013. This project supplemented the power sector reform agenda of the IMF program, and JICA conducted joint monitoring of the progress of the energy sector reform in coordination with the World Bank and the ADB, and at the same time as the quarterly reviews of the IMF program. The donors' policy matrix for the project was formulated on the basis of the *National Power Policy 2013* and the Pakistani government's policy matrix. There has been no new basic policy paper since *National Power Policy 2013*, which continues as the basic policy at the time of the ex-post evaluation.[6] The project comprehensively supports the several reform agendas of the Pakistani government's energy sector reform and coincides with the basic policy of the Pakistani government.

3.1.2 Consistency with the Development Needs of Pakistan

This project aimed to assist with reform of the structural problems in the energy sector that caused the financial deficit and the deficit in the international balance of payments by providing a development policy loan. The Pakistani government's financial gaps for the three years from fiscal year (FY) 2013–14 to FY2015–16 were predicted to be approximately 3.3 billion dollars, 4.5 billion dollars, and 4.7 billion dollars, respectively. Even with the financial support of the IMF's EFF program, there will still be financial gaps of approximately 1.1 billion dollars, 2.3 billion dollars, and 2.4 billion dollars, respectively, for these three years.[7] The total amount of the loans provided by the World Bank, ADB, and JICA was approximately 1.04 billion dollars in Program 1, 940 million dollars in Program 2, and 430 million dollars in Program 3 (in which JICA did not participate); these were expected to reduce the budget deficit of Pakistan to some extent. JICA provided loans of 5 billion Japanese yen for each of the program in which it participated, and the amount was limited to about 3.6% of the amount of the budget deficit in each year. However, together with the loans from the World Bank and the ADB, Program 1 constituted about 95% of the deficit and Program 2 constituted about 41%, a relatively large

[6] At the time of ex-post evaluation in October 2018, a new *National Electricity Policy and Plan* is under the process of formulation with the support of the ADB, and is still at the stage of drafting.

[7] *IMF Staff Report for the 2013 Article IV Consultation and Request for an Extended Arrangement under the Extended Fund Facility,* International Monetary Fund, September 2013.

supplement, contributing to easing the budgetary situation of Pakistan.

The largest problem for Pakistan's energy sector is the gap between the supply and demand of electricity. Compared to the peak demand of 18,827 MW in 2013, the operating capacity of power generation facilities in Pakistan was only 13,577 MW (total power generating capacity: 23,663 MW), resulting in a shortage of approximately 27.9% of demand. Due to supply–demand gaps such as this, power outages occurred frequently—as long as 12 hours (maximum) per day in urban areas and 18 to 20 hours per day in rural areas. It was estimated that these power shortages reduce Pakistan's GDP by approximately 2%.[8]

The most important factor leading to serious power shortages in Pakistan has been a structural problem with the energy sector known as "circular debt." Circular debt refers to a state in which, due to a number of factors, including electricity tariffs being kept artificially low for political reasons, the low payment collection rate, and power transmission and distribution losses, electric power companies (including generation, transmission and distribution) cannot earn sufficient income to cover their costs. As a result, power distribution companies owe debts to power transmission companies; power transmission companies owe debts to power generation companies; and power generation companies owe debts to fuel supply companies. Thermal power generation by imported petroleum accounts for about two thirds of power generated in Pakistan (68% of total power generation and 66% of the capacity of power generation facilities in 2014).[9] Due to circular debt, power generation companies have been unable to obtain sufficient amounts of fuel, including petroleum, leading to a low operating rate for power generation facilities, which in turn resulted in the above supply–demand gap. In addition, the low efficiency of outdated power generation facilities and the inefficient management of electric power companies have been identified as factors that increased the scale of the circular debt.[10]

In order to hold down the electricity tariffs to the level determined by the NEPRA, the Pakistani government provides subsidies for electricity tariffs. The total amount of such subsidies from FY2003–04 to FY2013–14 was estimated at about 1.7 trillion Pakistani rupees (PKR), the amount of subsidies for FY2013–14 comprising about 1.1% of GDP. In addition, there were delays and failures to pay the subsidies due to the aforementioned budget shortages, which resulted in further decreases in power generation and increases in the supply–demand gap, thereby magnifying the negative effects of power outages on the economy. Consequently, to improve its financial status and achieve economic growth, the Pakistani government urgently needed to reduce the amount of subsidies to the energy sector and to eliminate the power

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[8] *Implementation Completion and Results Report for Power Sector Reform Development Policy Credits I & II*, World Bank, December 2017 (p. 1).

[9] *State of Industry Report 2015*, National Electric Power Regulatory Authority (NEPRA).

[10] Document provided by the JICA.

supply–demand gap.[11]

At the time of the appraisal, the gap between the supply and demand of electricity was a serious problem, and the project intended to respond to this serious problem coincided with development needs at the time. At the time of ex-post evaluation, subsidies for the total electricity tariff had been reduced to 0.4% of the GDP, the gap between supply and demand had not yet been solved, and the project continued to coincide with development needs.

3.1.3 Consistency with Japan's ODA Policy

In Japan's *Country Assistance Policies for Pakistan* (April 2012), the Japanese government adopted a basic policy of developing a stable, sustainable social system in Pakistan through economic growth and the defined improvement and development of economic infrastructure (transportation and energy) as a development goal with respect to the improvement of the economic base, which was among the high-priority areas of the assistance strategy. In the *JICA's Country Analysis Paper (March 2014)*, the "program of expanding and improving electricity" was raised as a prioritized assistance program in the mid-range target of "improvement of economic infrastructure," and assistance to energy sector reform was mentioned as a direction for JICA's assistance to Pakistan. Therefore, this project, aiming at a stable supply of electricity and sustainable economic growth by energy sector reform, is consistent with the priority of Japanese ODA policy.

3.1.4 Appropriateness of the Project Plan and Approach

The project was originally designed as having five phases in total, from FY2013 to FY2017. Concrete targets of energy sector reform were summarized as a policy matrix, and policy actions were set as triggers for program loans. In fact, the program consisted of three phases up to 2017. Major reasons for the shortening of the project period from five phases to three are that it took more time to implement the reform program in each phase and that the loan amount in each phase was increased; in addition, it became necessary to scrutinize the policies and organizations of the new government after the national election scheduled in 2018.[12] The World Bank and JICA did not continue with Program 3, but the ADB continued to provide its loan in collaboration with the French Development Agency (Agence Française de Développement: AFD). The World Bank discontinued its program after the second phase on the basis that the road map toward privatization had stagnated, but the ADB continued with the third phase of the program by setting more realistic policy actions since the ADB anticipated five years of assistance from

[11] *Ibid.*

[12] Based on interviews with JICA staff. As a result of the national election (lower house) conducted on July 25, 2018, the former opposition party, the Pakistan Movement for Justice (Pakistan Tehreek-e-Insaf: PTI) became the ruling party, instead of the Pakistan Muslim League (PML).

the beginning and made much of the continuation of energy sector reform.[13]

A policy matrix for the program was formulated on the basis of consultations between the three major donors—the ADB, the World Bank, and JICA (the ADB was the lead donor)—and relevant Pakistani institutions (the Ministry of Finance and related organizations in the energy sector). In this project, the policy matrix was composed of the three pillars and ten reform goals comprising the important agenda of energy sector reform. The policy actions of at the time of Phase 1 and Phase 2 were slightly different. The preconditions of providing loans in Phase 2 included the continuation of the policy actions of Phase 1, in addition to the implementation of the policy actions of Phase 2.

A review (reduction and/or revision) of policy actions that were regarded as difficult to achieve during the implementation period was made in Phase 2. This meant that the original goals of the policy reform turned out to be difficult to achieve after the start of the reform program. One positive aspect of the review was that it encouraged policy reforms by setting realistic policy actions, based on the progress of each phase. This kind of modification was regarded as necessary to support policy reform based on actual conditions.[14]

In formulating the policy actions of the program, consensus was achieved through a coordination process among the major donors, although each donor had its own priority policy agenda. The World Bank took account of efforts to commercialize public companies in the power sector and the opening of the gas market, whereas JICA made much of the promotion of energy conservation and the effective management of electricity generation costs by the formulation of the Least Cost Generation and Transmission Plan (LCP); it dispatched experts and provided technical assistance to encourage concrete implementation of policy actions in those areas in parallel with its loans. Specifically, JICA supported policy and institutional reforms of the energy sector in Pakistan through the "Project for the Least Cost Generation and Transmission Expansion Plan" (Technical Assistance related to ODA Loan) and the "Dispatch of Experts for Energy Conservation and Efficiency," among others. The JICA's assistance for this specific technical agenda was regarded as useful in realizing policy actions, given Pakistan's limitations in capacity and knowledge to implement policy actions.

This project was highly relevant to Pakistan's development plan and development needs, at the time of planning as well as at the time of evaluation. The program was also relevant to Japan's ODA policy. There were no specific problems in the project planning and approach. Therefore, its relevance is high.

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[13] Based on interviews with World Bank staff.

[14] The World Bank evaluated its assistance program at the times of planning and commencement as "highly satisfactory" in its ICR (*Implementation Completion and Results Report for Power Sector Reform Development Policy Credits I & II,* World Bank, December 2017).

3.2 Effectiveness and Impacts[15] (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Policy actions

The project categorized the policy matrix formulated by the Pakistani government into three policy areas as follows: Policy area A—Reducing subsidies and improving tariff policy; Policy area B— Improving Sector Performance and Opening the Market to Private Participation; Policy area C—Ensuring accountability and transparency. The project specified ten reform goals in each policy area and formulated a "donor policy matrix" indicating the policy actions taken in each phase of the program. It was planned to encourage the realization of the policy matrix by the Pakistani government through implementation of the program of the donor policy matrix.

Table 1. Three Policy Areas and Ten Reform Plan Goals of the Program

Policy area	Reform plan goals
A: Reducing subsidies and improving tariff policy	(1) Adoption of clear policies on tariffs and subsidies to target low-income consumers; ensuring policy implementation through NEPRA rules and regulations; reduction of discretionary policy decisions and lags in tariff approval and implementation
B: Improving Sector Performance and Opening the Market to Private Participation	(2) Loss reduction and improvement of collection in distribution companies (3) Improvement of demand-side efficiency and strengthening of energy conservation (4) Management of generation costs through Least Cost Planning (LCP) and ensuring that new-generation entrants follow the LCP (5) Increase in gas supply and opening the gas market for direct contracting sales to large gas consumers (6) Commercialization and improvement of performance of public companies in the power sector (7) Commercial operation of Central Power Purchasing Agency (CPPA) as an independent agency to buy power on behalf of distribution companies, and implementation of a multiple buyers' market by allowing generators to contract sales directly with large consumers
C: Ensuring Accountability and Transparency	(8) Increase in access to information in the energy sector (9) Strengthening of NEPRA (10) Monitoring and Surveillance

Note: Documents provided by JICA.

[15] Sub-rating for Effectiveness is to be put with consideration of Impacts.

The achievement of policy actions of Phases 1 and 2 had largely been confirmed at the time of appraisal. In evaluating the effectiveness of the policy actions of the project, the state of progress of the reform agenda set as policy actions of Phase 2 were summarized as follows.[16]

[Policy area A: Reducing subsidies and improving tariff policy]

1. Notification of multi-year tariff by the NEPRA

Policy action: In order for NEPRA to start tariff determination, nine distribution companies (DISCOs) submit FY2014–15 tariff petitions with forms and data requirements stipulated in the guidelines to NEPRA. In addition, five DISCOs submit five-year investment plans in order for NEPRA to start the determination of multi-year tariff for FY2015–16 to NEPRA.

State of progress: Although notification of multi-year tariffs for at least two DISCOs had been expected in the policy action of Phase 3, there was no agreement on subsidies between NEPRA and each DISCO, and it was confirmed that more time would be needed.

2. Response to repayment of circular debt

Policy action: Ministry of Water and Power (MOWP) to publish on its website a cap for total overdue payables to power generators not to exceed PKR 314 billion, and a plan to reduce the flow of new overdue payables down to PKR 39 billion by FY2017–18.

State of progress: Although the cap on total overdue payables to power generators of PKR 314 billion was maintained, the figure reached PKR 321 billion in June 2016 and PKR 450 billion in November 2017. Therefore, the formulation of the action plan for this issue was delayed, the concrete target value of the reduction of overdue payables was deleted from the trigger, and the value has been monitored under the IMF Program.

[Policy area B: Improving Sector Performance and Opening the Market to Private Participation]

3. The number of notification of minimum energy performance standards

Policy action: MOWP to issue regulation(s) on minimum energy performance standards for at least three energy-intensive appliances or technologies and on appliance labeling.

State of progress: Although the policy action of issuing guidelines for at least three appliances was proposed, it took time to formulate concrete standards, and this policy action was mentioned as an ongoing action. Guidelines on minimum energy performance standards and labeling were issued for three appliances (ceiling fans, pump motors, ballast of fluorescent

[16] The state of progress of policy actions of Phase 2 were based on *Implementation Completion and Results Report for Power Sector Reform Development Policy Credits I & II,* World Bank, December 2017. The state of progress of policy actions of Phase 3 were based on *Sustainable Energy Sector Reform Program (Subprogram 3): Report & Recommendation of the President*, ADB, May 2017 (Appendix 4) and documents provided by JICA.

lamps) during 2016. JICA dispatched its expert to provide technical assistance for this policy agenda.

4. Reorganization of gas sector

Policy action: With a view toward opening up the gas market, the Ministry of Petroleum and Natural Resources (MPNR) to sign supplemental agreements agreeing revised prices for 92 exploration concessions at the levels set out in the 2012 Petroleum Policy, including 26 with the private sector.

State of progress: Although the plan was to make gas supply more effective by promoting a division of labor between conduit businesses and sales businesses in the gas supply chain, and by supporting private companies to participate in the gas market, it took more time than expected to obtain approval from the government on the plan to separate the roles of conduit businesses and sales businesses. Therefore, as a policy action for Phase 3 in 2017, the more realistic policy action of issuing directions to commence the study of the division of labor between conduit businesses and sales businesses was formulated, rather than the concrete policy of assisting with the participation of private companies in the gas market.

5. Supply system of Liquefied Natural gas (LNG)

Policy action: Economic Coordination Committee (ECC) to approve a policy directive that LNG will be provided to consumers who pay its full cost through the tariff. (This was a policy action added into Phase 2 in response to the plan of importing LNG.)[17]

State of progress: A policy directive was issued. An additional terminal for importing LNG will be constructed in 2018, and one more in 2020. Consequently, the supply of LNG to the domestic market has been expanding.

6. Performance contracts with public companies in the power sector

Policy action: MOWP to sign performance contracts with all generation companies (GENCOs), the National Transmission and Dispatch Company (NTDC), and all remaining DISCOs.[18]

State of progress: Performance contracts were concluded in 2015. Although concrete plans and implementation of efforts to keep revenues were supposed to be written into the performance contracts, the DISCOs did not propose any plans to obtain sufficient revenues, instead

[17] As a background of this action, it was considered that the shortage of oil fuel caused by the increase in electricity generation must be supplemented by LNG, and this action was expected to contribute to the target of effect indicators.

[18] "Performance contracts" are concluded between MOWP, GENCOs, and the NTDC, clarifying the roles and the legal framework that each organization should have and setting concrete effect indicators for operational standards and targets. The aim is to make operations transparent and strengthen the efforts to attain targets by concluding the contracts. The performance contracts for a three-year period were signed in the first half of 2015, and it was anticipated that reform efforts would be implemented during this period in a concrete manner.

formulating their own plans to reduce deficits, and the IMF has been monitoring those plans.[19]

7. Road map of privatization of public companies in the power sector

Policy action: A roadmap for privatization to be formulated and initiated.

State of progress: This action was aimed at promoting the participation of private companies in the energy sector and making electricity service more effective. Although the privatization of DISCOs was an aim of the World Bank's Development Policy Credit (DPC) and the IMF Program, there was no progress in privatization because agreement between stakeholders could not be reached. After that, some DISCOs began to prepare for an Initial Public Offering (IPO),[20] and the policy action of "The Cabinet Committee on Privatization approves the IPO of three DISCOs" was included in the policy actions of Phase 3.[21]

8. Independence of CPPA

Policy action: CPPA, which became independent from the NTDC, to demonstrate its operational capability to handle all steps in the billing and settlement cycle of electricity sales by generators and purchases by DISCOs. NEPRA to grant an amendment to NTDC licenses to eliminate CPPA functions.

State of progress: The CPPA became an independent organization in June 2015, in advance of the provision of Phase 2 loan (February 2016), and subsequently, all contracts to buy electricity have been made through the independent CPPA.

［Policy area C: Ensuring accountability and transparency］

9. Increasing access to information in the energy sector

Policy action: CPPA to disclose publicly on its website the monthly amounts due and payments made by each DISCO to CPPA, and by CPPA to generators, including arrears.

State of progress: The policy action of Phase 1 "Each DISCO to publish on its website monthly billing and collection data" continued as a policy action in Phase 2. The CPPA has already disclosed monthly data on its website. On the other hand, DISCOSs have disclosed annual reports on their website, not as monthly data.

10. Strengthening of NEPRA and disclosure of information

Policy action: NEPRA to disclose annual DISCOs performance and evaluation reports, and to initiate outreach actions to consumers on the content thereof. DISCOs to disclose their annual

[19] Based on ICR of the World Bank (*op.cit.*.).
[20] Document provided by the JICA.
[21] *Sustainable Energy Sector Reform Program (Subprogram 3): Report & Recommendation of the President*, ADB, May 2017.

performance reports on their respective websites.

State of progress: NEPRA has disclosed the annual performance and evaluation reports every year from FY2012–13 to FY2015–16, but it takes time for disclosure. DISCOs are disclosing their annual performance reports on their websites.[22]

3.2.1.2 Quantitative effects (operation and effect indicators)

The effect of the policy actions were to be realized after s July 2017three years after the completion of Phase 1 (June 2014). In the ex-ante evaluation report for Phase 2, the timing of the ex-post evaluation was set at the time of the completion of the policy actions of Phase 5 in 2017. At the time of formulating the policy matrix in 2014, Phase 5 was expected to be over by 2017, so the target year was set as 2017. However, progress of the reforms had been delayed, Phase 2 came in 2016, and Phase 3 in 2017. Consequently, the plan to complete five phases was changed to three phases. However, the target values and target year were not revised, so a comparison between the original target values and actual values was made in this ex-post evaluation.

Table 2 shows the baseline values, target values, and actual values of the four operation and effects indicators written in the ex-ante evaluation report. In terms of the three indicators for the energy sector subsidies (proportion of GDP), the power transmission and distribution loss rate (%) and the power distribution companies' electricity tariff collection rates (%) achieved their targets, but the number of notifications of energy-efficiency standards reached only three, instead of the target of five.

Table 2. Baseline Values, Target Values, and Actual Values of Operation and Effect Indicators

Indicator	Baseline (2013 results)	Target 2017	Actual Results 2017
Energy sector subsidies (proportion of GDP) (%)	1.8	0.3–0.4	0.4
Power transmission and distribution loss rate (%)	21.9	17.9	17.9
Power distribution companies' electricity tariff collection rate (%)	86	94	94
No. of notifications of energy-efficiency standards *	NA	5	3

Source: Baseline values and target values are based on ex-ante evaluation of Phase 1 and Phase 2. Actual values are provided by executing agency.
Note: * Minimum energy performance standards were defined according to each appliance.

In addition to the operation and effects indicators mentioned in the ex-ante evaluation report, monitoring indicators to check the effects of the 10 agendas of the donor policy matrix were also provided.[23] These are quantitative indicators to check the progress of reform in the

[22] State of progress varies for each DISCO.
[23] Document provided by JICA.

implementation of policy actions. Table 3 is a summary of the status of the monitoring indicators with respect to the 10 items of the donor policy matrix (14 indicators in total). Among 14 indicators, 4 indicators of (3) Energy sector subsidies, (4) Power transmission and distribution loss rate, (5) DISCOs' electricity tariffs collection rate, and (7) No. of notification of energy efficiency standards are listed in the ex-ante evaluation report as operation and effects indicators, as shown in Table 2.

As shown in Table 3, eight out of 14 indicators achieved their targets, whereas targets of six indicators were not achieved or partly achieved.

Table 3. Monitoring Indicators of Policy Reforms (Baseline, Target, and Actual Values)

Policy Area	Baseline Values	Target Values	Actual Values in May 2017
Policy area A: Reducing Subsidies and Improving Tariff Policy	(1) Time taken for DISCOs tariff determination ***Baseline (FY2012/13)***: more than seven months after admission of petition for DISCOs	(1) ***Target (FY2016/17)***: within four months admission of petition for DISCOs	(1) (Partially achieved) Most petitions of the tariff were admitted within four months by NEPRA, but it took five months in the case of GEPCO (Gujanwala Electric Power Company)
	(2) Regulation for DISCOs tariff determination ***Baseline (FY2012/13)***: not notified	(2) ***Target***: notified by January 2015 by NEPRA	(2) (Partially achieved) Notification was not realized by January 2015, and the NEPRA notified the multi-year tariff of three DISCOs at the time of the ADB mission in April 2017; thus, the introduction of the framework for the multi-year tariff was realized
	(3) Subsidies reduced ***Baseline (FY2012/13)***: 1.8% of GDP	(3) ***Target (FY2016/17)***: 0.3–0.4% of GDP	(3) (Achieved) The ratio of subsidies to GDP in FY2016/17 was 0.4%
Policy area B: Improving Sector Performance and Opening the Market to Private Participation	(4) Reduction in distribution and transmission losses ***Baseline (FY2012/13)***: 21.9%	(4) ***Target (FY2016/17)***: 17.9%	(4) (Achieved) Distribution and transmission loss rate in FY2016/17 was 17.9%
	(5) Increase collection in DISCOs ***Baseline (FY2012/13)***: 86%	(5) ***Target (FY2016/17)***: 94%	(5) (Achieved) Tariff collection rate in FY2016/17 was 94.4%
	(6) Reduction of government receivables ***Baseline (FY2012/13)***: provincial 410 days, federal 180 days	(6) ***Target (FY2013/14)***: 90 days	(6) (Partially achieved) Government receivables more than 90 days were adjusted at the federal level; however, there is no provincial level data
	(7) Notification of energy efficiency standards ***Baseline (FY2012/13)***: 0	(7) ***Target (FY2016/17)***: at least five	(7) (Partially achieved) Energy efficiency standards and labeling were issued for three appliances (ceiling fans, pump motors, and ballast of fluorescent lamps); it is still on the way and not yet completed for two appliances

			(microwave oven and air conditioner)
	(8) Introduce LCP and entry of new generation based on LCP ***Baseline (FY2012/13)***: no approved LCP	(8) ***Target (FY2016/17)***: LCP issuedand additions to new generation capacity based on LCP	(8) (Partially achieved) LCP was formulated (by support from JICA), and approved by the Ministry of Energy (MoE), but no concrete project based on the LCP was realized at the time in May 2018; it is now in the process of revision for obtaining approval from NEPRA by April 2019
	(9) Increasing gas supply ***Baseline (FY2012/13)***: 3.8 billion scf/day	(9) ***Target (FY2016/17)***: 5 billion scf/day	(9) (Partially achieved) The amount of gas supply in April 2017 was 4.6 billion scf/day; the amount of imported LNG during 2017 was 0.6 billion scf/day
	(10) DISCOs meet key targets in performance contracts ***Baseline (FY2012/13)***: three DISCOs signed performance contracts	(10) ***Target (FY2016/17)***: DISCOs meet set performance targets	(10) (Not achieved) The World Bank report mentioned that DISCOs did not presented and implemented any revenue securing plan; instead, they formulated their own plan of reducing the deficit, and the IMF would monitor the progress[24]
	(11) CPPA is independent from NTDC ***Baseline (FY2012/13)***: CPPA is still a unit within NTDC	(11) ***Target (FY2016/17)***: all contracted power generated by IPPs, GENCOs, and WAPDA is traded through an independent CPPA	(11) (Achieved) CPPA became independent from NTDC in 2015, and had its own building in late 2017; all contracted power generated by IPPs, GENCOs, and WAPDA is being traded through CPPA
Policy area C: Ensuring Accountab ility and Transpare ncy	(12) Access to operational and payment information publicly available from the website ***Baseline (FY2012/13)***: not available	(12) ***Target (FY2016/17)***: available on CPPA and DISCOs' websites	(12) (Achieved) Management data were available at the NTDC website, while operational and payment information is available at the CPPA website
	(13) Access to licensees' performance available on the NEPRA website ***Baseline (FY2012/13)***: available only in NEPRA's published report	(13) ***Target (FY2016/17)***: available on NEPRA website	(13) (Achieved) NEPRA has disclosed the information on performance of DISCOs, NTDC, and K-Electric (private generation and distribution company in Karachi) in its reports, available at its website, since 2015

[24] The IMF decided to offer EFF of $6.6 billion for three years in September 2013. The EFF requested Pakistan to expend certain efforts, including energy sector reform. If the performance criteria set in the program is reached, the funds would be provided.

	(14) Quarterly reporting and public disclosure on the implementation status of the energy sector reform ***Baseline (FY2012/13)***: not available	(14) ***Target (FY2013/14)***: the reports are published quarterly.	(14) (Partially achieved) MOWP has published its monitoring reports since 2014, but not quarterly;[25] the summary report of the progress of the program is under the process of formulation and publishing

(Note) Indicators are cited from documents provided by JICA. The status of indicators in May 2017 was based on the following documents: *Sustainable Energy Sector Reform Program (Subprogram 3): Report & Recommendation of the President*, ADB, May 2017, Appendix 4; *Implementation Completion and Results Report for Power Sector Reform Development Policy Credits I & II*, World Bank, December 2017, p. 1.; and documents provided by JICA.

3.2.1.3 Qualitative Effects (Other Effects)

The ex-ante evaluation report mentions that "…this program supports implementing a variety of energy sector reform promoted by the Pakistani government as well as enhancing the government's financial status and stimulating economic activity."[26] However, since "enhancing financial status" and "stimulating economic activities" are considered to be indirect and long-term effects, they are analyzed in section 3.2.2 Impacts.

3.2.2 Impacts

3.3.2.1 Intended Impacts

1) Impacts on enhancing financial status and stimulating economic activities

The Pakistan government proposed its economic reform plan to the IMF and requested the IMF to resume its support in July 2013 in response to the financial stress and circular debt. After the IMF Program to Pakistan went off-track in 2011, there was no financial support from the IMF. However, it decided to offer an EFF of $6.6 billion for three years in September 2013 in order to reduce financial deficit and promote investment and economic growth through economic structural reforms. The EFF requested Pakistan to make efforts toward reducing the budgetary deficit, increasing revenues, reforming the energy sector, improving the investment environment, and reforming state owned companies among others. The fund was to be released in phases after confirming the achievement of performance criteria set in the program through reviews (12 times in total), and was expected to contribute to economic stability. The completion of the program was approved in September 2016, and a final review was conducted. It was then confirmed that all performance criteria were reached.

Table 4 shows the progress of the main economic indicators of fiscal balance, international balance of payments, and economic growth rate of Pakistan between 2013 and 2017.

[25] The latest report was published in June 2017 at the time of *ex-post* evaluation in September 2018.
[26] The ex-ante evaluation report.

Table 4. The Progress of Main Macroeconomic Statistics

	2013	2014	2015	2016	2017
Fiscal Balance (ratio to the GDP) (%)	-8.2	-5.5	-5.3	-4.6	-5.8
Amount of Fiscal Deficit (1 billion PKR)	1,834	1,389	1,457	1,349	1,864
Gross Public Debt (ratio to the GDP) (%)	63.9	63.5	63.3	67.6	67.2
International Balance of Payments (ratio to the GDP) (%)	-1.08	-1.28	-1.00	-1.75	-4.09
Real Economic Growth Rate (%)	3.68	4.05	4.06	4.51	5.28

(Source) Fiscal balance (ratio to the GDP) and gross public debt are drawn from the Ministry of Finance (Federal Budget: Budget in Brief, Annual report) website. The amount of fiscal balance and international balance of payment (ratio to the GDP) are drawn from State Bank of Pakistan's website (Annual Report). The real economic growth rate (2005/06 standard) is drawn from Statistical Bureau of Pakistan's website.

Fiscal balance gradually improved from 2014 to 2016, but worsened in 2017. The ratio of gross public debt to GDP also improved gradually between 2013 and 2015, with an increases post-2016. The deficit of international balance of payments (ratio to the GDP) also increased on and after 2016, showing a rapid increase in 2017. This deterioration of financial status was partly caused by the expansion of debt and imports for big projects, such as China–Pakistan Economic Corridor (CPEC).[27]

Statistics of the annual economic growth rate show steady figures of 4–5%, but it is difficult to measure the extent to which energy sector reforms have contributed to the improvement of macroeconomic data.[28]

(2) Sustainable and stable supply of electricity

Table 5 shows the basic indicators to check conditions of sustainable and stable supply of electricity. Total national capacity of power generation and the total generation and sales (consumption) of electricity have been expanding since 2015, partly because of market participation of independent power producers (IPP). The total national capacity of power generation at the end of FY2017/18 was 30,467 MW.[29] On the other hand, demand for electricity has been increasing along with the expansion of economic activities. However, the electricity supply cannot catch up with increasing demand, although the amount of electricity generation has been increasing. The gap between supply and demand still exists, leading to frequent load shedding, but these conditions have gradually been improving.

The existence of circular debt was the biggest factor stifling stable electricity supply; the reduction of subsidies to electricity tariff and improvement of collection rate of DISCO tariff

[27] *First Post-Program Monitoring Discussions, IMF Country Report No.18/78*, March 2018

[28] The gap between supply and demand of electricity still reportedly exists, and Pakistan's GDP has reduced by approximately 2% because of load shedding and shortage of electricity (*Implementation and Completion and Results Report for Power Sector Reform Development Policy Credits I & II*, World Bank, 2017/12, p. 1.)

[29] Document provided by the MoE.

were important goals of the project. As shown in Table 5, the total amount of energy sector subsidies and its ratio to GDP steadily reduced from 2013 to 2017. Besides, the collection rate of DISCO tariffs reached 94% in FY2016/17. The target of the reduction of government receivables was set to reduce from 410 days at the level of the provincial government and 180 days at the level of the federal government in FY 2012/13 to 90 days in FY2014/15. The Implementation Completion Reports of the World Bank and the ADB reported that, while the goal was reached at the federal level, there was no concrete data at the provincial level. This implied that improvements were still progressing at the provincial level.[30]

Table 5. Changes of Major Indicators of Power Sector

	FY2013/14	FY2014/15	FY2015/16	FY2016/17
Total National Capacity of Power Generation (MW)	23,702	24,961	25,421	28,399
Total sales (consumption) of electricity (GWh)	87,948	89,929	94,354	99,391
Total generation of electricity (GWh/month)	105,698	108,916	114,093	120,621
Total amount of energy sector subsidies (billion PKR) (ratio to the GDP, %)	472.1 (1.8%)	292.0 (1.1%)	171.2 (0.7%)	118.0 (0.4%)
Power transmission and distribution loss rate (%)	18.6	18.8.	17.9	17.9
Load Shedding hours (average hour/day) (industry sector below)	8–9 (8)	6–8 (1)	5–7 (0)	3–4 (0)

(Source) (1) Total national capacity of power generation, total sales (consumption) of electricity, and total generation of electricity are based on NEPRA, *State of Industry Report 2017.* Total sales (consumption) of electricity is the amount of electricity purchased by distribution companies. (2) The total amount of energy sector subsidies is based on the interview to the MoE. (3) Power transmission and distribution loss rate, load shedding hours are based on the documents of MoWP.

Much importance was attached to the privatization or introduction of a market mechanism (competition) in the reform for sustainable and stable supply of electricity. Privatization and introduction of a market mechanism did not progress as originally planned, and both continue to be an obstacle for sustainable and stable supply of electricity. Its current status is outlined below.

In the power generation sector, independent power producers (IPPs) exist; their number and shares have also been increasing. In the transmission sector, NTDC is still only one public company, and there is no plan for changes because this sector is not profitable. In the power distribution sector, privatization or participation of private distribution companies in the market was expected, but no progress took place. The sector continues to be dominated by public distribution companies in each area. The government proposed to partly sell the stocks of public

[30] The information and data of debt status of companies in the energy sector could not be attained (both the Ministry of Finance and the MoE do not disclose detailed data, and provided no answer to the questionnaire of the evaluation team). Therefore, it is difficult to analyze the extent to which the conditions of circular debt have improved.

power distribution companies. However, this has not been realized, because of the following reasons.

1) Trade unions in public companies are opposed to privatization and introduction of competition in the market because they seek to maintain their jobs. Opposition parties have also resisted privatization.

2) It was difficult to introduce competition in the power distribution sector, since electricity supply is far below its demand.

3) A public distribution company in Karachi, Karachi Electric Supply Company (KES), was privatized to K-Electric in Sindh Province. However, its management suffers from poor performance (high distribution loss rate, power failure, corruption, etc.), discouraging the privatization of other DISCOs.

The introduction of competition in the gas distribution sector was also proposed as a reform agenda, but public companies still continue to dominate gas distribution in each area.

3.2.2.2 Other Positive and Negative Impacts

(1) Impacts on the Natural Environment

Based on JICA's Guidelines for Environmental and Social Considerations (issued in April 2010), this project is not expected to have serious adverse effects on the environment in light of sector, project, and region characteristics. Therefore, it was considered "Category B." At the time of the ex-post evaluation, it was confirmed through the executive agency that no negative impacts on natural environment have occurred from the implementation of policies related to this project.

At the time of appraisal, it was planned that a strategic environmental assessment (SEA) would be conducted for the policy actions related to the least cost planning (LCP) through the Project for Least Cost Generation and Transmission Expansion Plan. Its current status is outlined below.

It was clearly mentioned that the SEA should have been introduced promptly in making decisions regarding environmental conservation policy in the *National Environmental Conservation Policy 2005* (Close No. 5, Section No. 1, d). This is Pakistan's basic plan for environmental conservation. On the other hand, the implementation of SEA in the process of formulating policies and plans is not an obligation under the country's environmental protection law. By an amendment of the constitution, the national environmental policy came under the jurisdiction of each province. SEA implementation was added to provincial environmental protection laws in Baluchistan Province and Sindh Province, but there are no clauses for SEA in Punjab Province and Khyber Pakhtunkhwa (KP) Province. Although comprehensive LCP of generation, transmission, and distribution of electricity was formulated as part of JICA's technical assistance for the program's policy actions, LCP is a comprehensive mid- and long-term plan, and substantial policies and plans of each province have not been materialized, then the SEA has not yet been implemented.[31]

(2) Resettlement and Land Acquisition

At the time of appraisal, no specific impact on the issues of resettlement and land acquisition was expected. No resettlement and land acquisition issues have been observed at the time of ex-post evaluation as well.

(3) Unintended Positive/Negative Impacts

At the time of appraisal, the project was expected to mitigate the impacts of climate change, because it contributed to energy conservation and reduction of the transmission and distribution loss rate. However, it is difficult to measure these effects and loss rates arising from energy sector reform. Thus, the impacts of the project on mitigation of climate change could not be verified.

Therefore, regarding the effectiveness, operation and effect indicators of power sector subsidies (ratio to the GDP), the power transmission and distribution loss rate (%) and the collection rate of the electricity tariff (%) reached the target values. However, the numbers of notification of energy efficiency standards failed to reach the target. Among 14 indicators set by the policy matrix formulated by donors, six indicators did not reach the target or partially reached it during FY2016/17. Regarding impacts, the deficits of fiscal balance and international balance of payments gradually improved until 2015; then, the deficits increased after 2016. It is because various external factors other than power sector reforms such as increase in loans and imports for CPEC related projects have affected them. Thus, it is difficult to verify the extent to which power sector reforms have affected the macro economy in terms of financial status and vitalization of economic activities. On the other hand, the impact of the program on sustainable and stable provision of electricity can be identified to some extent because the total national capacity of electricity facility, as well as the annual electricity generation and sales, has been increasing since 2015 partly because of IPP entries. Moreover, the total average hours of load shedding has been decreasing.

In short, this project has, to some extent, achieved its objectives. Therefore, the effectiveness and impact of the project are fair.

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[31] The situations of the SEA in the gas sector are almost the same as that in the power sector. Project-based environmental assessment in the energy sector is conducted as EIA (environmental impact assessment) not as SEA.

3.3 Sustainability

3.3.1 Institutional/Organizational Aspect of Operation and Maintenance

In the energy sector in Pakistan, since 1958 the Water and Power Development Authority (WAPDA) under the Ministry of Water and Power (MoWP) had been responsible for all of generation, transmission, and distribution of electricity. Moreover, it was a vertically integrated executing agency for providing electricity in all areas except Karachi. In 1998, to encourage efficacy in electricity supply, the WAPDA gained responsibility only for hydro power, while the responsibility of other sectors were divided as follows: four GENCOs in generation sector, one NTDC in transmission sector, and 10 DISCOs in distribution sector. Regulations, such as approval of power producers, decisions regarding electricity tariff are conducted by NEPRA, which was established in 1995. Electricity provided by WAPDA, GENCOs and IPPs is purchased by the CPPA as a single buyer, which sells electricity to each DISCO.[32]

The executing agency of the project was the Ministry of Finance, which supervised the progress of the whole program. Each action plan was administered by the MoWP and the Ministry of Petroleum and Natural Resources (MPNR). The program monitoring unit (PMU) established in those ministries have been monitoring the progress of each item of reform. The members of the PMU were designated from related organizations under each ministry, such as NTDC. They were to draft quarterly monitoring reports on the reform's progress, and to report the progress to the Economic Coordination Committee (ECC). The reports were supposed to be disclosed to the public by each ministry.[33] In fact, a monitoring report was published by the MoWP in March 2017, which summarized the progress of the reform.[34]

After 2014, the CPPA, which was a department inside the NTDC owing to organizational reform, gained independence from NTDC because of the policy action of the reform program in 2015. Then, the MoWP and the MPNR were integrated into the Ministry of Energy (MoE) in 2017.

The jurisdiction of the WAPDA changed from all electricity sectors to the hydro power sector in 1998; the generation, transmission and distribution of electricity were divided based on each function and public companies of generation and distribution were established in each area of Pakistan. At the time of the ex-post evaluation, each sector of generation, transmission, and distribution is vertically divided, and distribution companies are already separated horizontally according to each franchise area.

On the other hand, there is a lack of specialized unit that can be responsible for all reform agendas and collect detailed information of the whole power sector. Relevant organizations of

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[32] Document provided by JICA.
[33] Document provided by JICA.
[34] *Monitoring Report: Energy Sector Reforms Program*, MOWP, March 2017. No new report was published later in August 2018.

power sector are managing individually and independently. Therefore, it is one of the major challenges in combining all policy efforts and actions together.[35] While policy actions of this reform program are related to several different organizations and sections, there is no institutional mechanism (unit) for supervising the implementation of policy actions as a whole. During the program, there was a PMU in both MoWP and MPNR that monitored the progress of each policy reform agenda. However, no such specific unit responsible for monitoring continuously the entire policy reform agenda exists after the completion of the program, while each policy action has been continuously implemented by relevant offices.

For example, the project of formulating the "Least Cost Generation and Transmission Expansion Plan" was implemented by designating NTDC a main counterpart. This is because NTDC is singularly responsible for transmission, while there are numerous organizations in generation and distribution sectors. Close coordination is necessary between organizations in generation, transmission, and distribution sectors for implementing the Least Cost Generation and Transmission Expansion Plan formulated by the project and a mechanism for mutual coordination is essential. Thus, to formulate the total plan of generation, transmission, and distribution of electricity, and to make it effective, it is necessary to create an unit within the MoE or others, which can formulate a comprehensive energy sector plan, collect and analyze related information and data and to strengthen a monitoring mechanism for grasping the whole process of reforms.[36]

3.4 Added value by JICA

The donor policy matrix and the policy actions framework of the project were formulated through a dialogue between the ADB (as a lead donor), the World Bank, JICA, and the Pakistani government based on the *National Power Policy 2013*. While a common policy matrix was a basis of financing among these donors, each donor provided its own technical assistance for policy actions it emphasized. JICA provided its technical assistance to implement the policy actions in Policy Area B (improving sector performance and opening the market to private participation), such as "Energy Conservation and Efficiency" and "Least Cost Generation and Transmission Expansion Plan"[37] (Reportedly, the World Bank provided technical assistance, focusing on privatization and introduction of competition in the distribution sector[38]).

JICA supported policy and institutional reform by dispatching experts to formulate the "Guidelines on minimum energy performance standards and labeling" and the "Least Cost

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[35] Based on the interviews with experts.
[36] Based on an interview to an expert and field survey of a local consultant. A new *National Electricity Policy and National Electricity Plan 2018* is now in the process of formulation, and a unit of "Power Coordination, Policy and Finance Wing" of the MoE (Power Division) is in charge of its coordination.
[37] Based on interviews to JICA experts in the sector.
[38] Based on the ICR of the WB and interview to the WB staff who were in charge of the program at the time.

Generation and Transmission Expansion Plan". The framework of the development policy loan was designed to encourage policy reform efforts by using budgetary support as leverage. The technical assistance which was provided to support the realistic implementation and realization of each policy action, made a significant contribution to implementation of the policy actions, considering Pakistan's limited capacity and knowhow in those areas.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objective of the project is to support the reform of the energy sector, with co-financing from the World Bank and ADB, by addressing the sector's structural problems that have led to the deterioration of Pakistan's financial status and international balance of payments.

The project coincides with the development policy and needs of Pakistan at the time of both appraisal and ex-post evaluation. The project also coincides with Japan's ODA policy at the time of the appraisal. As a result of examining the process of formulating the policy matrix in coordination with other donors, no major problems could be found in terms of the appropriateness of the project planning and approach. Therefore, the relevance is high.

With regard to effectiveness, the operation and effect indicators of power sector subsidies (ratio to the GDP), power transmission and distribution loss rates (%), and collection rate of electricity tariffs (%) reached their target values. However, the number of notifications of energy-efficiency standards did not reach its target. Of the 14 indicators set by the policy matrix formulated by the donors, 6 indicators did not reach or only partly reached their targets. With regard to impact, the deficits of the budgetary balance and international balance of payments have been improving up to 2015, but the deficits increased after 2016. It is difficult to verify how much the power sector reforms have made an impact on the financial status and vitalization of economic activities because several external factors other than the power sector reforms have affected them. Because the total national capacity of power generation and total electricity generation and sales have been increasing since 2015, partly because of the entry of many IPPs and the decrease in total average hours of load shedding, the impact of the project on the sustainable and stable provision of electricity can be determined to some extent. Therefore, the effectiveness and impact of the project are fair.

With regard to sustainability, one of the challenges is the lack of a unitary system to monitor the progress of all aspects of the power sector reforms.

4.2 Recommendations

4.2.1 Recommendations to the Relating Agency (Ministry of Energy)

Although the policy reform agendas raised in this project have been continuously implemented by each relevant section, there is no specialized unit that could be responsible for grasping the progress of the entire reform agenda. Relevant organizations of power sector are managing individually and independently. Thus, consolidating all efforts of each policy action is a major challenge.

It is desirable to create a dedicated unit for monitoring the progress of policy actions, formulating a comprehensive energy sector plan, collecting and analyzing related information and data (taking the role of think-tank) within the MoE or others, and strengthening the mechanisms thereof by arranging qualified and experienced staff, as soon as possible.

4.2.2 Recommendations to JICA

Although the policy reform agenda raised in this project has been continuously implemented by each relevant section, there is no specialized section that could be responsible for monitoring the entire reform agenda continuously. Thus, it is also difficult to grasp the progress of the policy reform after the project's completion. It is desirable for JICA to request Pakistan for monitoring the progress of reform agenda, collecting information on the results in a timely manner, and using the information to formulate JICA's future assistance policy in the energy sector.

4.3 Lessons Learned

(1) <u>A development policy loan using a common policy framework coordinated with other major donors can effectively encourage policy reform in the target sector:</u>

The development policy loan framework was designed to encourage efforts toward policy reform through budgetary support as leverage. It effectively encouraged serious efforts by the Pakistan government toward more reform. Co-financing using a common policy framework coordinated with other major donors effectively strengthened the pressure for reform too.

<u>(2) The combination of development policy loan and technical assistance in the policy agenda can effectively accelerate policy reform:</u>

To support concrete implementation of policy actions under the development policy loan, it was effective for JICA to realize the policy reform and its implementation by providing technical cooperation, such as dispatching experts and conducting development study, as well as providing the development policy loan.

The Hashemite Kingdom of Jordan

FY 2017 Ex-Post Evaluation of Japanese ODA Loan Project

“Fiscal and Public Service Reform Development Policy Loan”

External Evaluator: Takeshi Daimon, Waseda University

0. Summary

This project aimed to build capacity of public debt management and improve public services (electricity and water) by supporting policy reforms in the fields of public debt management and public services (electricity and water), thereby contributing to stabilize the economic growth of Jordan. The project has been highly relevant to Jordan’s development policy and needs as well as Japan’s ODA policy, and the project planning and approach have been overall appropriate. The implementation of the project helped improve debt management capacity and issuance of sukuk bonds to diversify funding sources. It introduced a cost recovery mechanism in the electricity sector to reduce debt in electricity company, and thus the effectiveness is high. In addition, it has reduced the burden for deficit subsidy for electricity sector and partially contributed to the stabilization of the macroeconomy. Some degree of impact has also been realized, through such contributions as reducing environmental burden by utilizing liquid natural gas (hereinafter, “LNG”). Therefore, the project has generated certain effects so its effectiveness and impact are high.

1. Project Description

Project Location（Entire Jordan）

LNG Terminal（Aqaba）

1.1 Background

Jordan is surrounded by Syria, Iraq, Saudi Arabia, Israel and Palestine, and is very sensitive to the Middle Eastern situation. In particular, since 2010, it has been affected by the Syrian crisis.

As of 2015, according to the United Nations High Commissioner for Refugees[1] (hereinafter, "UNHCR"), Jordan had approximately 620 thousand Syrian refugees. On the other hand, it has established diplomatic relations with Israel, and while receiving active economic assistance from the United States, played an intermediary role with Palestine, assuming a geopolitically important role.

Economically, Jordan depends highly on investments from abroad or tourism revenue; therefore, it is influenced by the situation in surrounding countries and petroleum prices, and its economic structure is vulnerable to external factors. Since the 2008 world financial crisis, the Arab Spring in the beginning of 2011, and decline in trade due to the Syrian conflict, the economic growth rates have depressed from 8% level in 2004 to 2007 to 2% to 3% since 2010. In this context, to maintain public services (water, electricity, and so on) for the huge influx of Syrian refugees, the budget balance has worsened, reaching over 11% of GDP in 2013. In addition, public debt has worsened since 2008 due to the slowdown of economic growth, increase in budget deficit, and financial problems of the National Electric Power Company (hereinafter, "NEPCO"), reaching 89% of GDP in 2014.

To initiate financial consolidation, the Government of Jordan signed the Stand-by Agreement with the International Monetary Fund (hereinafter, "IMF") in 2012, and has expanded donors' assistance on budget support.

1.2 Project Outline

This project aimed to build capacity of public debt management and improve public services (electricity and water), by supporting policy reforms in public debt management and public services (electricity and water), thereby contributing to stabilize the economic growth of Jordan.

Loan Approved Amount/ Disbursed Amount	24,000 million yen / 23,976 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	May 2015 / May 2015
Terms and Conditions	Interest Rate 1.7% Repayment 25 years (Grace Period 7 years) Conditions for Procurement General Untied
Borrower/Executing Agency	The Government of the Hashemite Kingdom of Jordan/Ministry of Planning and International Cooperation (MOPIC)
Project Completion	December 2015
Main Contractor (s)	-
Main Consultant (s)	-
Related Studies (Feasibility Studies, etc.)	N.A.

[1] It is followed by Turkey and Lebanon in the number of Syrian refugees. Upon completion of refugee registration at UNHCR, the Syrian refugees are sent to refugee camps; however, more than eighty percent actually live outside these camps in Amman, Irbid, Mafraq, and so on (JICA provided materials).

Related Projects	ODA Loan Projects "Fiscal Consolidation Development Policy Loan (March 2014)" "Financial Sector, Business Environment and Public Sector Service Reform Development Policy Loan (December 2016)" Technical Cooperation Projects Country Specific Training "Improvement of Public Debt Management" (January 2012 and March 2014)Technical Assistance related to ODA Loan, "Study on the Possibilities of Sukuk Issuance by the Government of Jordan" (September 2013 to March 2017) "Fiscal Management Expert" (September 2015 to September 2017) "Electric Power Policy Advisor" (September 2013 to March 2017) "The Project for the Study on Electricity Sector Master Plan" (October 2014 to March 2017) "Project for formulating Water Supply Plan for the Host Communities of Syrian Refugees" (December 2013 to May 2017) ODA Grant Aid Projects "The Program for Urgent Improvement of Water Sector for the Host Communities of Syrian Refugees in Northern Governorates" (March 2014) "The Program for Urgent Improvement of Water Sector for the Host Communities of Syrian Refugees in Northern Governorates (Phase 2)" (May 2017) World Bank "Development Policy Lending (DPL) I" (February 2012) "Development Policy Lending (DPL) II" (April 2014; co-financing with JICA) IMF "Stand-By Agreement"(SBA) (August 2012) "Extended Fund Facility" (August 2016)

2. Outline of the Evaluation Study

2.1 External Evaluator

Takeshi Daimon, Waseda University

2.2 Duration of the Evaluation Study

This ex-post evaluation study was conducted with the following schedule:

Duration of the study: November 2017–January 2019

Duration of the field study: March 9–April 5, 2018; July 7–July 20, 2018

2.3 Constraints during the Evaluation Study

This project aimed to coordinate with multiple other donors and schemes, and to achieve effectiveness, it collaborated with the Islamic Private Development Corporation and Japanese financial institutions. Therefore, it is important to note the possible influence of relevant donors or other schemes in terms of the project's effectiveness analysis.

Although efficiency of the project should be analyzed quantitatively by comparing inputs and output, this approach is difficult to conduct due to the characteristics of program typed loan project. In addition, only institutional aspect of sustainability, the implementing and monitoring mechanism of policy reform in particular, was analyzed in this ex-post evaluation. Thus no sub-rating was provided for efficiency and sustainability. Therefore, no overall rating was provided.

3. Results of the Evaluation

3.1 Relevance (Rating: ③[2])

3.1.1 Consistency with the Development Plan

At the time of appraisal, the Government of Jordan was implementing its *National Agenda 2007-2017* for reforms, which aims to assure the international competitiveness as the long-term growth goal through improvement of the business environment, assurance of employment opportunities, and consolidation of the industrial base on the stable macroeconomic management. This project was based on the agenda and seven goals[3] for the government action plans, under the *Government Work Plan 2013-2016* (hereinafter, "GWP"), supporting "fiscal and financial stabilization" and "modernization of public sector" that are consistent with the development policy of Jordan.

At the time of ex-post evaluation, *Jordan 2025 (2015-2025)* was the successor to *National Agenda 2007-2017* (renamed to "*National Agenda 2006-2015*"). Similar to the goals of *National Agenda 2006-2015*, stable macroeconomic management based growth scenario was envisaged in *Jordan 2025*. GWP (2013-2016), Executive Development Plan (hereinafter, "EDP") *(2016-2018)* and *Jordan Economic Growth Plan* (hereinafter, "JEGP") *(2018-2022)* are policies based on the upper 10-year plan, and consistently advocate fiscal discipline and improvement of quality of public services, recognized as consistent with the project. In Jordan, "fiscal and financial stabilization" and "modernization of public sector" are highly prioritized development policies, and this project has complied with the development policy.

3.1.2 Consistency with Development Needs

At the time of appraisal, the bankruptcy of Lehman Brothers in 2008, the Middle Eastern political turmoil since the end of 2010 "Arab Spring," the decline in investment in EU after the Greek debt crisis, and so on, have led to lowered economic growth of 2.8% (2013) and 3.4%

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2 ③: High, ②: Fair, ①: Low

3 The seven goals include 1) fiscal and financial stabilization, 2) judicial and legislative consolidation, 3) modernization of public sector and human resources, 4) strengthening of knowledge-based economy, 5) improvement of investment environment, 6) promotion of rural development, 7) implementation of mega public private partnership (PPP) in energy, water, and transport sectors. (MOPIC provided materials.)

(2014).[4] In addition, providing public services to Syrian refugees made it difficult to reduce budget expenditure, increasing subsidizing deficit to NEPCO, and contributing to the chronic budget deficit, which became –2.3% of GDP in 2014.[5] Public debt reached 89.0% (2014) of GDP, in which domestic debt accounted for 57.5%, largely from the massive issuance of domestic bonds (paid out to domestic banks). Consequently, the increasing burden of public services, including electricity and water supply for Syrian refugees, the high cost of electricity generation due to the decline of LNG import for power generation from Egypt due to worsening of situation in the Middle East, and dependence on oil, all led to the structural factors of budget deficits to be improved, which require addressing policy issues in fiscal and budgetary services.

At the time of the ex-post evaluation, fiscal balance per GDP remained nearly the same in 2017 (–2.6%) compared to 2014 (–2.3%), as described in "3.3 Impact"; however, public debt per GDP worsened in 2017 (94.3%) compared to 2014 (89.0%). There remains high necessity for fiscal reform measures. The electricity tariff has reflected cost-recovery, as introduced in 2017, and the deficit has improved. In terms of energy savings, as NEPCO made a contract with one LNG supplier only, and water-saving measures are in the pipeline, sector reform is very necessary.

On the basis of above, the project has complied with the development needs of Jordan.

3.1.3 Consistency with Japan's Development Policy

This project was consistent with "the maintenance of stability and development of industrial base," "promotion of self-disciplined and continued growth," "poverty alleviation and improvement of social disparity," and "inter-regional communication towards the creation of peace" as advocated in the *Country Assistance Policy* (June 2012). Under this policy, *JICA's Country Analysis Paper* (March 2015) also mentions, the "maintenance of stability and development of industrial base," "promotion of self-disciplined and continued growth," "poverty alleviation and improvement of social disparity," and "inter-regional communication towards the creation of peace" as important support areas. Specifically, the policy promoted development policy planning and implementation, fiscal consolidation, employment promotion, and the stability of host community of Syrian refugees, and thus this project was considered consistent with these policies.

3.1.4 Appropriateness of the Project Plan and Approach

At the time of planning, this project was scheduled to be completed on the date of final disbursement (December 2015), while the period of assistance began from January 2015, before

[4] According to JICA provided materials and Ministry of Finance.
[5] Including grants, Ministry of Finance.

signing the loan agreement, to the end of 2017, or two years after project completion.[6] When the Prime Minister Abe visited the Middle East in January 2015, he pledged 12 billion JPY as assistance, and upon a request of increase from Jordanian side, finally decided to extend 24 billion JPY. This increase due to policy considerations has no effect on policy items and the policy matrix of the project has been appropriate, logical, and rational, as assistance in terms of fiscal discipline, and electricity and water sector reforms, which were policy issues at the time of appraisal. In addition, the project aligned with the timing of policy reforms after the signing of the IMF Stand-by Agreement and the timing was appropriate for the assistance. Therefore, the project plan and approach were confirmed to be overall appropriate.

In light of the above, this project has been relevant to Jordan’s development policy, development needs, and Japan’s development policy, and the project plan and approach were overall appropriate. Therefore, its relevance is high.

3.2 Effectiveness[7] (Rating: ③)

3.2.1 Effectiveness

3.2.1.1 Policy Action

This project was intended to improve 1) debt management and 2) public services (electricity and water sectors) and support continued reforms. To achieve policy objectives and effectively monitor progress, it was decided that, achievement of policy action I was confirmed at the time of appraisal, and the first disbursement was to be effectuated (June 2015) after signing the loan agreement (May 2015). The second disbursement was to be effectuated after policy action II was achieved. Concretely, the policy actions on the below (7 items) were conditional on the loan agreement. “Prior Action I” was achieved by the time of appraisal (January 2015) and achievement of “Prior Action II” was a condition for the second disbursement (December 2015). For this ex-post evaluation, the achievement of Prior Action II and the following progress were evaluated.[8]

(1) Public Debt Management Reform

① Improvement of Public Debt Management

(a) Prior Action I

Debt Management Tool Development Plan was approved (achieved by the time of appraisal)

[6] According to JICA provided materials. It was planned to impart continuous technical cooperation, including dispatching experts, and so on, to achieve goals of policy reform after project completion

[7] Sub-rating for effectiveness is to be put with consideration of Impacts.

[8] Source: MOPIC

(b) Prior Action II

The issuance of debt management report, including future forecast, analysis, and stress test, extracted from data in debt management tool

(c) Achievement of Prior Action II

The debt management report FY 2015-2019 has been approved by the Minister of Finance and been submitted to JICA on December 9, 2015. In this sector, assistance was also provided by the United States Agency for International Development (hereinafter, "USAID") and the Word Bank. Therefore, the prior action II was considered to be achieved by December 2015.

② Diversification of Government Funding Sources

(a) Prior Action I

The FY 2015 Budget law, securing sukuk issuance, was submitted to the parliament (achieved by the time of appraisal).

(b) Prior Action II

FY 2016 Budget law submission to parliament, securing sukuk issuance

(c) Achievement of Prior Action II

On November 8, 2015, the cabinet approved the FY 2016 Budget, presupposing the issuance of sukuk, which was submitted to the parliament the same month. However, the sukuk was not issued until October 2016, before the second disbursement; however, the necessary budgeting had been made for the issuance beforehand; therefore, prior action II was considered to be achieved. As discussed in "3.2.1.2 Quantitative Effect," one expert has been sent to the Ministry of Finance in the related field.

(2) Public Sector Service Reform

① Formulating Electricity Sector Long Term Plan

(a) Prior Action I

Signing R/D with JICA on the Electricity Sector Master Plan Project[9] and selecting the steering committee (achieved by the time of appraisal).

(b) Prior Action II

Approval of the steering committee and the start of its activities

(c) Achievement of Prior Action II

On January 14, 2015, the list of Joint Coordinating Committee (JCC) equivalent to the steering committee was submitted to JICA, and the JCC was held in March and November 2015.

[9] A detailed design study was conducted in August 2014, and JICA signed the Record of Discussion (R/D) with Jordan in October 2014.

Therefore, Prior Action II was considered to be achieved. Subsequently, in February 2017, the Master Plan was prepared with the assistance of JICA.[10]

② Deficit Improvement of NEPCO

(a) Prior Action I

Tariff was raised in 2014 (achieved by the time of appraisal)

(b) Prior Action II

Maintenance of increased tariff

(c) Achievement of Prior Action II

On July 4, 2013, the cabinet approved a tariff increase for 2013-2017 and the Prime Minister signed the cabinet decision. The raise in tariff was effectuated in 2014 and early 2015. However, in February 2015, the rate was reduced from the originally planned 15% to 7.5%. Therefore, it was necessary to follow up the tariff structure thereafter. Furthermore, upon advice by the IMF,[11] in January 2017, the Fuel Adjustment Clause Mechanism was introduced and the electricity tariff rationalized.[12]

③ Securing Alternative Fuels

(a) Prior Action I

Cabinet approval of sales and purchase agreement for LNG (achieved by the time of appraisal)

(b) Prior Action II

Completion of LNG terminal construction

(c) Achievement of Prior Action II

On December 14 2015, a letter signed by the Minster of Energy and Mining and submitted to MOPIC confirmed completion of LNG terminal construction. The LNG terminal is completed and operational (confirmed by the site visit). Therefore, Prior Action II is considered to be achieved.

④ Promotion of Energy Efficiency and Renewable Energy in Water Sector

(a) Prior Action I

The first draft plan for energy efficiency and renewable energy was submitted and approved (achieved by the time of appraisal)

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[10] *Jordan, Electricity Sector Master Plan*, JICA, 2017, Tokyo.

[11] *IMF Press Release No.16/381*, IMF, 2016, Washington

[12] p.34, footnote 22 says, “since January 2017, tariff has been adjusted automatically to allow cost recovery and loss was able to be avoided.” (*Technical Assistance Report -Public Investment Management Assessment*、IMF, 2017, Washington)

(b) Prior Action II

Policy paper approval and securing the project budget

(c) Achievement of Prior Action II

On June 14, 2015, Prime Minister signed the budget reflecting the policy paper and priority projects for energy efficiency and renewable energy, and on October 21, 2015, the achievement of Prior Action II was confirmed after submission to MOPIC.

⑤ Reduction of Burden on Syrian Refugee Hosting Communities

(a) Prior Action I

A road map of the master plan for water sector facilities for the host communities of Syrian refugees in Northern governorates to be submitted and approved (achieved by the time of appraisal)

(b) Prior Action II

Proposal of priority project was drafted.

(c) Achievement of Prior Action II

On October 18, 2015, a letter signed by the Minister for Water and Irrigation was submitted to MOPIC with a proposal for priority projects. The letter's acceptance by the MOPIC on October 21, 2015 was considered an achievement of Prior Action II.

3.2.1.2 Quantitative Effects (Operation and Effect Indicators)

At the time of appraisal, the effect of policy actions was supposed to appear two years after project completion (end of 2017). Therefore, the target value of operation and effect indicators was set for the end of 2017 (after two years of project completion), and ex-post evaluation was to be conducted after two years of project completion.

As quantitative effects (operation and effect indicators), targets corresponding to the above policy actions were set. However, no specific numerical targets were set, and the achievement or failure of policy goals were working as targets.

Table 1 Quantitative Effects

Policy Area／Objectives		Target (End 2017)	Achievement (End 2017)
Improve Debt Management Reform	Improvement of Public Debt Management	Issue a debt management quarterly report, including future forecast, analysis and stress test, extracted from data in debt management tool	The report has been s issued every quarter[13]
	Diversification of Government financing sources t	Issuance of sovereign sukuk	Issued on October 2016[14]
Improve Public Service	Drafting of Electricity Sector Long-Term Plan	Approval of the Long Term Plan (Master Plan) by Electricity Regulatory Commission and its implementation and monitoring by NEPCO	Master Plan was formulated and approved by Electricity Regulatory Commission and its implementation and monitoring were confirmed to be conducted by NEPCO[15]
	Improvement of Deficit of NEPCO	Full implementation of tariff increase to eradicate NEPCO deficit	Electricity tariff has been rationalized through the introduction of Fuel Adjustment Clause Mechanism (January 2017). [16]
	Securing of Alternative Fuels	Staring of electricity generation by LNG	The LNG terminal is operational and generating electricity. NEPCO contracts with only one LNG supply company; therefore, it is desirable to expand the supply source for stable energy supply
	Promotion of Energy efficiency and Renewable energy in Water Sector	Energy saving project (at least one priority project) is completed, and renewable energy project (at least one priority project) has started.	Since 2015, one energy saving project has been completed, and key projects for renewable energy have been implemented[17]
	Reduction of Burden on Syrian Refugee Hosting Communities	Water Sector: projects corresponding to the plan (Master Plan) (at least one priority project) have been completed.	At least one priority project was implemented in Northern governorates.[18]

Among the policy items, at the time of ex-post evaluation, "Fuel Adjustment Clause Mechanism" had been introduced in January 2017, which is related to deficit improvement of NEPCO; however, the actual increase in electricity tariff based on this mechanism did not occur until 2018. According to explanations by NEPCO, the international oil market was stable in 2017, and NEPCO registered positive operating revenues; however, as price hike in the international oil

[13] Hearing from MOPIC（March 2018）
[14] https://www.jica.go.jp/press/2016/20161017_01.html
[15] Hearing from MOPIC and NEPCO（March 2018）
[16] Above-mentioned IMF report and hearing from MOPIC and NEPCO（March 2018）
[17] Hearing from MOPIC and Water Supply Corporation（WAJ）（March 2018）In this context, recycle energy is not limited to the water sector.
[18] Hearing from MOPIC（March 2018）

market was expected for 2018, and inevitably, it was thought that the current tariff structure would result in deficits. In reality, NEPCO's balance sheets for 2015 to 2017 (Table 2) show a deficit in 2015, and surplus in 2016 and 2017; however, finances have worsened since the latter half of 2017 and surplus reduced by approximately 75% of the previous year. Ignoring the situation would cause a deficit in 2018; therefore, in June 2018, the Fuel Adjustment Clause Mechanism was implemented and tariff was increased, except for small-scale households (using 300 kW/month or less).

Table 2 Financial Situation of NEPCO（Unit：million Jordanian Dinar (JD)）

	2015	2016	2017
Operating Revenue	1,507	1,469	1,478
Operating Expenditure	1,637	1,269	1,426
Operating Profit	-131	200	51

Source：NEPCO Annual Reports and hearing from NEPCO

Now, the share of LNG per total power generation accounts for approximately 85% (2016[19]）. NEPCO contracts with Royal Dutch Shell for a daily average of 300 million cubic feet of LNG supply; [20] LNG supply by two different types of contracts, one for long-term (fixed) sales of LNG and the other for spot market (variable price).[21] In comparison to fixed price trading, the variable price allows the company to procure energy at the current market rate, and in this sense, saving costs; however, this is risky when market prices rise. The Ministry of Energy and Mining Resources, which regulates NEPCO, considers that for more stable procurement of energy, NEPCO should explore new market and suppliers and expand contracts with more than one company, and advises NEPCO when necessary in this matter.[22]

Moreover, for effect of energy efficiency and renewable energy promotion in the water sector, the following progress has been reported for 2017.[23] First, pumping stations in Wala and Ribb were renovated, saving 535,075 JD in electricity in 2017. In addition, pumping stations in Bagri, Zaramain, and Dise were renovated, saving electricity. In addition, German Kreditanstalt für Wiederaufbau (hereinafter, "KfW") has assisted in the modernization of Mafraq pumping station, to be completed during 2018, which supposes to use gravity to pump water rather than depending

[19] *NEPCO Annual Report 2016*, NEPCO, 2017, Amman

[20] Hearing from NEPCO (July 2018） and *The Economist Intelligence Unit: Jordan,* 2015, London http://country.eiu.com/article.aspx?articleid=1793602763&Country=Jordan&topic=Economy&subtopic=Forecast&subsubtopic=Policy+trends&u=1&pid=311536815&oid=311536815（accessed November 2, 2018)

[21] The spot market for electricity is one way of wholesale trading. The bidding for electricity prices occurs the day before, and the sales and purchases are matched.

[22] Hearing from Ministry of Energy and Mining Resources

[23] *Action Plan to Reduce Water Sector Losses*, Ministry of Water Resources, 2018, Amman, and hearing from the same ministry.

on electricity once it completed In addition, to reduce electricity costs for water supply the Water Corporation (hereinafter, "WAJ") has launched a renewable energy project using wind power in Ma'an, with sales revenue in 2017 (8,539 million JD). In addition, to save costs in water supply, KfW, French Agency for Development (AFD), International Finance Corporation (IFC), among others, has supported the Bweda Solar Energy Power Plant (capacity of 200MW), which is currently under construction.

In addition, as grant assistance from Japan, the "Project for Rehabilitation and Expansion of the Water Networks in Balqa Governorate (Phase 2)" (signed in August 2017) (1,391 million yen) and the "Program for Urgent Improvement of Water Sector for the Host Communities of Syrian Refugees in Northern Governorates (Phase 2) (singed in May 2017) (2,412 million yen) are on-going, expected to further increase the effectiveness of the project.

To reduce the burden of hosting Syrian refugee communities, the above-mentioned grant aid projects by JICA (on-going) following the drinking and sewerage water master plan will renovate and expand water pipelines in Balqa Governorate, located in the North West of capital city Amman, rationalizing water supply pressure and reducing non-revenue rate, thus improving water services to compensate for the additional burden for water demand due to the influx of Syrian refugees. Furthermore, the grant aid project will renovate water distribution pipelines in the Hawwara community in Irbid, northern Jordan, which is experiencing a massive influx of Syrian refugees[24]; thereby, further reducing the burden on host communities.

In addition, in November 2017, to complement the drinking water and sewerage sector master plan, KfW financed a 12.9 MW solar power plant in Zaatari Refugee Camp, saving some 6 million USD.[25] These savings means reducing the expenses of the host community on public goods/services, including water supply that entails electricity consumption, and meets the objectives of the master plan and reduces financial burdens on communities hosting Syrian refugees.

3.2.1.3 Qualitative Effects (Other Effects)

This project is intended to "improve budget deficit management through evaluating the past performance of improving the debt management capacity and supporting efficiency in the public service sector; thereby supporting development efforts of the Government of Jordan, aiming at macroeconomic stability".[26] Qualitative effects including "improvement of fiscal discipline," "enhancement of debt sustainability," "improvement of public services (electricity and water),", and "reduced burden on Syrian refugee hosting communities," [27] have been envisaged.

[24] Project Ex-ante-Evaluation Sheet
[25] J*ordan Fact Sheet February 2018*, UNHCR, 2018, Amman.
[26] Project Ex-ante-Evaluation Sheet.
[27] Ibid.

However, the effects on the aspects of stable macroeconomic management, improved fiscal discipline, enhanced debt sustainability, and reduced burden on Syrian refugee hosting communities are regarded as impacts rather than items of effectiveness at the time of ex-post evaluation.

For public services (electricity and water), the above mentioned "fuel adjustment clause mechanism" was introduced and improved NEPCO's financial situation, and the construction of an LNG terminal made it possible to stabilize the electricity supply by diversifying the source of power generation. While the cost of water supply has increased due to the increase in the electricity tariff, the promotion of energy efficiency and renewable energy counterbalances the higher supply costs. However, water is directly linked to people's daily lives, and it requires more political sensitivity in determining the tariff structure. Raising the water tariff to reflect the supply costs is more difficult than raising the electricity tariff. Therefore, WAJ's financial circumstances tend to be influenced by non-economic efficiency factors, and in 2016, it registered an operating deficit of 351 million JD (per GDP minus 1.3% equivalent), [28] which makes it difficult to escape the deficit loop.

Objectively, while these effects are recognized, from interviews with NEPCO and WAJ, as this project is development policy lending and not project lending, causality is deemed non-existent between the project and more stable water and electricity. Unlike the Ministry of Finance, these agencies have not received experts, and the operational staff have limited knowledge about Japanese policy lending, which might have led to such a recognition.

[28] *IMF Country Report No. 17/231*, IMF, 2018, Washington

Column　　Support to the first issuance of sovereign *sukuk* in Jordan

In October 2016, the sovereign *sukuk* was issued for the first time for Jordan.　Through this the Government of Jordan raised funds of 34 million JD (approximately 5 billion yen).

This project has been supported by “Study on the Possibilities of Sukuk Issuance by the Government of Jordan” (Technical Assistance related to ODA Loan) and actually assisted the issuance of *sukuk* (January 2015 to October 2016).　Together with the Islamic Cooperation for the Development of Private Sector (hereinafter referred to as “ICD”), which is an affiliate of the Islamic Development Bank, JICA sent an expert to the Ministry of Finance and the Bank of Jordan[29].　In addition, training was conducted in Sudan and Malaysia where the Islamic financial system is well-developed, which contributed to the effectiveness of the project　The issuance of the *sukuk* in Jordan has been praised by all ICD members as a model case in the Muslim economic sphere, earning it the Islamic Finance News Award in 2017.　Further, after the issuance of the *sukuk* in October 2016, a “fiscal management expert” (September 2015 to September 2017) was appointed to the project and there have been various follow-ups to support the smooth implementation of reforms under the project.


Picture: Training in *sukuk* issuance at Sudan’s Khartoum Stock Exchange[30] (left) and at the ceremony for Islamic Finance News Awards (2017)[31] (right) (Source: JICA)

3.2.2 Impacts

3.2.2.1 Intended Impacts

(1) Quantitative Effects

(a) Improvement of Fiscal Discipline

At the time of ex-post evaluation (2017), the budgetary condition shows that fiscal discipline has remained nearly the same, and the budget balance per GDP was not improved to the extent that the IMF predicted (-1.9%).　Compared with the situation at the time of appraisal (2014), it

[29] Specifically, training of MOF staff in charge of issuance of *sukuk*. http://www.arabnews.com/economy/news/734386　Accessed August 20, 2018.
[30] JICA web site https://www.jica.go.jp/press/2016/20161017_01.html Accessed September 9, 2018.
[31] JICA web site https://www.jica.go.jp/publication/mundi/1705/201705_04.html　Accessed September 10, 2018.

has remained nearly the same in 2017 (-2.6%). (Table 3)

Table 3 Economic and Financial Indicators

	Base Year (2014)	Completion Year (End 2015)		Two Years After Completion (End 2017)	
		Forecast	Actual	Forecast	Actual
GDP Growth（real%）	3.4	4.0*	2.6	4.5*	2.1
Budget balance （per GDP%）	▲2.3	▲2.9	▲3.5	▲1.9*	▲2.6
Current balance （per GDP%）	▲7.2	▲7.6	▲9.0	▲9.3*	▲10.6
Public debt（per GDP%）	89.0	90.7	93.4	85.7*	94.3

Source: IMF, World Bank, Ministry of Finance, Central Bank of Jordan and Department of Statistics data

Note: Forecast targets of GDP growth rate (2015) and all other fiscal indicators （*） are the ones at the monitoring mission (June 2014) for the IMF stand-by agreement (SBA).[32]

Moreover, the quarterly reports show that the pre-project budget balance before 2015 was more than -20% of GDP, while the post-project period after 2015 shows less than -5%; and in the fourth quarter of 2017, the budget balance is nearly zero (-0.3%) (Figure 1).

This upward trend in the fiscal condition might indicate some improvement of fiscal discipline.

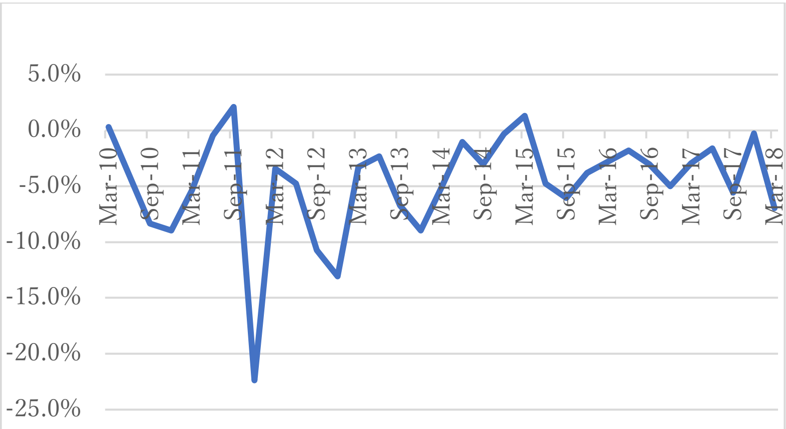

Figure 1 Quarterly Fiscal Balance per GDP (Unit: percent)

Source：Bank of Jordan

[32] http://www.imf.org/en/Publications/CR/Issues/2016/12/31/Jordan-Staff-Report-for-the-2014-Article-IV-Consultation-Third-and-Fourth-Reviews-Under-the-41615 Accessed September 10, 2018.

(b) Enhancement of Debt Sustainability

Public debt (stock base) per GDP worsened from 2014 (89.0%) to 2017 (94.3%). It was even higher than the IMF (2017) forecast of 85.7%. The slowdown of economic growth and deficit subsidy to WAJ might have contributed to the current status of not solving the public debt (stock base) drastically.

At the time of appraisal, the debt ratio was 65% domestic vs. 35% external (end of 2014), while at the time of ex-post evaluation (end of 2017), the figures were 56% and 44%, respectively (Figure 2)[33]. It was initially feared that most domestic debts were purchased by domestic banks, leading to some degree of "crowding out"[34], but the issuance of *sukuk* allowed external fund raising contributing to the diversification of budget sources.

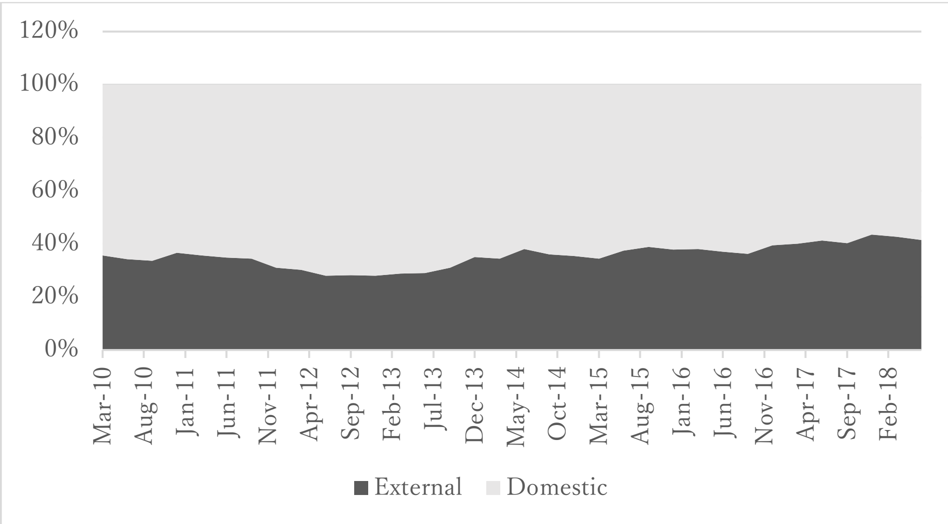

Figure 2 Domestic vs. external ratio of public debts in Jordan

Source: Bank of Jordan

Jordan's public debt (as of 2013–2015), reflected interest payments of 4% of GDP, which is not necessarily as serious as that of other Middle East and emerging economies such as Egypt, which is approximately 7% of GDP. However, the cumulative public debt of nearly 100%, is still as high as Egypt (Figure 3).

IMF simulations show that after 2018, the public debt in Jordan will start to decrease, and reach 77.7% by 2022. IMF estimates that the public debt will remain sustainable as long as the government follows certain principles of fiscal discipline[35]. This project might have contributed to the enhancement of debt sustainability.

[33] Data from Bank of Jordan

[34] If the government issues a significant amount of bonds in order to meet the financial demand, this will increase the market interest rate, thereby suppressing the private demand.

[35] IMF (2017), op. cit. Annex I. Debt Sustainability Analyses.

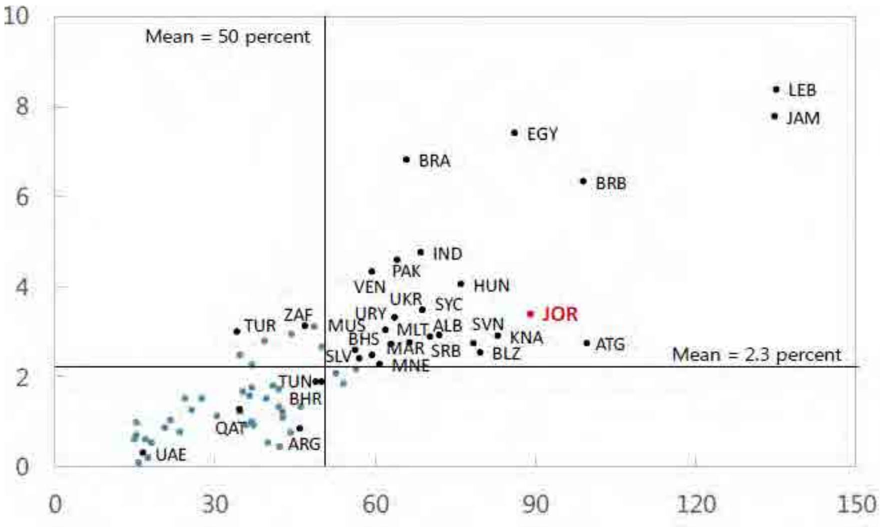

Figure 3 International Comparison of Public Debt（2013-2015）

Source：IMF

Note：Vertical axis shows paid interest／GDP, while horizontal axis shows cumulative public debts／GDP

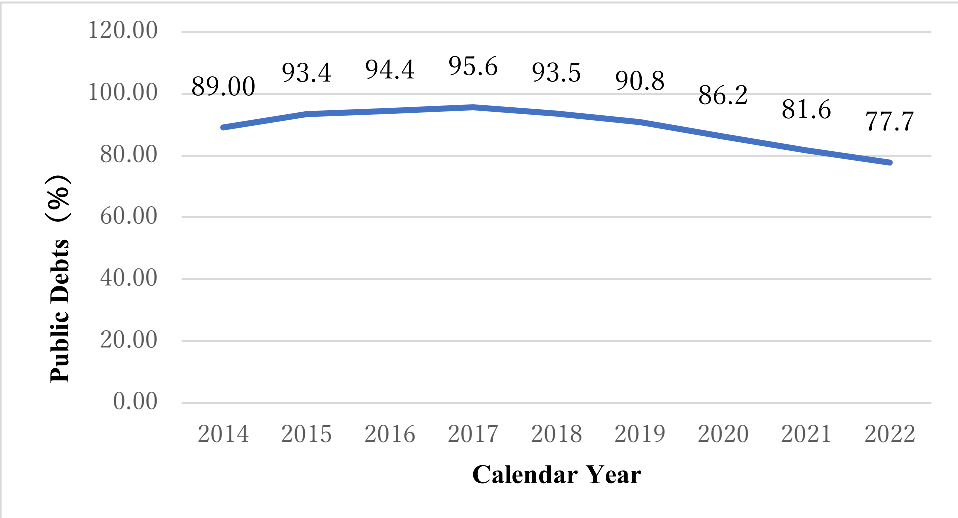

Figure 4 Public Debts performance and IMF forecast (Unit: %)

Source: IMF

(c) Stabilization of Macroeconomic Management

As shown in Table 3, GDP growth rate was 3.4% at the time of appraisal (2014), and 2.1% at the time of ex-post evaluation (2017). The current balance was -7.2% per GDP at the time of appraisal (2014) and worsened to -10.6% at the time of ex-post-evaluation (2017).

These figures alone are not enough to prove the project's contribution to the stabilization of the macroeconomy. Therefore, as a reference, the time-series data on economic stability have been examined to evaluate economic stabilization.

Table 3 Indicators Related to Stabilization of the Macroeconomy

	2014	2015	2016	2017
Consumer Price Rate (%)	2.9	-0.9	0.8	3.3
Unemployment Rate (%)	11.9	13.1	15.3	18.3

Source: IMF (2014-2016), Department of Statistics (2018) and Statistica (2017)[36]

Consumer Price Rates showed deflationary trends in 2015 and 2016 but reached 3.3% in 2017. The unemployment rate had begun to increase from 2014, and reached 18.3% in 2017. Jordan's macroeconomy is, as mentioned above, improving overall, but the rise and fall of indicators are due to factors external to the project, and therefore, it was impossible to show the quantitative causality.

(2) Qualitative Effects

(a) Improvement of Fiscal Discipline and Stabilization of Macroeconomic Management

Through the implementation of the project, the deficit subsidy to NEPCO has been reduced, contributing to the enhancement of fiscal discipline, according to the Government of Jordan.[37] Since the stabilization of fiscal discipline is an important factor for the stabilization of macroeconomic management, this project might have also contributed to a certain extent to the latter. JICA appointed an expert to the Ministry of Finance from 2015–2017, which helped create a positive impression for Japanese assistance. In addition, in February 2016, EU and the Government of Jordan agreed to establish an assistance framework called the "Jordan Compact"[38] as part of the Syrian refugee measures, combining humanitarian and development assistance, with donor pledges of 12 billon USD for grant assistance and 40 billion USD for loan assistance by 2020. For budgetary support, approximately 300 million USD have been committed mainly from the US and EU,[39] which contributes to these additional impacts as external factors that need to be recognized.

(b) Reduction of Burden for Refugee Hosting Communities

According to the Jordanian side, they have not recognized that this project has contributed significantly to reducing the financial burdens of the refugee hosting communities, or one of the objectives of the project was to address Syrian refugees. The electricity costs increased by 34%

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[36] https://www.statista.com/

[37] Hearing from Ministry of Finance (March 2018).

[38] *The Jordan Compact : Lessons learnt and implications for future refugee compacts*, ODI, 2018, London, https://data2.unhcr.org/en/documents/download/61932(Accecessd September 8, 2018)

[39] Out of financial demand of 2.65 billion USD in 2017, about 3 million USD was committed by US and EU for budget support; for financial demand of 2.52 billion USD in 2018, 111 million USD has been committed by the World Bank for budget support. *Jordan Response Platform for the Syria Crisis: 2017 Financial Status*, MOPIC, 2018, Amman. http://www.jrpsc.org/ (Accessed September 9, 2018)

for the households in hosting communities between 2011 and 2016, and the annual cost for electricity supply for refugees is 120 million USD. The number of Syrian refugees has increased annually, reaching approximately 1.38 million in April 2017, more than twice the number at the time of appraisal (approximately 0.62 million). However, also according to the Jordanians, the burden could have been even larger if this project were not extended. The influx of Syrian refugees is influenced by factors such as 1) changes in the international situation, 2) the migration policy of the Government of Jordan, and 3) UN agencies and other donors' measures for Syrian refugees. Thus, in reality, it was difficult to plan ahead with these situations in mind at the time of appraisal.

3.2.2.2 Other Impacts

(1) Impacts on the Natural Environment

This project is meant to be budget support and as such, does not anticipate specific environmental effects; this ex-post evaluation tried to examine whether this project related policies have impacted the environment or society by using related materials. Ultimately, the results could identify nothing to those particular effects. However, the use of LNG for power generation has reduced the environmental burden, compared with the use of oil, according to the Jordanian side.[40]

(2) Land Acquisition and Resident Relocation

This project is for budget support, anticipating no specific effect on resident relocation and land acquisition. At the time of appraisal, no specific effect was anticipated, and the same result was obtained in the ex-post evaluation.

(3) Unintended Positive/Negative Impact

Other impacts include the benefit to refugees in northern regions, such as improved access to water promoted by the project's implementation according to the Master Plan; the benefits of burden reduction for host communities would be recognized in future, as the completion of the water project is awaited for a certain period of time. On the other hand, in the short run, there was some effect on poverty reduction among refugees, according to the Jordanian side. This point is difficult to quantitatively measure, as there are no comparable social development indicators between the timing of appraisal and ex-post evaluation, but overall, the evaluator considers it reasonable to agree with the recognition of the Jordanian side on the effect of poverty reduction.[41]

The project has been highly effective, because it has contributed to promoting diversification of financing

[40] Hearing from NEPCO (March 2018)
[41] Hearing from UNDP officer in charge of refugees. (July 2018)

sources by improving the debt management capacity and the deficit of NEPCO by introducing a cost-recovery mechanism in the electricity sector. Some degree of impact has been realized through such contributions as stabilizing macroeconomy by improving budget balance and reducing environmental burden by utilizing LNG.

In light of the above, this project has largely achieved its objectives. Therefore, the effectiveness and impact of the project are high.

3.3 Sustainability

3.3.1 Institutional Aspects of Operation and Maintenance

The progress of policy measures and actions of this project has been monitored by MOPIC. JICA has extended development policy lending for fiscal reforms in 2014, 2015 (this project), and 2016. These continued assistance efforts have helped strengthen the MOPIC's monitoring capacity.

In the MOPIC, the International Cooperation Department (13 members) is in charge of donor coordination etc. and the Project Department (12 members) are in charge of implementing and monitoring this program (Figure 5). Also, as budgetary issues emerge, the Accounting Department takes a role, and the entire institution monitors the project.

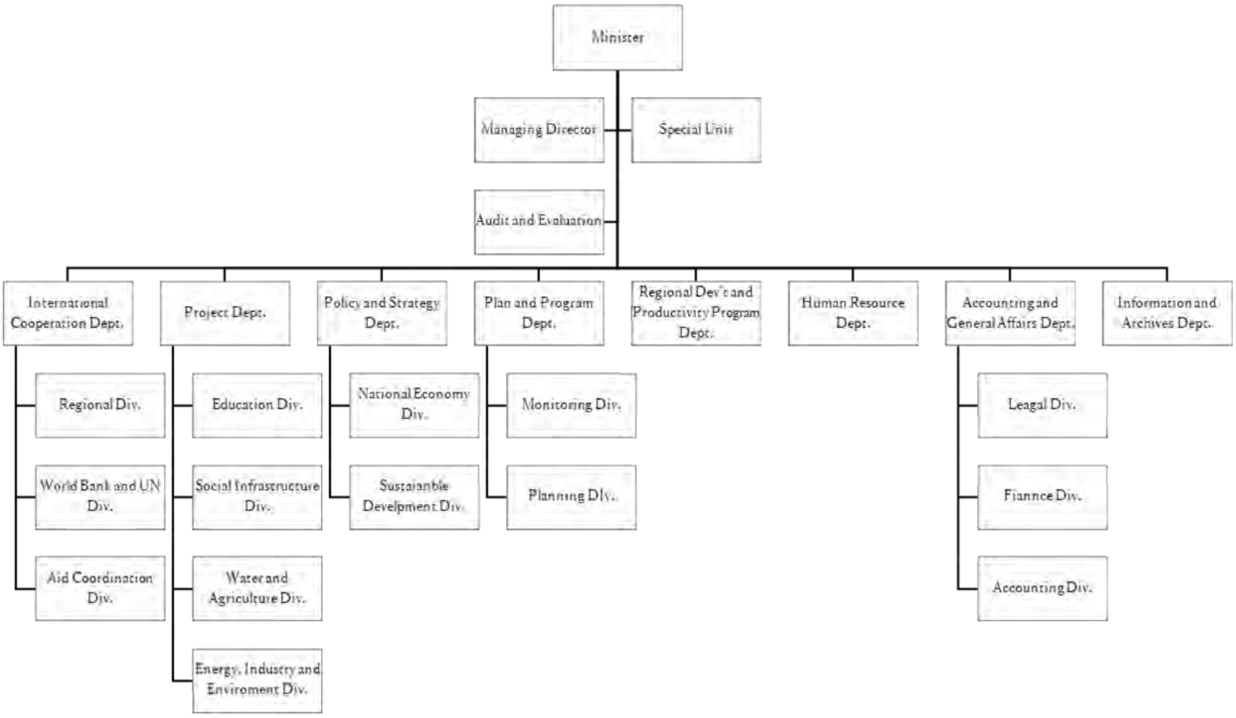

Figure 5 MOPIC Organigram

Sources: Evalutator's drafting baseed on the organigram in the MOPIC web site[42]

[42] http://www.mop.gov.jo/pages/viewpage.aspx?pageID=8 (Accessed August 20, 2018).

3.4 Value Added by JICA

In this project, the "policy matrix" was drafted mainly by JICA. Whereas in other similar projects, the policy matrix applied was drafted by the World Bank and IMF and their policy matrix was used and implemented, the uniqueness of this project is that Japan has initiated drafting of policy matrix. Therefore, the points Japan emphasized in its aid policy for Jordan (such as assistance for Syrian refugees, etc.) could be reflected.

Furthermore, experts on the issuance of *sukuk* from the ICD, to the agency in charge of operations assistance at Jordan's Ministry of Finance and Bank of Jordan, contributed to the achievement of the project's policy goals. Also, "The Project for the Study on Electricity Sector Master Plan" (October 2014 to March 2017) (development study) has contributed to implementing the long-term electricity policies (deficit reduction and economic effect). In addition, for the water sector, "The Program for Urgent Improvement of Water Sector for the Host Communities of Syrian Refugees in Northern Governorates" (March 2014) is being implemented for the northern regions as a part of development policy, and if completed, it is expected to contribute to the stable supply of water. These dispatched experts have worked as operational officers or advisors in relevant agencies, and according to the Jordanian side of the project, JICA might have used its unique strength in this respect.

4. Conclusion, Lessons Learned, and Recommendations

4.1 Conclusion

This project aimed to build capacity of public debt management and improve public services (electricity and water) by supporting policy reforms in the fields of public debt management and public services (electricity and water), thereby contributing to stabilize the economic growth of Jordan. The project has been highly relevant to Jordan's development policy and needs as well as Japan's ODA policy, and the project planning and approach have been overall appropriate. The implementation of the project helped improve debt management capacity and issuance of sukuk bonds to diversify funding sources. It introduced a cost recovery mechanism in the electricity sector to reduce debt in electricity company, and thus the effectiveness is high. In addition, it has reduced the burden for deficit subsidy for electricity sector and partially contributed to the stabilization of the macroeconomy. Some degree of impact has also been realized, through such contributions as reducing environmental burden by utilizing LNG. Therefore, the project has generated certain effects so its effectiveness and impact are high.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

Among the goals described in country's development plans (*Jordan 2025 (2015–2025) and Jordan Economic Growth Plan (2018–2022)*), goals in the fields of fiscal discipline and public sector service are closely related to this project, and therefore must be monitored annually. In particular, a systematic design for cost recovery for electricity tariff must be autonomously implemented without delay due mainly to political interventions, and whether the actual tariff changes are reflected must be monitored. For the water sector, the achievement of the cost of water supply by energy efficiency and renewable energy, the improvement of WAJ's finances, and the reduction of burden on host communities for water supply cost are yet to be realized. Going forward, the International Department of MOPIC should hold regular thematic meetings, in cooperation with donors such as the Government of Japan or KfW, and jointly monitor the achievement of goals.

4.2.2 Recommendations to JICA

In Jordan, MOPIC is the single window for foreign aid, but compared with other countries, there is no donor that takes leadership in donor coordination, and consequently there is no regular place for donor meetings. However, various donors' budget support funds are not duplicated or conflicting with each other. Nevertheless, in future for further assistance effects to be realized, aid coordination at the policy level is indispensable. Japan is the top donor along with the US and EU in the area of budget support,[43]and so it has a strong presence in Jordan, and it should play a more active role in coordinating with MOPIC and each donor to institutionalize aid coordination.

4.3 Lessons Learned

(1) Development Policy Lending Can Be Effective If Combined with Technical Cooperation

This project has suggested that the combination of lending with technical cooperation (dispatch of experts, development studies, etc.) can provide more effective policy improvements. For development policy lending to realize the desired effects, in parallel with policy improvement programs, JICA should consider if it should extend technical cooperation in related fields or sectors, and if necessary, coordinate with different schemes to increase program effectiveness. This project is a good example of such an approach.

(2) Indirect Benefits of Development Policy Lending Are Hard To Be Recognized

Development policy lending is perceived more readily as an effective way to achieve fiscal and sector reforms, but on the other hand, general budgetary support like this provided fund is integrated into the national budget, not earmarked for specific social development investment purposes. Thus, the fact that the implementation of policy actions (such as submission of priority

[43] Performance based on 2011-2015 assistance (commitment basis) shows Japan is next to the US except for the years 2011 and 2013.("Country Data-book: Jordan", Ministry of Foreign Affairs, 2017, Tokyo)

project proposals, and approval of policy paper, etc.) generates indirect effects in social development areas (such as stable supply of water and electricity, support for refugees and host communities, etc.) were hard to recognize. Therefore, in development policy lending, it is necessary to pay attention to the process setting indirect benefits in development matrix. It is also desirable to set specifically achievable objectives, considering the ranges of effects generated by policy actions.

Lao People's Democratic Republic

FY2017 Ex-Post Evaluation of Japanese ODA Loans

"Second Poverty Reduction Support Operation," "Third Poverty Reduction Support Operation," "Budget Strengthening Support Loan," and "Ninth Poverty Reduction Support Operation"

External Evaluator: Takeko Iinuma, Waseda University

0. Summary

This project aimed to build capacity of public debt management and improve public services This program aimed to promote reforms in various areas indicated in the mid-term a nd long-term national plans of the Lao People's Democratic Republic (hereafter, Lao PDR) thr ough budget support and policy dialogues, by supporting institutional reforms that the Govern ment promotes, thereby contributing toward poverty reduction and economic growth. The progr am is highly relevant to Lao PDR's development policy and needs and to Japan's official dev elopment assistance policy. Overall, the program's framework and approach have been appropri ate as respective sectors' main tasks that lead to poverty reduction and economic growth have been translated into concrete actions consistently. Although approximately half of the indicato rs had met their targets, some indicators' targets were not met. The indicators that were not a chieved included the number of days needed to establish a company, the number of document s needed for import/export, the number of state-owned enterprises (hereafter, SOEs) with defici t, electricity arrears of the Government toward the Électricité du Laos (hereafter, EDL), the n umber of Ministries that input systematically the provincial budgets by the beginning of the fi scal year, and the textbook-pupil ratio for three core subjects in all five grades of primary ed ucation. This program strengthened the institutional capacity of financial management and impr oved the budget allocation to the health sector, which contributes to poverty reduction. From t hese findings, this program has achieved its objectives to some extent. Therefore effectiveness and impacts of the program are fair. Furthermore, the Japan International Cooperation Agency (JICA) contributed by advising on policy actions and the suggesting improvements in the proj ect coordinating capacity of the related Ministries of the Lao Government.

1. Project Description

Program Location (Entire Lao PDR)

Discussions held at the Ministry of Finance

1.1 Background

The economic and social development in Lao PDR has been lagging due to the land-locked geographical situation and the long civil war that lasted until 1975, and the country is classified by the United Nations as one of the least developed countries (LDCs). In 1986, under the "New Economic Mechanism," Lao PDR chose to introduce the principles of market economy and to promote an open economic policy. The Sixth Congress of the Lao People's Revolutionary Party in 1996 set an objective of exiting from the LDC status by 2020. To achieve this, in 2004, the Government launched the *National Growth and Poverty Eradication Strategy*, (hereafter referred to as "NGPES")[1] or the long-term national plan positioned as the *Poverty Reduction Strategy Paper* (hereafter referred to as "PRSP"),[2] and since then, poverty reduction and economic growth have been considered as national goals. The Government formulated a five-year plan, or the *Seventh National Socio-Economic Development Plan* (hereinafter, "NSEDP") (2011–2015), which aimed at the achievement of the Millennium Development Goals (MDGs) by the year 2015 as one of the most important goals. Thus, the need to promote poverty reduction and economic growth was becoming greater than ever.[3]

Since the 2000s, there has been a transition from the project approach, which was the conventional aid modality, to the program approach,[4] which is considered as an improved aid modality. In 2005, the Second High Level Forum on Aid effectiveness adopted the "Paris Declaration on Aid Effectiveness," by addressing the following five points: strengthening ownership of recipient countries, consistency with recipient countries' policies, harmonization among donor countries, result management, accountability of donor countries and recipient countries.

Following these international trends, in 2006 Lao PDR and donors for Lao PDR agreed on the "Vientiane Declaration on Aid Effectiveness," which addressed promoting ownership, strengthening consistency with national policies, harmonization and simplification of development methods, management and prioritization of results, and mutual accountability. The implementation of these principles increased the momentum for enhancing the effectiveness of aid.[5]

The World Bank, having provided general budget support in various countries under its program approach, initiated the first general budget support in Lao PDR as the Poverty Reduction Support Operation (PRSO) in 2005. The PRSO aims to improve the management of public resources, to

[1] In Lao PDR's national development plan, it has been shown that sustainable growth and the eradication of poverty are set as national goals by stabilizing the macro-economy, improving the business environment, strengthening the governance of the public sector, and continuous revenue securing (Lao People's Democratic Republic, National Growth and Poverty Eradication Strategy (NGPES), 2004).

[2] The World Bank and the International Monetary Fund have been implementing this program since 1999, wherein developing countries formulate their own development plans. Particularly, it has been strengthened to turn public spending into areas that lead to poverty reduction. International Bank for Reconstruction and Development/World Bank *Annual Report* 2001, pp. 42-43.

[3] Materials provided by JICA.

[4] The Organisation for Economic Co-operation and Development (OECD) raises the following points as features of the program approach. First, it is a comprehensive program and budget framework. Second, it is a formal process of the harmonization of donors, and harmonization of reporting, budgets, fiscal management, and procurement, based on the leadership of the host country or institution. This process also involves efforts to increase the use of local systems for program design, implementation, fiscal management, and monitoring and evaluation (OECD, *The Paris Declaration on Aid Effectiveness (2005) and Accra Agenda for Action (2008),* Paris: OECD, not dated).

[5] World Bank, "World Bank in Lao PDR," Issue No. 4, March-April 2007, pp. 1-2.

increase social service expenditure, to maintain economic growth by improving the utilizing of public resources and public expenditure policy, and by supporting institutional reforms for sustainable growth. Additionally, the PRSO is also in the position to support strengthening public expenditure management to make effective use of public resources generated by the Nam Theun 2 hydropower dam developed by the World Bank and other natural resource projects for poverty reduction and economic growth.[6]

The Japan Bank for International Cooperation (hereinafter, "JBIC") participated in the PRSO 2 in 2006 as the first co-financing donor and subsequently participated in PRSO 3 in 2007. After the integration of JBIC's overseas economic cooperation operations and JICA in 2008, JICA participated in PRSO 5 in 2009 and PRSO 9 in 2013. These loans were provided in the form of expenditure on import settlement funds, and the Lao Government could retain the same amount of the local currency, which could be used as a general revenue source for the implementation of policies.

The mechanism of PRSOs was designed to provide financial assistance as support for government finance through the process as follows. "Policy Matrix" was decided based on a policy dialogue with the Lao Government concerning policy and institutional reform necessary to achieve the national goals indicated in the PRSP. Upon confirming the achievement of the "Policy Matrix" financial support was disbursed. Under the "Policy Matrix" were the "policy actions" necessary to achieve policy and institutional reforms, and particularly important policy actions were set as "triggers" every fiscal year. The confirmation that the triggers were achieved by the Government of Lao PDR, enabled the donors to conclude the grant or loan agreement and make a full disbursement.[7]

Overall, the PRSOs were implemented in series: PRSO 1-3 in the 1st PRSO series for 3 years, PRSO 4-7 in the 2nd PRSO series for 4 years, and PRSO 8 to 11 in the 3rd PRSO series for 4 years. However, PRSO 10 was canceled because its multiple triggers were not achieved, and subsequently PRSO 11 was not conducted.[8]

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6 These details can be found in the World Bank report titled the "International Development Association program document for a proposed credit in the amount of SDR3 million (equivalent to US$4.5 million) and a proposed grant in the amount of SDR3.6 million (equivalent to US$5.5 Million) to Lao People's Democratic Republic (PDR) for a First Poverty Reduction Support Operation," March 11, 2005, p. 21. The Nam Theun 2, hydropower dam is a private sector business amounting to US$ 1.2 billion, which has the largest generation capacity (1,020 MW) in Lao PDR, and the Lao government has a holding 25% shares in this business. The World Bank provided support through a partial risk guarantee of US$ 50 million and a grant aid of US$ 20 million.

7 Information provided by JICA. The PRSO trigger condition for the following fiscal year was established in the PRSO of that year. Additionally, in the PRSO of that year, the progress of the trigger set in the previous year was confirmed. In this process, the trigger that achieved the goal was called the "prior action (already accomplished reform component)."

8 The World Bank and the Lao Government discussed certain modifications of the triggers in order to respond to the changing circumstances. However, among the eight triggers to be achieved by April 2014, one was achieved, three were partially achieved, and four were not achieved (Policy Matrix on June 30 2016, in World Bank, "Implementation Completion and Results Report," No. ICR108561, 2016, pp. 7-9). The World Bank pointed out that reforms had been hindered between 2013 and 2015 and indicated three factors behind it (*Ibid.*, p. 11, pp. 20-21).

First, the biggest factor was the lowered commitment to the PRSO program of reforms by the main ministries such as the Ministry of Finance. For instance, the Government introduced excessive civil service wage increases in late-2012, which led to greater issuance of non-concessional debt. Moreover, the Government failed to promote the Treasury Management Information System (TMIS), which affected the reforms for the Public Finance Management (PFM). Second, it was difficult for the Ministry of Finance to coordinate with the line ministries and to implement the reforms. Third, the decline in global commodity prices reduced revenues and the fiscal space for the Government to implement fully the school clock grants and the free maternal and child health program.

Apart from this, the World Bank implemented the Green Resilient Growth Development Policy Financing in 2017-2018 with the aim of supporting the Government in achieving fiscal stability and moving toward green growth.

1.2 Program Outline

By supporting the policy and institutional reforms promoted by the Government of Lao PDR, this program promoted reforms in various areas of Lao PDR's development goals in NGPES/NSEDP, the long-term and medium-term national development plans, and the policy dialogue, thereby contributing toward Lao PDR's poverty reduction and economic growth. This ex-post evaluation reviewed four loans provided by Japan, and their outlines are as follows.

Loan Name	Second poverty reduction support operation (hereinafter, "(a)")	Third poverty reduction support operation (hereinafter, "(b)")	Budget strengthening support loan (hereinafter, "(c)")	Ninth poverty reduction support operation (hereinafter, "(d)")
Loan Name under the PRSO framework	PRSO 2	PRSO 3	PRSO 5	PRSO 9
Loan Approved Amount/ Disbursed Amount	500 million yen / 500 million yen	500 million yen / 500 million yen	1,500 million yen / 1,500 million yen	500 million yen / 500 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	December 2006 / February 2007	February 2008 / February 2008	November 2009 / November 2009	December 2013 / January 2014
Terms and Conditions	Interest rate 0.01%; repayment 40 years (including 10 years of grace period) Condition for Procurement: General Untied			
Borrower / Executing Agency	The Government of the Lao People's Democratic Republic /Ministry of Finance			
Loan Completion	March 2007	March 2008	December 2009	March 2014
Main Contractor (Over 1 billion yen)	—			
Main Consultant (Over 100 million yen)	—			
Related Studies (Feasibility Studies, etc.)	"Study on the formulation of the reform plan of public enterprises for providing Lao PDR with poverty reduction assistance" (2005) "Preparatory survey on the industrial development plan of the Lao PDR" (2010)			
Related Projects	【Technical Cooperation】 "Project on Support to Trade Promotion" (2009–2012) "The Project for Capacity Building on Public Investment Program Managements" (2004–2007), "Project for Enhancing Capacity in Public Investment Program Management" (2007–2010) "Strengthening of Governance and Trade Facilitation in Customs" (2013–2017), "Project for Improving In-service Teacher Training for Science and Mathematics Education"(2010–2013) "Supporting Community Initiatives for Primary Education Development in the Southern Provinces (hereafter, CIED)" (2007–2011) "CIED Phase 2" (2012–2016) " Capacity Development for Sector-wide Coordination in Health" (2006–2010) "Project for Strengthening Integrated Maternal, Neonatal and Child Health Services" (2010–2015) "Capacity Development for Sector-wide Coordination in Health Phase 2" (2010–2016) "Project for Sustainable Development of Human Resource for Health to Improve			

	Maternal, Neonatal and Child Health Services” (2012–2016) 【Technical Assistance Project related to ODA loan】 “Project for Establishing Public Investment Plan under NSEDP” (2012–2015) 【Grant Aid】 “The Project for the Improvement of School Environments in Champasak and Savannakhet Provinces” (2010) “The Project for Strengthening Health Service Network in Southern Provinces (2013) 【Other organizations’ projects】 World Bank: “Nam Theun 2 Multipurpose Project” (2005～2017) “Public Finance Management Strengthening Program (PFMSP)” (2007～2013) “Customs and Trade Facilitation Project, Trade Development Facility” (2008～2017)（including the Multi-Donor Trust Fund of donors such as Australia and EC） European Union (EU): “Basic Education Quality and Access in Lao PDR (BEQUAL)” (2015～2019) “Support to the Education Sector Reform in Lao PDR” (2015～2017), “Partnership for improved nutrition in Lao PDR— Strengthening nutritional governance for generating a multi-sectoral response and scaling up nutrition-specific actions” (2016～2021).

2. Outline of the Evaluation Study

2.1 External Evaluator

Takeko Iinuma, Waseda University[9]

2.2 Duration of the Evaluation Study

This ex-post study was conducted with the following schedule.

Duration of the Study: November 2017–January 2019

Duration of the Field Study: March 27–April 7, 2018 and July 14–July 20, 2018

2.3 Constraints during the Evaluation Study

As stated above, this program was meant to reserve internal currency by applying the yen loaned to import settlement funds, and the retained local currency is devoted to the general financial resources of the Ministry of Finance of Lao PDR, and hence its use was not specified. In other words, since the Ministry of Finance could not specify the allocation of budget to relevant ministries or departments, it was difficult to perform a financial sustainability analysis.

[9] The reinforcement staff of the Waseda University, an incorporated educational institution, is the contractor. The actual affiliation of the evaluator is to the Senshu University (Professor).

3. Results of the Evaluation [10]

3.1 Relevance (Rating: ③[11])

3.1.1. Consistency with the Development Plan of Lao PDR

The Government of Lao PDR formulated a long-term national development plan, NGPES (2004), as a PRSP, which became the national goal for poverty reduction and sustained economic growth. The NSEDP (2006–2010), which is a mid-term and the sixth five-year plan, also focused on poverty reduction, and it was considered as the second PRSP. The plan aimed at rapid and steady development, enhancing competitiveness in the framework of the Association of Southeast Asian Nations (ASEAN) and the World Trade Organization (WTO), promoting compatibility between economic and social development, and expanding socio-economic infrastructure. The 7th NSEDP (2011–2015), a subsequently formulated plan, aimed at achieving objectives, such as economic growth of more than 8%, a GDP per capita of US$ 1,700, the MDGs, infrastructure development, and building a diverse economic infrastructure to enable Lao PDR's exit from the LDC status, establishing sustainable development, achieving political stability and impartiality, and promoting efforts for regional and international integration. In order to achieve these major national development plans, (a) was implemented based on the NGPES, (b) and (c) on the NSEDP (2006-2010), and (d) on the 7th NSEDP (2011–2015), and all operations were consistent with national development plans and policies at the time of each appraisal.[12] Particularly, since the 7th NSEDP placed the education and health sectors as one of the important components because there had been concerns on not being able to achieve the MDGs, and the significance of (d) emphasizing the institutional improvement in education and health can be valued. Furthermore, the main objective of the 8th NSEDP (2016–2020), which was the five-year plan at the time of this ex-post evaluation, is to exit from the LDC status. In order to achieve it, the plan aims at the following objectives: to achieve sustainable and inclusive economic growth with reduced economic vulnerability, human resource development that leads to capacity building of the public and private sectors, poverty reduction in all ethnic groups, access to high quality education and health services for men and women of all ethnic groups, and the effective conservation of natural resources and the environment respecting green growth and sustainability. This plan aims to progress with achieving poverty reduction and sustainable growth while maintaining the persistent policy direction. From the above, the program is consistent with the focus on the development policy at the time of appraisal and ex-post evaluation.[13]

[10] Since this program serves as an Option for Program Type Japanese ODA Loans, it is difficult to quantitatively compare input (fiscal support) and output (policy reform), and thus, in this evaluation, efficiency is not evaluated. For sub-rating, only "relevance" and "effectiveness/impact" are indicated, and general rating is not considered.

[11] ③: High, ② Fair, ① Low

[12] The Government of Lao PDR, *National Growth and Poverty Eradication Strategy (NGPES)*, 2004; the Committee for Planning and Investment, *NSEDP (2006-2010)*, 2006; *the* Ministry of Planning and Investment: *The Seventh Five-Year NSEDP (2011-2015)*, 2011; the Government of Lao PDR and the United Nations: *The Millennium Development Goals Progress Report for the Lao PDR 2013*, 2013.

[13] Ministry of Planning and Investment, *8th Five-Year National Socio-Economic Development Plan* 2016–2020, June 2016. In addition, each sector plan at the time of ex-post evaluation was in agreement with the national plan, the 8th NSEDP. Moreover, in any sector, efforts were made to ensure that poverty reduction and economic growth continue as the main objectives of the national plan. Major sectoral plans related to these operations are the Financial *Public Finance Development*

3.1.2 Consistency with the Needs of Lao PDR

3.1.2.1 Development needs

In seeking medium- and long-term national goals, the Lao Government faced many development needs. First, achieving the MDGs had been the main development goal for poverty reduction since commencement of (a), as the poverty rate depicted a serious situation at 33.5% in 2002/2003. The other development issues requiring urgent attention were as follows: (1) strengthening finance and public finance management, (2) sustaining the natural resource sector, (3) building a sustainable public finance mechanism in education and health sectors, and (4) industrial diversification and strengthening competitiveness. Additionally, at that time, there was a concern about the achievement of the MDGs in the education and health sectors (the MDG 2: the "achievement of universal primary education," and the MDG 5: the "improvement of maternal health condition"), and hence there was a focus to improve government spending in both sectors. The percentage (survival rate) of students reaching the final grade of primary education was significantly lower than 70% (2011–2012); additionally, it was challenging to achieve 95% of the target, and improvements in the quality of education. Additionally, the number of deaths per 100,000 pregnant women was 470 (2011), and bringing down this number to 260 people (2015) was an urgent task.[14] Under such circumstances, (d) covered the wide range of the primary education and maternal and child health, which had been the most delayed areas in the MDGs. Thus, the program responded appropriately to the important development needs of the country.[15]

Prior to the implementation of (a) (b), the main needs regarding economic growth were as follows: (1) structural reforms for market-oriented economy, including SOE reforms, private sector development, financial sector reforms, (2) promotion of foreign direct investment (3) attracting foreign direct investment, (4) improving infrastructure, such as roads and electric power, and (4) building a sound financial basis. However, each of these areas had difficulties due to the following issues.[16]

(1) Since the introduction of the "New Economic Mechanism," the Government of Lao PDR has been promoting structural reforms such as financial sector reforms, SOE reforms, and private sector development. However, there were problems in the following aspects; the financial sector was small and vulnerable, and did not function properly in the market; many state-owned commercial banks had non-performing loans for SOEs; large-scale SOEs had persistent deficits; and the private sector was underdeveloped due to many inhibitory factors.

(2) Foreign direct investment increased after the enforcement of the Foreign Investment Management Encouragement Act 1988. In 2000–2006, a direct investment in the electric power sector led to a significant increase in the investment amount, and investment in the Nam Theun 2

Strategy 2025, State Enterprises *Strategic Plan on Restructuring SOEs*, Government Bond *Roadmap of Bond Market Development in Lao PDR (2011–2020)*, *Infrastructure Sector Plan (2016–2020),* Health *Eighth Health Sector Development Plan (2016-2020)*, *Health Sector Reform Strategy and Framework till 2025*, and *Education Sector Plan (2016-2020)*.

[14] Information provided by JICA.

[15] The Government of Lao PDR and the United Nations. *The Millennium Development Goals Progress Report for the Lao PDR 2013*. United Nations, 2013.

[16] For all of (1) – (4), information provided by JICA.

hydroelectric power plant accounted for 83% of the total foreign direct investment, as of 2005. The second major investment area after the electric power sector was the mining sector. However, there were no promising industries, other than electric power and mining. Additionally, high investment costs when compared to the surrounding Asian countries, underdeveloped infrastructure, such as roads, and uncertain investment approval process, among others, have prevented direct investment, with the exception of the power sector in Lao PDR.

(3) Infrastructure has been an impediment to economic growth because of insufficient maintenance. For example, as of 2005, the national highway pavement rate was 53%, the prefectural road / regional road pavement rate was 3%, and the household electrification ratio was 47% (2004). In addition to delays in the development of roads, and poor transmission and distribution networks, among others, there was a problem concerning arrears due to improper electricity charges in the power sector, and hence securing financial soundness was an issue.

(4) In the fiscal area, budget deficits were persistent due to the problems of revenue and expenditure management. Although the decentralization policy of the tax administration was being promoted, the taxation ability of the local government was low and the revenue base was weak. Concerning the expenditure issues, the central government's budget formulation and execution abilities were insufficient. The public external debt had been persistently large, making the country eligible for the Heavily Indebted Poor Country (HIPC) initiative in 2005. Although the Lao Government had been working on debt repayment and poverty reduction without receiving debt relief under the initiative, strengthening the fiscal foundation was considered indispensable.

In response to these needs, the program provided assistance, which would lead to: strengthening public expenditure management capacity, strengthening the financial sector, improving the performance of SOEs, and improving the financial sustainability of the public utility sector, budget formulation that emphasizes poverty reduction measures in the limited revenue, ensuring transparency and accountability on expenditures, developing the private sector, promoting economic integration with the international community of neighboring countries, and improving resource management.

3.1.2.2 Funding needs

Financing of the fiscal deficit at the time of these loan appraisals was compensated by external borrowing because domestic financial market was not well-developed and domestic borrowings were limited. Most of these external borrowings were concessional loans provided by the World Bank, ADB, and JBIC (then). While current expenditures could be covered by the revenue, capital expenditure (development budget) for infrastructure development, among others, accounted for more than half of the expenditure and mostly covered by foreign aid (Table 1).[17] The implementation of these operations in response to such funding needs was significant.

[17] In Lao PDR, the revenues are indicated with figures with grants and figures without grants.

Table 1 Financial Scenario of Lao PDR: Changes in Revenues/Expenditures and Compensation for Deficit (Unit: 100 Million Kip)

	2002/2003	2003/2004	2004/2005*	2005/2006**
Revenue and Grant	2,794	3,103	3,875	5,316
Revenue	2,341	2,821	3,337	3,956
Grants	453	283	538	1,360
Expenditure	4,107	3,967	5,126	6,716
Current	1,527	1,890	2,479	2,949
Capital (development budget)	2,370	1,853	2,647	3,512
Debt repayment / contingency	120	224	0	255
Overall balance	▲1,223	▲864	▲1,251	▲1,400
Financing	1,223	864	1,259	1,400
Domestic borrowing (net)	97	▲59	▲205	▲82
Foreign borrowing (net)	1,108	923	1,460	1,482
Discrepancy / Financing gap	18	0	4	0

Source: IMF, 2005: Article IV Consultation Staff Report, 2006
* Revised budget.
** Budget plan.

Furthermore, at the planning stage of (c), it was reported that due to the impact of the global financial crisis, there would be a decline in the tourism revenue, exports, and resource-related revenue due to a decline in resource prices, also a deterioration in the fiscal and international balance of payments due to the postponement of the investment plan.[18] In the face of the deterioration of the fiscal balance, as domestic financing means were limited and it was difficult to issue bonds overseas, the country had to rely on the support from donors to cover a large fraction of its financial gap. Therefore, this program also responded to the needs in the event of a concern about the deterioration of the financial gap caused by such a financial crisis.

The above facts show that this program has been highly consistent with the country's development needs.

3.1.3 Consistency with Japan's ODA Policy

In Japan's *the Country Assistance Program/Policy for Lao PDR* (2006, 2012), the three main aid goals were as follows: (1) to support steady progress toward the achievement of the MDGs, (2) to support economic development as an engine for autonomous and sustainable growth and to support its foundation (3) to develop capacity that can result in self-help efforts toward poverty reduction and economic growth. By improving the public resource management, which is the foundation of Japan's

[18] World Bank. *Impact of the Financial Crisis and Recent Economic Developments in Lao PDR*. Vientiane: the World Bank Office, 2009.

aid goal (3), PRSOs promoted budget allocation for the priority poverty measures as in Japan's aid goal (1) while promoting sustainable growth including the private sector development as in its aid goal (2). Therefore, this program has been well-aligned with Japan's ODA policy.

3.1.4 Appropriateness of the Program Plan and Approach

This program was based on multilateral donor cooperation, and the summary of the entire operations is shown in Table 2. The European Community (EC) and Australia have been participating, starting from the PRSO 3 and PSRO 4, respectively, with a focus on the education sector.

There are two main reasons why Japan's form of cooperation was not in the form of a grant aid but loan assistance. First, the main contents of the program, at the outset, was the support for state-owned, private corporate, and financial sectors. In this sense, this program was not suitable for grant aid from Japan to Lao PDR since grant aid targeted basic human needs (BHN) and infrastructure improvement. Second, under the Japan Mekong Region Partnership Program (2007–2010), which demonstrated that the Mekong region was an important region for economic cooperation and that ODA volume would be expanded for this region, the utilization of yen loans was considered requisite for securing the aid volume while Japan's grant aid budget was on a downward trend.[19] The Government of Lao PDR highly evaluated Japan's participation in co-financing scheme with concessional loans after understanding the situation of Japan.[20]

Table 2 Overview of the Entire PRSOs

Operation	Year	Donor	Amount	Type of aid	Main areas
PRSO 1st Series					
PRSC 1[21]	2005	World Bank	10 million US Dollars	Loan/ grant	(1) improvement of public resource management, (2) improvement of public expenditure policy, (3) sustained growth
PRSO 2	2006	World Bank	8 million US Dollars	Grant	
		Japan	500 million Yen	Loan	
PRSO 3	2007	World Bank	10 million US Dollars	Grant	
		Japan	500 million Yen	Loan	
		EC	3 million Euro	Grant	
PRSO 2nd Series					
PRSO 4	2008	World Bank	10 million US Dollars	Grant	Promotion of sustainable growth by improving the investment, environment, natural resource management, trade, public finance management system, and
		EC	3 million Euro	Grant	
		Australia	2.5 million Australian Dollars	Grant	
PRSO 5	2009	World Bank	10 million US Dollars	Grant	

[19] Information provided by JICA.
[20] Interviews with the Ministry of Finance.
[21] The first support was implemented as a Poverty Reduction Support Credit (PRSC), and it assumed the name PRSO in the second series of assistance.

		Japan	1500 million Yen	Loan	public service provision
		EC	3 million Euro	Grant	
		Australia	2.5 million Australian Dollars	Grant	
PRSO 6	2010	World Bank	10 million US Dollars	Grant	
		EU[22]	3 million Euro	Grant	
		Australia	2.5 million Australian Dollars	Grant	
PRSO 7	2011	World Bank	10 million US Dollars	Grant	
		EU	3 million Euro	Grant	
		Australia	2.5 million Australian Dollars	Grant	
PRSO 3rd Series					
PRSO 8	2012	World Bank	20 million US Dollars	Grant	(1) Strengthened fiscal and public financial management, (2) sustainable revenue management related to the natural resource sector (mining and hydroelectric power generation), (3) construction of a sustainable public finance mechanism for education and health sectors (4) institutional reform for industrial diversification and boosting competitiveness
PRSO 9	2013	World Bank	20 million US Dollars	Loan/ Grant	
		Japan	500 million Yen	Loan	
		EU	4 million Euro	Grant	
PRSO 10	2014	World Bank	Not implemented		
		Japan			
		EU			
PRSO 11	2015	World Bank	Not implemented		
		Japan			
		EU			

Source: Based on materials provided by JICA.

As an evaluation of the aid approach, the following sections examine the validity of Japan's participation in the World Bank-led PRSO scheme and the validity of the contents of the policy matrix.

3.1.4.1 Relevance of Japan's participation in the PRSO framework

Japan has been the largest donor country for Lao PDR since 1991. Japan's participation in the PRSOs was significantly important for providing comprehensive assistance in cooperation with other donors and for drawing on Japan's accumulated experience as a donor and its cooperation across multi-sectoral assistance projects. First, PRSOs set public financial management as the main pillar; however, due to the nature of public finance management, there are very diverse sectors and sub-sectors (such as tax, budget, accounting, treasury management, and human resource development). It was meaningful for Japan, which has supported in diverse sectors, to participate in a multilateral donor cooperation scheme that covered comprehensive support. Additionally, at the PRSO, it has

[22] Following the establishment of the European External Action Service (EEAS), which is the organization that is responsible for foreign policy, with the granting of a legal personality to EU's at a global level by the Lisbon Treaty (effective on December 1, 2009), the designation of the EU has been replaced by EC.

been recommended that the target areas of PRSOs be assisted by associating the PRSO agenda with each donor's technical assistance in the related sectors. With considerable experience in the related aid areas, Japan facilitated the promotion of individual field projects as well as reform agenda within the PRSO framework. Participation in (a) (b) promoted the implementation of the public corporate reform proposed by JBIC (then) through the above-mentioned surveys. Additionally, reforms on the Special Economic Zone, which were supported by Japan through (a), (b), and (c), lead to the basic concept of the national industrial development and the plans for Vientiane, Savannakhet, and Champasak industrial parks. The participation resulted in a feasibility study of Vientiane industrial zone phase 1.[23] Participation in (d) facilitated the reform necessary for the number of technical cooperation projects and their outcomes. Technical cooperation projects include "Community Initiative Primary Education Improvement Project (CIED)" (2007–2011), "CIED Phase 2" (2012–2016), "Health Sector Project Adjustment Capability" (2010–2015), "Project for Strengthening Integrated Maternal, Neonatal and Child Health Services" (2010-2015), "Capacity Development for Sector-wide Coordination in Health Phase 2" (2010–2016), and "Project for Sustainable Development of Human Resource for Health to Improve Maternal, Neonatal and Child Health Services" (2012–2016).

Moreover, Japan's participation in the PRSO at the earliest stage also attracted the participation of EC/EU and Australia, which led to the promotion of donor coordination. In fact, the reason why Australia participated in PRSO 4-7 was because of its judgement that its participation was significant in establishing cooperation with major donors, such as the World Bank and Japan and EC / EU for Lao PDR poverty reduction, and in committing toward achieving the aid effectiveness.[24]

In operations, such as PRSOs, which require multidisciplinary knowledge, the cooperation of all donor countries is considered crucial. Furthermore, in Japan, the executing agency of this program changed from JBIC to JICA after JBIC's overseas economic cooperation operation were merged with JICA in 2008, and hence it was necessary to maintain coherence and further cooperation in the implementation of the program. Japan created a "Country-based ODA Task Force" consisting of diplomatic establishments abroad and JICA country offices, and held meetings when necessary[25]. It seems that such institutional background also led to smooth cooperation of various institutions in Japan.

The above facts show the validity of Japan's participation in the PRSO framework in terms of donor coordination and side support.

3.1.4.2 Validity of contents of the policy matrix

Examining the validity of the PRSO from the perspective of the contents of the policy matrix, it can be observed that the logical route is consistent under the national goal—poverty reduction and

[23] "Preparatory survey on industrial zone development in the Lao People's Democratic Republic." JICA, June 2010
[24] Bob Warner and Malcolm Bosworth, "Lao PDR PRSO 4-7 Independent Completion Report." Commissioned by AusAID Vientiane, 2011, p. 2.
[25] Interviews with the Government of Japan.

economic growth. In each sector, important components and issues leading to poverty reduction and economic growth were selected and placed logically and rationally as targets of concrete areas.

Regarding the level of policy actions, the level differs depending on the sector. For instance, with regard to actions on planning and budget, some focuses merely on "creation," others focus on "approval," or "execution." Therefore, the appropriateness of policy actions was varied in their easiness and difficulties.[26] In fact, there were also doubts about the appropriateness of targets.[27] Although queries on the details of policy action formulation could not be fully answered unless the respondent was the actual personnel in charge at the time of implementation, and the grounds for individual policy action formulation could not be scrutinized in this evaluation, it was observed that in certain cases, due to some exceedingly ambitious indicators, the personnel in charge had difficulties in dealing with the actual implementation of reforms.

When formulating policy actions, basically, the Lao Government and the World Bank made decisions on their selections, but the Japanese side also expressed their views and influenced policy actions. In (a) (b), the JBIC (then), through policy dialogues, urged that the recommendations made through the public corporation reform support survey should be reflected in the PRSO's policy action.[28] Furthermore, at the time of formulating the policy action for the education sector in (d), a method emphasized the injection of funds into school education following the World Bank proposal (on management of the use of school subsidies), and the Japanese side could present a practical approach that highlighted how to utilize the funds (emphasis on training for effective use of school subsidies) and incorporated this proposal into policy actions to a certain extent.[29]

The above facts show that the implementation of this program has been fully consistent with Lao PDR's development policy, development needs, and Japan's ODA policy. Regarding program plans and approaches, Japan's participation has been significant in the PRSO framework. The content of the policy matrix has been also consistent under the national goal of poverty reduction and economic growth; this matrix has considered important policy components and issues in each sector and has set them as policy actions in concrete areas. Embassy of Japan, JBIC (then), and JICA actively participated in inter-project cooperation and policy dialogues, and complementary support from other related projects prioritized by Japan created effective forms of assistance. Therefore, relevance of this program is high.

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[26] Interviews with the Ministry of Finance and the related Ministries.
[27] Interviews with the related Ministries and JICA experts.
[28] Interviews with the Government of Japan.
[29] Interviews with the Government of Japan.

3.2 Effectiveness and Impact[30] (rating: ②)

3.2.1 Policy Action / Trigger (Policy and Institutional Reform Components)

Policy areas and institutional reform components necessary to achieve the national goal of poverty reduction and sustainable economic growth were set up under this program, and multiple policy actions were included in each component. Particularly, important policy actions were fixed as triggers for each fiscal year. Most triggers were accomplished; however, for some triggers, even partial achievement was considered as an achievement. For example, in the loan (b), the component of ② the formulation of arrears reduction plan, in the Trigger 8 (Implementation of Electricity Sector Action Plan), was not completed at the time of appraisal. However, as the result of a review of ① the revision of the electricity fee and ② improvements of other components, such as decline in electricity loss, they concluded that the trigger was achieved as a whole. However, at the time of ex-post evaluation, formulation of arrears reduction plan was not completed. According to the EDL, although they were also aware of the reform objectives and report from the World Bank, in fact, new arrears were accumulating, and payment from government agencies accounted for one-tenth of the necessary amount.[31]

3.2.2 Quantitative Effects (Operation and Effect Indicators)

In order to measure the effectiveness of the program, target values and target years (three to five years after) were set for each policy area/institutional reform components. There are variations in achievement depending on operations and indicators (Table 3). Regarding indicator achievements of (a), (b), (c), and (d), improvement from the baseline were observed for (a) and (b), and all of the four indicators were achieved. On the other hand, indicators of (c) (d) had concrete numerical targets, and the difficulty level was higher than that of (a) (b). As a result, out of 12 indicators, (c) achieved 6 indicators, 5 indicators have not been achieved until now, and data for 1 indicator are unknown. In the case of (d), out of 8 indicators, only 3 indicators were achieved, 2 indicators were partly achieved, 2 indicators have not been achieved until now, and data for 1 indicator are unknown. The indicators that were not achieved are the number of days required for establishing a company, the number of documents necessary for importing and exporting, the number of facing a deficit, the arrears of electricity to the EDL, the number of ministries systematically inputting budgets of the provinces prior to the start of financial year in the system, the textbook-student ratio of the three major subjects in the fifth grade of elementary school.

Depending on indicators, it is not possible to grasp the progress of institutional reforms by merely examining conformance to the indicator, and it is necessary to judge the outcome of the overall trend. For example, the component 3 in (d) regarding the establishment of a sustainable public finance mechanism in education and health, although indicator was achieved, it cannot be said that it was

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[30] Sub-rating for Effectiveness is to be put with consideration of Impact.

[31] Moreover, as an administrative problem, since the original bill is necessary for payment of the fee for audit reasons because EDL is unable to reissue the invoice, and if one loses the original bill, he/she cannot pay the fee (Interviews with parties concerned).

completely achieved because further financial problems were confirmed.[32]

Table 3: Operation / Effect Indicators and Results

(a)(b)	Baseline (2003)	Target (2007)	Actual (2007)[33]
	Baseline Year	Completion Year	Completion Year
1 Improve public resource management			
Ratio of loss-making SOEs 【Achieved】	30%	Improvement from the baseline	Only 10.2% of central SOEs were loss-making (2006)[1]
Reduce the combined losses made by SOEs 【Achieved】	200 billion Kip	Improvement from the baseline	192 billion Kip（2004）（Nominal Kip inflation was around 10% a year, thus the real decrease in combined losses is even larger[2]）
Reduce the combined losses made by 4 SOEs that were the targets of the first restructuring 【Achieved】	19 billion Kip	Improvement from the baseline	Improvement from the baseline **
2 Improve public expenditure policy			
Percentage of the rural population that can access electricity【Achieved】	43% (2004)	Improvement from the baseline [4]	55%（2007）

[1] Assessment by the State Asset Management Department.
[2] In 2006, it was confirmed that the reform was maintained, at that time the central SOEs accounted for more than 90% of the total income loss and was 39 billion Kip.
[3] According to World Bank, "Implementation Completion and Results Report," No. ICR0000592, 2009, the total deficit of the four SOEs subject to restructuring decreased from 265 billion Kip to 73 billion Kip in PRSC 1 (World Bank's loan project implemented in 2006) (p. 4) (not dated).
[4] According to the World Bank's indicator setting, "it increased to 55% by January 1, 2010." (*Ibid*., p. x).

(c)	Baseline (2006)	Target (2011) (at the time of PRSO 7 completion)	Actual (2011)[34]
	Baseline Year	Completion Year	Completion Year
1. Create enabling business environment and attract quality investment			
Number of days needed to start up a business【Not achieved】	163 days	70 days	92 days [1]
Number of enterprises registered (Ratio of newly registered enterprises to all	N/A	10% increase per year	N/A（Because collected data did not distinguish the new enterprises

[32] World Bank, *op. cit.*, 2016, pp. 15.
[33] Throughout PRSO 1-3, the actual value achieved at the completion year of PRSO 3 by March 2007. These actual values were cited from World Bank, *op. cit.*, 2009, pp. ix-xii.
[34] The actual value achieved at the completion year of PRSO 7. The actual values achieved are from World Bank, *op. cit.*, 2012, p. 37-42.

registered enterprises)【Unknown】			from the old ones)
2. Reduce trade barriers and proceed with implementation of international and regional agreements			
Number of days to export / import【Achieved】	Export：66 days Import：78 days	Export：32 days Import：33 days	Export：26 days [1] Import：26 days [1]
Number of documents to import / export【Not achieved】	Export：12 Import：16	Export：7 Import：8	Export：9[1] Import：10[1]
Total trade in GDP (%)【Achieved】	69%	78%	98.2%[2]
3. Improve the performance and monitoring of state-owned enterprises (SOEs)			
Number of loss-making SOEs (primary to tertiary sectors)【Not achieved】	13 enterprises	Reduced to half	40% (24 enterprises) out of the enterprises that could be monitored (2018) [3]
Ratio of the total losses to total profits of central SOEs[4]【Achieved】	42%[5]	20%[5]	0.001%(2008)
Stock of arrears for electricity consumption from government agencies to EDL【Not achieved】	113 billion Kip	0	About 90% of the bills are arrears (2018) [6]
4. Enhance transparency and commercialization of State-owned Commercial Banks (SOCBs)			
Percentage of NPLs of total SOCBs loans【Achieved】	21.2%	Below 5%	2.18% (2011)
Amount of financing for the private sector【Not Achieved】	71.6%	80%	73.4% (2012)
5. Improving service delivery (health and education)			
Primary school enrollment rate in 47 priority districts.【Achieved】	28.4%	Over 28.4%	92.0% (2012) [7]
Recurrent health expenditure as % of total recurrent expenditure【Achieved】	3.9%[8]	Over 3.9%	4.3% (2009/2010)

[1] World Bank, *Doing Business*, 2013.
[2] World Bank, World National Accounts data, and OECD National Accounts data files. However, the share of the total trade as % of GDP was 82.0% in 2006, and 91.7% in 2011.
[3] Interview with the Ministry of Finance (2018). Out of the 187 SOEs that the Ministry is informed about, 60 SOEs' financial status was monitored, and it was reported that 40% were loss-making.
[4] Percentage of total losses to total profits.
[5] According to World Bank, "Implementation Completion and Results Report," 2012, the baseline was 4.8%, the target was to reduce 20%.
[6] According to World Bank, *op. cit.*, 2012 (p. 37), stock of arrears came to be 0, and the target was achieved. However, according to the related authorities, as of 2018, the issue of arrears for electricity was not yet solved.
[7] Ministry of Education and Sports
[8] This amount is from the fiscal year 2007/2008.

(d)	Baseline (2011/12)	Target (2015)	Actual (2015)[35]
	Baseline Year	Completion Year	Completion Year

[35] Throughout PRSO 8-11, the actual value achieved at the completion year of PRSO 11 in 2015. These actual values were cited from World Bank, *op. cit.*, 2016, pp. iiv-xi.

1 Strengthened fiscal and public financial management			
Number of Ministries inputting budgets in GFIS for “Tier-2” entities prior to start fiscal year【Not achieved】	0	4	2 Ministries and Vientiane Municipality
Percentage of government cash balance consolidated【Achieved】	0%	70%	95% (95% of accounts transferred, thereby estimated that at least 95% of cash balance consolidated into the Treasury Single Account (TSA)
2 Sustainable revenue management in the natural resource sectors (mining and hydropower)			
Core elements of standard fiscal regime in place for in mining and hydropower.【Unknown】	None	1	Unknown
3 Sustainable public financing for schools and health facilities			
Textbook-pupil ratio for 3 core subjects and all five grades of primary education.【Not achieved】	1：1.8	1：1	1:1.2（end of 2015）
Number of districts which complete the assessment of the degree of compliance to the Quality Standards for primary education.【Achieved】	0	over 30 Districts（600 schools）	80 Districts
Share of births attended by skilled health personnel【Achieved】	37%（2009/10）	50%	58%（July 2015）
4 Improving the industrial diversification and competitiveness			
Time it takes to import (Days). Number of documents required【Partially achieved】	Time：DB*46 ES**11 Documents：DB10	Time：DB28 ES7 Documents：DB7	Time：DB26 ES2 Documents：DB8
Time to start a business (Days). Cost to start a business.【Partially achieved】	Time：DB93 ES14 Cost：7.6% (of GNI)	Time：DB60 ES7 Cost: 6% (of GNI)	Time：DB73 ES N/A Cost：4.9% (of GNI)

*DB = doing business (Number of days and documents legally required)
**ES = enterprise survey (Actual number of days needed)

Setting an appropriate target value is a major problem. As mentioned earlier, there was a difference between easy indicators and difficult indicators, and there were also variations in the degree of difficulty at the practical level, depending on sectors and individual components.[36] The target value of the indicator may affect the attitude of concerned ministries regarding the policy plan. The European Court of Auditors also pointed out in 2010 the difficulty of setting appropriate targets for the performance indicators in general budget support; they also indicated that targets that were

[36] Interviews with JICA experts and related Ministries.

insufficiently challenging or targets that were overly ambitious could reduce the incentive effect.[37]

Besides the issues of the indicator development, it is also crucial to consider the organizational situation of the ministries responsible for undertaking practical efforts to achieve the indicators. In the case where sufficient budget allocation cannot be directed to the ministries concerned or when the number of personnel in the department in charge is not sufficient for responding to the policy system improvement, it becomes a serious burden when difficult indicators are selected. Indicators should be set not only for policy needs but also for the existing level of practicality.

Besides this, the statistical data make it difficult to judge whether the indicator has been achieved. For example, concerning the reforms of the state-run enterprises, the Ministry of Finance fails to grasp data on all SOEs. This is due to the institutional circumstances, such as the fact that many SOEs have been placed in jurisdictions other than the Ministry of Finance in the past. Additionally, there are indicators that do not have appropriate data for judging the degree of achievement. For example, there is an indicator of enterprise registration rate (new registration (%) to the whole), but because the Lao Government does not distinguish new enterprises from existing enterprises in registration and grasps only the number of existing registered enterprises, and thus the data on the new company's registration rate does not exist. It is necessary to carefully choose indicators based on the current status of constraints of such statistical data.

There is also an issue with the quality of public statistical data. In many areas of public and private sectors, accurate and harmonized statistical data development is incomplete. Even regarding Lao PDR's fiscal statistics, there have been many issues, such as an accurate understanding and management of revenue performance, expenditure issues for non-budgetary components (off-budget), and inconsistency and discrepancy in preparing fiscal data.[38] The large restrictions on the statistical data collection and management system, budgets for and securing of specialized personnel, and the lack of accurate data could have hampered the smooth implementation of this program, which evaluates the progress of policy reforms with indicators. The above analysis shows that it is indispensable to determine indicators in consideration of the presence / absence of data and the actual situation of data collection / management.

3.2.3 Qualitative effects (other effects)

As a direct qualitative effect of the implementation of this program, there were improved components in all of (a), (b), (c), and (d), such as strengthened organizational capacity in the area of financial management, and periodic management and reporting through policy actions.[39]

According to the World Bank's assessment, as a direct effect common to (a), (b), (c), and (d), the

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[37] Warner and Bosworth, *op. cit.*, p. 20.

[38] Teruhide Kaneda, "Issues and Approaches for the Improvement of Laos' Financial Statistics" in Motoyoshi Suzuki, ed. *Transforming Society and Economy of Laos: Present and Future*. Vientiane: JICA Laos Office, 2013, pp.223-252

[39] As individual projects, the Ministry of Finance approved the Public Expenditure Management Strengthening Program (PEMSP) implementation plan and capacity building plan in the operation (a), and the Ministry of Finance collaborated with Ministry of Education and Ministry of Health in the operation (c) to complete the strategy and implementation plan for introducing the sector budget allocation method of the fiscal year, and the operation (d) applied the organization codes for the local budget and allocated the budget to the education / health sector at the central level.

PRSO process strengthened the organizational capacity of areas such as fiscal management and enhanced focus of the Lao Government on the involvement of development agenda and policy dialogues with donors' on poverty reduction and adjustment.[40] Moreover, the World Bank noted as unintended effect that through this program the Government recognized the usefulness of the sectoral strategies, and that the actual capacity of the Government to initiate reforms and the areas that required governmental efforts were revealed.[41]

At the time of the ex-post evaluation, there was further progress in institutional aspects; the Public Debt Management Law, which indicates numerical targets for public debt, was approved at the National Assembly in 2018.

The qualitative effects at the time of appraisal were as follows. Except for the strengthening of the organizational capacity of the public expenditure management capacity mentioned above, this program did not have a direct impact; its effect has been indirect and also medium- or long-term in nature. As there are many other factors influencing the realization of the expected effects, other main qualitative effects are discussed under the impacts in the next section.

Operations	Expected qualitative effects
(a)(b)	① Strengthening public expenditure management capability ② Strengthening the financial sector ③ Improving the performance of SOEs ④ Improving the financial sustainability of public utility sector ⑤ Formulating the budget by focusing on poverty reduction measures within limited revenue ⑥ Securing transparency in expenditure and guaranteeing accountability ⑦ Nurturing the private sector ⑧ Promoting economic integration with neighboring countries / international society ⑨ Improving resource management
(c)	① Improving governance in administration ② Improving budget execution in public financial management ③ Improving public service provision ④ Improving business environment and promotion of trade in the private sector ⑤ Contributing to sustainable development
(d)	Improving policies and institutions in public finance management: social sector (education and health)

3.2.4 Impacts

3.2.4.1 Intended Impacts

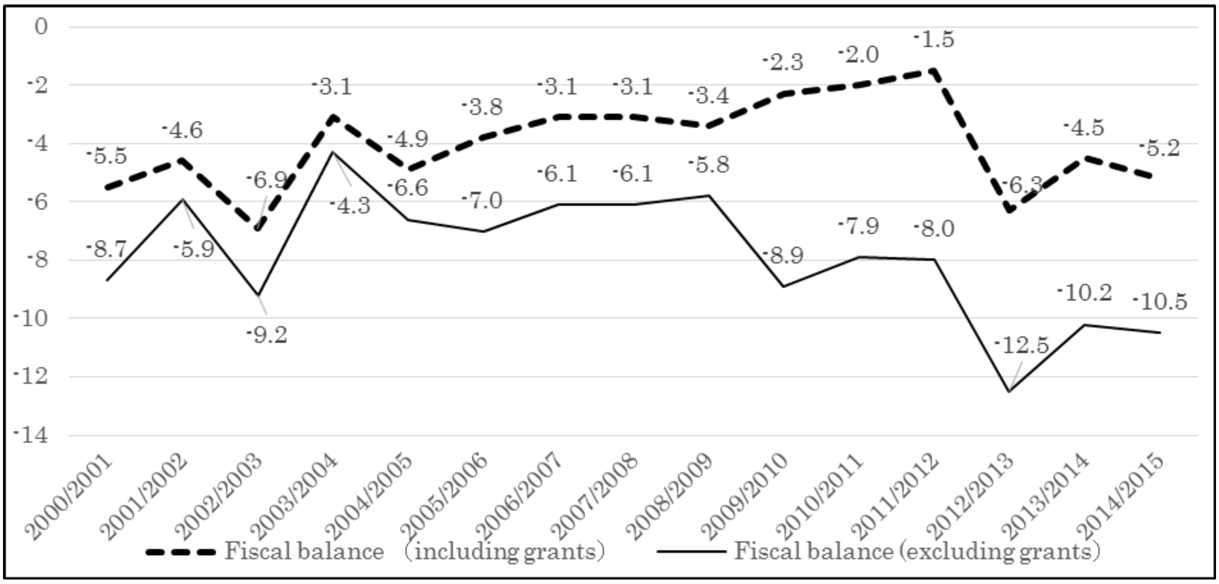
This section analyzes, as the status of indirect and medium-term impacts of the assistance to the policy and institutional reforms under the program, improvements in public financial management, budget formulation that leads to poverty reduction measures, and improvements in the business environment of the private sector. Poverty reduction and economic growth, which are the overall goals

[40] World Bank, *op. cit.*, 2009, p. 17.
[41] *Ibid.*, p. 18.

of this program, are considered to be indirect and long-term impacts. Since it is difficult to verify how much contribution this program made on poverty reduction and economic growth, this report includes a general analysis, but it is not part of the evaluation decision.

(1) Improvement in Public Financial Management

Lao PDR's finance, which has been plagued by a permanent budget deficit, is highly dependent on external aid. Even the fiscal balance data are categorized into two cases with and without grant aid. As the deficit ratio further increased after 2009/2010, dependency on grant aid helped to avoid further deterioration of the fiscal balance (Figure. 1).

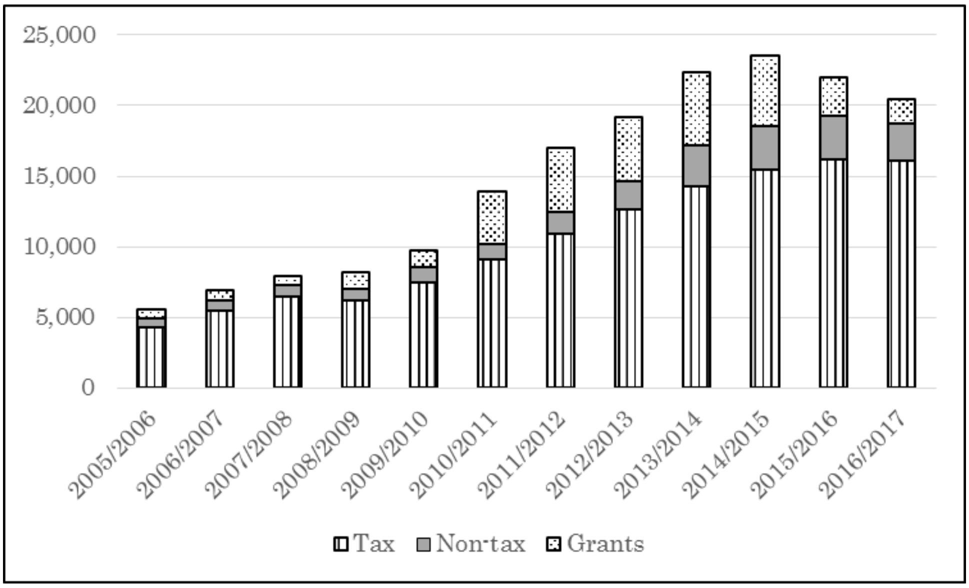


Source: Ministry of Finance, Government Finance Statistics Annual Report for 2013-2014, p.15. Figures after 2010, Ministry of Finance, Government Finance Statistics Annual Report for 2014-2015, p. 57.

Figure 1: Trends of Fiscal Balance (% of GDP) (%)

Although Lao PDR depends heavily on grant aid, it aims to graduate from the LDC status in 2020, and there is a great concern that the grant aid will not be provided due to a graduation from LDC. A decline in the revenue was observed from the year 2015-2016 due to a decrease in grant aid (Figure. 2).[42]

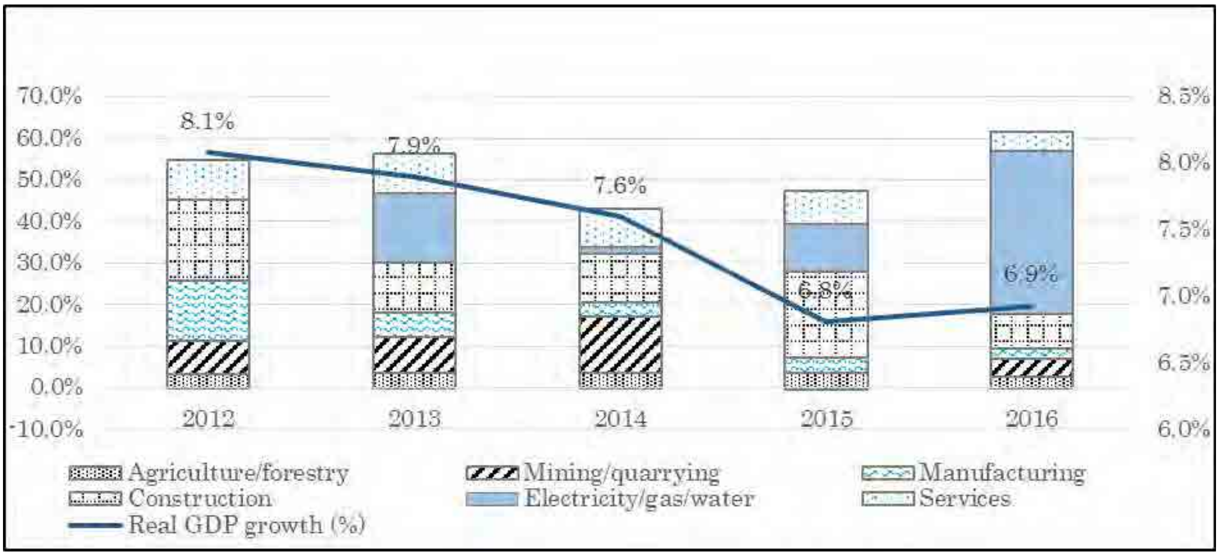
[42] A decline in tax revenues and non-tax revenues starting from 2015/2016 is attributed to the fall of the international commodity prices of natural resources (cupper) and to the decrease in revenues from cooperate tax, resource tax, and concessions (IMF, Staff Report for the 2017 Article IV Consultation, 2017).



Source: IMF, Staff Report for the 2010 Article IV Consultation, 2010; IMF, Staff Report for the 2012 Article IV Consultation, 2012; IMF, Staff Report for the 2014 Article IV Consultation, 2014; IMF, Staff Report for the 2017 Article IV Consultation, 2017; and Ministry of Finance: Government Finance Statistics Annual Report for 2013-2014.

Figure 2: Sources of Revenue (1 Billion Kip)

In the area of public finance management, Lao PDR particularly has a low revenue level, and securing stable revenues has been a major issue. In 2013 and 2016, the contribution to the GDP growth rate by electricity sale of hydropower generation was the highest (Figure. 3).Furthermore, it is expected that the income from electricity sales is expected to double from 2020, which is anticipated to stabilize revenues and promote economic growth, but the financial situation until now has been extremely severe.[43]

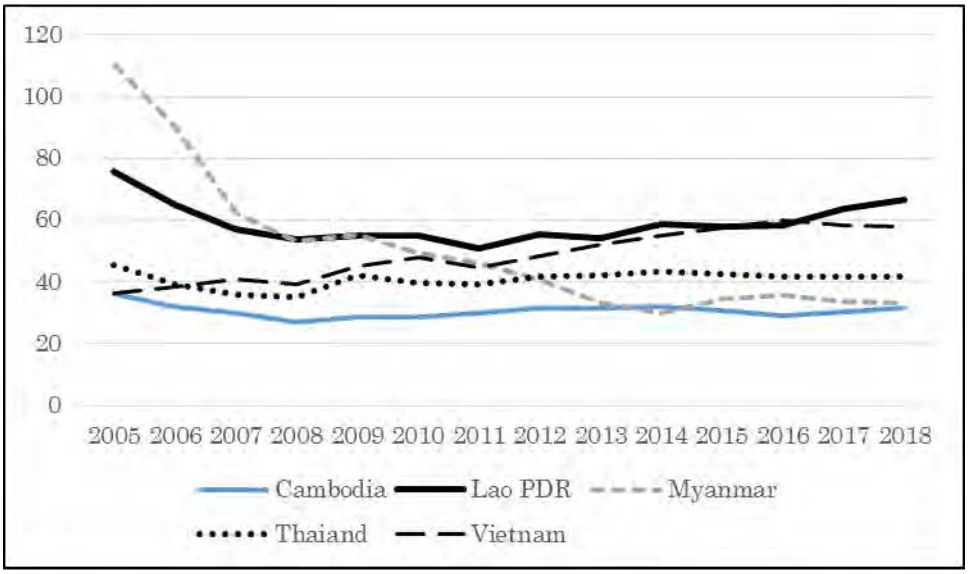


Source: Lao Statistics Bureau.

Figure 3: Nominal GDP Growth Rate and Contribution by Industry (%, 2002 nominal)

[43] Interviews with JICA experts and parties concerned.

Lao PDR has also been witnessing a high level of public debt. Figure 4 compares the trends of the general government gross debt in Lao PDR with that of its neighbors. From 2008 to the time of this ex-post evaluation, the debt ratio of Lao PDR has been in one of the most serious conditions, and there has been no sign of improvement. In 2016, the country's public debt amounted to 68% of GDP, and, in 2017, the IMF's/World Bank's debt sustainability analysis considered Lao PDR to be in a "high risk of debt distress" (red signal supposition).[44] The backdrop of such deteriorating fiscal circumstances is that the investment in infrastructure has been increasing, development in the mining sector has halted, among other factors.[45]



Source: International Monetary Fund, World Economic Outlook Database, October 2018.

Figure 4: Trends of General Government Gross Debt of Mekong Region States (as a Percentage of GDP, %)

Considering the above, although the financial situation has not improved, there are many factors in the economic structure and administrative situations that could not be influenced by the scale of individual programs such as PRSOs.

(2) Budget formulation leading to poverty reduction measures

For social sectors such as health and education, which directly lead to poverty reduction, it is generally difficult to secure sufficient budgets unless they are prioritized in policies. In this program, the reform of health and education budgets leading to poverty reduction measures was included, for instance, in (c), the Ministry of Finance worked in cooperation with the Ministry of Education and the Ministry of Health to implement strategy and implementation for introducing the sector budget

44 World Bank. *Lao Economic Monitor 2017*. Vientiane: The World Bank Lao PDR, 2017.
45 Interviews with JICA experts and parties concerned.

allocation method of the fiscal year.

An indicator of budget allocation leading to poverty reduction was "expenditure on recurrent health budget in total recurrent budget expenditure." The Ministry of Health had been requesting an increase in the health budget every year, therefore it was important that this component was included as a trigger in a PRSO.[46] The health budget has more than doubled from 2009/2010 to 2013/2014, and the ratio of government expenditure also increased to 6.3% (Table 4). Even the subsequent plans intended to increase the health budget, and the impact that the PRSO gave to the health budget is recognizable.[47]

Table 4: Health and Medical Expenditure

＼Year	2009/2010 (Actual)	2012/2013 (Actual)	2013/2014 (Actual)	2014/2015 (Plan)	2015/2016 (Plan)
Actual value (1 billion Kip)	604	1,072	1,437	1,864	1,917
Actual value (1 million US Dollars)	70.5	134	182	233	237
Government expenditure ratio (%)	4.9	5.0	6.3	7.3	7.4

Source: Ministry of Finance's Official Gazettes and State Budget Plans, as cited in World Bank. *Lao Economic Monitor 2017* Vientiane: The World Bank Lao PDR, 2017, p. 50.

In contrast, with regard to the educational budget, although it had been stipulated that the education budget percentage should be 18% or more by the revised Education Law in 2015, it remains usually at only 13 to 15% and still remains the same at the time of ex-post evaluation.[48]

(3) Business environment for the private sector

The private sector in Lao PDR began to develop practically since the 2000s; however, many industries are still underdeveloped, and legislative and institutional improvements were needed in order to attract corporate activities and foreign investment. In this program, the development of business environment and investment promotion were part of the reform components. As shown in Table 5, in the Doing Business indicators of the business environment, Lao PDR ranked the 141st among 185 countries in terms of the easiness of starting business (2017); this depicts difficulty in

46 Interviews with the related Ministries.

47 Yet, this increase originally reflected an increase in civil servants' wages in 2012, and later non-wage recurrent expenditures were to be increased. In the fiscal year 2013/2014, about 70% (about US$130 million) of the government health budget went to wage-related recurrent expenditure (33%) and to capital expenditure (37%). The remaining 30% (about US$55 million) was available for non-wage recurrent expenditure. The low level of non-wage recurrent expenditure, particularly at the facility level, has serious implications for the provision of health care and supply-side readiness. Such limited financing resulted in the introduction of user fees and drug revolving funds in order to raise revenues at the facility level (World Bank. *Lao Economic Monitor 2017*. Vientiane: The World Bank Lao PDR, 2017, pp. 46-47).

48 Interviews with parties concerned.

doing business. Although the required number of days for the starting business has been gradually improved, it takes a number of days for establishing a power connection, and conducting imports and exports; the business environment still faces various challenges.

Table 5: Changes in Doing Business Indicators in Lao PDR

Indicator \ year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Easiness of starting business (1 = easiest 185 = most difficult)	..	..	..	..	..	..	..	136	139	141
Starting business: required number of days (days)	85	85	85	77	87	87	87	87	67	67
Electricity situations: Number of days required for connection (days)	..	134	134	134	134	134	134	134	134	134
Tax rate: Ratio to profit (%)	33.5	31.4	31.4	31.4	31.4	26.3	25.8	25.3	26.2	26.2
Export: Required number of days (days)	..	..	..	..	..	..	12	12	12	12
Import: Required number of days (days)	..	..	..	..	..	..	14	14	14	14

Source: World Bank, Doing Business.

(4) Poverty Reduction

Under the MDGs, which represent international goals of poverty reduction, efforts were made at the same time as this program to reduce poverty by 2015. A partial improvement was seen in the poverty and education/health indicators of the MDGs.

Table 6 shows the targets related to this program areas, extracted from the MDG 1 (eradication of extreme poverty and hunger), which is the first goal of poverty reduction. In 2012, the Target 1-A of reducing the number of people living on less than $1 per day was achieved.[49] Efforts under the Target 1-C halved the population suffering from hunger, but could not achieve the goal of under-weight children and development inhibition.

[49] The United Nations in Lao PDR. *From Millennium Development Goals to Sustainable Development Goals: Laying the base for 2030.* Vientiane: The United Nations in Lao PDR, 2017. This report states that it has achieved albeit no indication of the achieved value of "the proportion of people living on less than 1 dollar per day by 2015."

Table 6: Indicators of Poverty in MDGs (Lao PDR)

Goal 1: Eradicate extreme poverty and hunger						
Target 1-A: Reduce the proportion of the population living on less than one dollar a day to half of the 1990 level by 2015						
	1992	1997	2002	2007	2012	2015 target
1.1. Proportion of population below national poverty line (%)	46.0	39.1	33.5	27.6	23.2	24.0
1.2. Poverty gap ratio (% of poverty line)	11.2	10.3	8.0 (2002/2003)	6.5 (2007/2008)	5.5 (2012/2013)	6.0
1.3. Share of poorest quantile in national consumption (%)	8.8 (1992/1993)	7.7 (1997/1998)	8.5 (2002/2003)	7.9 (2007/2008)	7.2 (2012/2013)	-
Target 1-C: Decrease the proportion of the population suffering from hunger by half of the 1990 level to 2015						
	1993	2000	2006	2011/12	2015	2015 target
1.8. Proportion of under-weight children under 5 years old (calculated according to WHO standard) (%)	39.8	36.4	31.6	26.5	25.5	22.0
1.9. Percentage of child under 5 years of development inhibition (calculated according to WHO standard) (%)	53.6	48.2	47.6	44	35.6	34.0
1.10. Percentage of undernourished population (%)	42.8 (1990-92)	37.9 (2000-02)	26.9 (2005-07)	21.4 (2010-12)	18.5 (2014-16)	21.4

Source: The United Nations in Lao PDR. *From Millennium Development Goals to Sustainable Development Goals: Laying the base for 2030;* Vientiane: The United Nations in Lao PDR, 2017.

In the MDG 2 (the achievement of full penetration of primary education), although the goal of "primary enrollment rate of primary education" reached 2014 (estimate), improvements in the "total enrollment rate of secondary education," "primary education survival rate," and "youth literacy rate" were slow, and their goals were unattained. Concerning the MDG 4 (a reduction in the infant mortality rate), improvements were slow, and goals set for the "infant mortality rate," "vaccination rate," and "lowering the percentage of under-weight children under 5 years of age" were not attained.

Although the goal of "maternal mortality rate" of the MDG 5 (improvement of maternal health) was achieved, other goals have not been achieved. Among these goals, the goal for "increasing the percentage of births attended by skilled health personnel" has not been achieved. In the MDG 6 (prevention of the spread of HIV / AIDS, malaria, and other diseases), "the prevalence of malaria and tuberculosis," was achieved but "halting the spread of HIV/AIDS and subsequently decreasing," "HIV / universal access to AIDS treatment" has not been achieved.[50]

It is worth noting that the MDGs, for which this program devoted effort, saw the achievement of the targets set for the primary enrollment rate and the maternal mortality rate. While indicators of completion of primary education, advancement of secondary education, expansion of textbooks, and expansion of health services for maternal and child health to alleviate health vulnerabilities could not meet the MDGs, it is still meaningful that these important development objectives were included in the policy actions of PRSOs. For example, as pointed out by the World Bank, PRSOs lead to more adequate management of budgeting, execution and monitoring of the school block grants and free maternal and child health care policy, and could be recognized as contributions toward addressing these problems to a certain extent.[51]

(5) Economic Growth

From the mid-2000s to the early 2010s, within the periods of this program implementation, remarkable economic growth was achieved (Table 7). This program was implemented at the crucial time of the country's efforts for economic growth, and encouraged the promotion of reforms that could contribute to such growth. However, it is not possible to specify the specific degree of contribution this program has given to economic growth.

Table 7: Major Economic Indicators

	1990	1995	2000	2005	2010	2015
GNI (million dollars) (PPP, real, 2011 standard, international dollars)	n.a.	n.a.	12,827	17,532	24,715	36,666
Per capita GDP (dollars) (PPP, real, 2011 standard, international dollars)	1,708	2,024	2,485	3,115	4,219	5,755
Per capita GDP growth rate (%) (year)	3.7	4.6	4.1	5.4	6.9	5.9
Foreign direct investment (million dollars) (balance of payment basis, net, flow, nominal US dollars)	6,000	95,100	33,890	27,720	278,806	1,421,167
Foreign direct investment (%) (GDP ratio, net, flow)	0.69	5.39	1.96	1.01	3.91	9.88
External debt (%) (GNI ratio)	204.3	122.8	152.4	122.8	97.4	94.6

Source: World Bank, World Development Indicators.

[50] *Ibid.*, pp. 1-4.
[51] World Bank, *op. cit.*, 2016, pp. 15-16.

3.2.4.2 Other Positive and Negative Impacts

(1) Impacts on the Natural Environment

In appraisals of (a), (b), and (c), financial support was a domain in which no particular environmental impact was foreseen, and as per the "JBIC Guidelines for Confirmation of Environmental and Social Considerations" (April 2002), the area under assistance does not fall under an area of environmental influence or susceptibilities. At the time of appraisal of (d), it was determined that the undesirable environmental impact of the program was minimal as per the "JICA Guidelines for Environmental and Social Considerations" (April 2010). During the ex-post evaluation, the executing agency confirmed that the impact on the environment was irrelevant in this program.

(2) Resettlement and Land Acquisition

Resident relocation and land acquisition by this program has not occurred.

(3) Impact on gender

The PRSO, as a whole, did not incorporate gender perspectives into policy matrices or indicators, and the work on gender issues has been entrusted to relevant ministries, departments and donor initiatives in the implementation of individual actions.

In this program, the formulation and implementation of a plan concerning health personnel for the free maternal and child health policy, improving health statistics and indicators, and establishing its monitoring cycle, supposedly impact women's health. Moreover, by promoting reforms, it is estimated that nurses and midwives can be trained, skills and knowledge can be improved, and empowerment of mothers and child health human resources, who are mostly women, can be facilitated.

Besides, concerning the issues related to the process of impact occurring, it is necessary to consider the capacity of the ministries concerned. In the conventional project approach, since project management procedures are different for each donor, the administrative organizations in countries with high dependence on foreign aid are especially burdened with project management. However, even with aid coordination through the program approach, which intended to reduce the burden on the beneficiary government, PRSOs required significant planning, implementation, management, and policy dialogues. The Ministry of Finance and other planning bureaus of relevant ministries and departments had to make efforts to achieve actual policy actions and report the results of each fiscal year in the policy dialogues and negotiate for the next year. Thus, these functions could overload the Lao Government, which has limited human resources and budgets.[52]

Concerning effectiveness, about half of the operation/effect indicators achieved the target value, but there were several effect indicators that were partially achieved or not achieved. In terms of qualitative effect, "strengthening the organizational capacity of areas such as public finance management" was achieved through this program. In terms of impact, "the budget allocation leading

[52] Interviews with the related Ministries.

to poverty reduction" benefited the health sector, while no change has been observed in "improvement in public financial management" and "business environment of the private sector."

The above factors show that the effectiveness and impact of this program are fair.

3.3 Sustainability

3.3.1 Institutional / Organizational Aspect of Operation

Along with institutional reforms, there were also sectors that established a monitoring system. For example, due to the reorganization of state enterprises, monitoring of the reorganization process was carried out by the Government.

The missions of the World Bank's headquarters was monitoring the PRSO's policy matrices. JICA experts also actively participated in monitoring when their assignment period coincided with the appraisal and implementation of the PRSOs. As mentioned earlier, the health sector advisor established a Health Human Resources Technology Working Group, under the Ministry of Health, and conducted monitoring. As seen in this example, monitoring by JICA experts contributed to the improvement of the work system, which can be instrumental in improving sustainability.[53]

From the viewpoint of the sustainability of a program's effectiveness, at the time of the ex-post evaluation, only a small number of personnel in the Government and in aid agencies were aware of the fact that PRSOs had been conducted. Most of the personnel in charge were retired or transferred to other bureaus, and it is difficult for current personnel to inherit institutional memories of the cooperation experience of PRSOs. It is a financial cooperation scheme and is not designed directly for human and physical outcomes. In relation to the total government funding and aid funds injected against the major targets of poverty reduction and economic growth, PRSO's scale has been small. Lessons on the experience in PSROs could be lost unless conscious efforts to record/document are made.

3.4 Values added of JICA

As mentioned earlier, the PRSO in Lao PDR was premised on cooperation with donors' other assistance projects. This program aimed to provide loans for important issues in development policy of Lao PDR, and the Japanese side had adopted a system to support implementation of reforms by conducting policy dialogues, based on experiences in the related areas where its considerable assistance had been done in the past, leading to meaningful cooperation for both countries. Actually, other aid organizations also considered JICA as an important partner in that this program supported a wide range of policy agenda of PRSOs while focusing on providing technical support for the education and health sectors.[54]

Specifically, while implementing PRSO 9, a JICA technical cooperation project in the health sector "Capacity Development for Sector-wide Coordination in Health, Phase 2" was being

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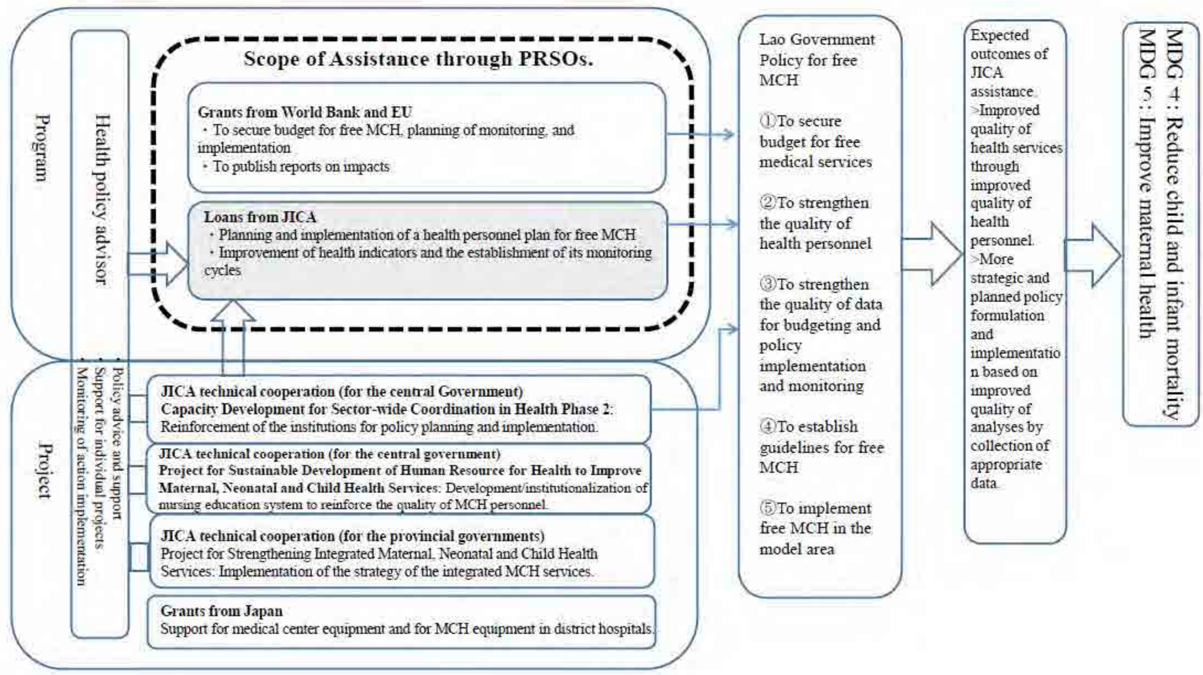
[53] Interviews with former JICA experts.
[54] World Bank, *op. cit*., 2016.

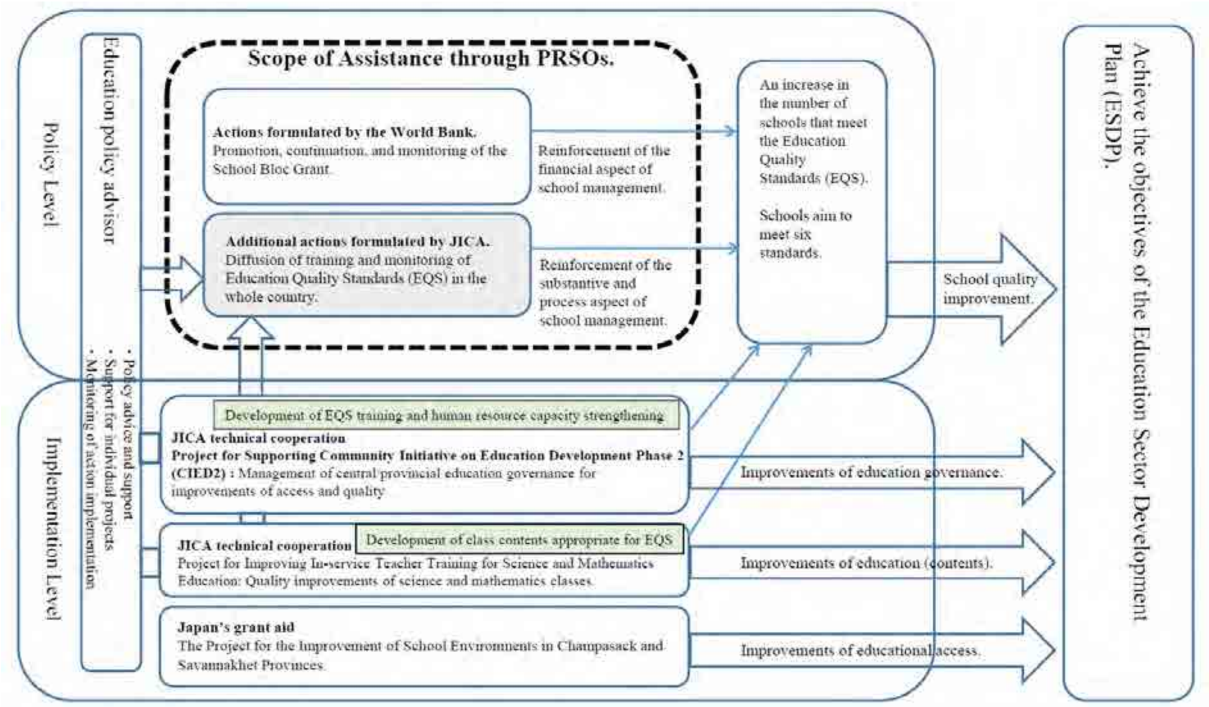
implemented. Through a project coordination mechanism developed in its Phase 1, this project strengthened the system to materialize policy and practice of plans and strategies of the Ministry of Health and development partners and, while harmonizing and standardizing project procedures, assisted in improving the project coordination capacity of the Ministry of Health. By utilizing this coordination framework, this technical cooperation project affirmed and promoted PRSO 9's implementation (Figure 5).



Source: Based on materials provided by JICA.

Figure 5: Conceptual Diagram of Lao PDR Maternal and Child Health Policy Support by PRSO 9 and JICA Scheme

Additionally, in the education sector, two technical cooperation projects and one grant aid project were comprehensively linked with the policy actions on the quality of education that were added by JICA for PRSOs. Along with the policy actions to strengthen the quantitative aspects of education, which were proposed by the World Bank, JICA's inputs were effective in complementing these policy actions (Figure. 6).



Source: Based on materials provided by JICA .

Figure 6: Conceptual Diagram of Lao PDR Education Policy Support by PRSO 9 and JICA Scheme

Although this program was in the form of development policy loans, importance of cooperating with related technical cooperation was recognized by the Ministry of Finance as well as the relevant ministries and departments. It is extremely important for JICA, which has extended technical cooperation, to provide complementary assistance in the areas where much of its lasting effort had gone into. Besides, there was a synergistic effect that enhances the effectiveness of other financial cooperation projects and technical cooperation projects in association with this program. Actually, as a result of collaboration and cooperation with related projects assisted by Japan, as indicated in "1.2 Project Outline," personnel from these related projects fulfilled important roles by providing with technical suggestions on PRSO's policy actions and triggers.. In this sense, Japan's participation in the development policy loans added significant value along with its multiple range of supplementary support based on its substantial experience in field-oriented cooperation.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This program aimed to promote reforms in various areas indicated in the mid-term and long-term national plans of Lao PDR, through budget support and policy dialogues, by supporting institutional reforms that the Government promotes, thereby contributing toward poverty reduction and economic growth. The program is highly relevant to Lao PDR's development policy and needs and to Japan's official development assistance policy. Overall, the program's framework and approach have been appropriate as respective sectors' main tasks that lead to poverty reduction and economic growth have been translated into concrete actions consistently. Although approximately half of the indicators had met their targets, some indicators' targets were not met. The indicators that were not achieved included the number of days needed to establish a company, the number of documents needed for import/export, the number of SOEs with deficit, electricity arrears of the Government toward the EDL, the number of Ministries that input systematically the provincial budgets by the beginning of the fiscal year, and the textbook-pupil ratio for three core subjects in all five grades of primary education. This program strengthened the institutional capacity of financial management and improved the budget allocation to the health sector, which contributes to poverty reduction. From these findings, this program has achieved its objectives to some extent. Therefore effectiveness and impact of the program are fair. Furthermore, JICA contributed by advising on policy actions and the suggesting improvements in the project coordinating capacity of the related Ministries of the Lao Government.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

Regarding the fact that there are multiple indicators that were not achieved in the 2nd and 3rd PRSO series, particularly, it is desirable to highlight the current situation of policy agenda that was grasped in policy dialogues in order to maintain institutional reforms. The relevant government agencies should be encouraged to monitor actions and indicators which are not achieved. Certain government departments often have insufficient resources to promote reforms, and further consideration should be given to securing personnel and allocating budgets.

In general, concerning budget support, for both recipient countries and donors there are many useful aspects such as strengthening ownership and harmonizing aid, but transparency is found as one of the crucial factors of program implementation. In this program, yen loans executed were used for import settlement funds. The Government of Lao PDR were supposed to reserve the same amount of local currency as the loaned yen currency and use it as a general revenue source for promoting policy reform by transferring this local currency to the national budget account. Although the use of this internal currency portion was not stipulated, it would be possible to obtain further understanding and cooperation from the relevant ministries and departments by enhancing transparency in fiscal management and releasing relevant information continuously to the ministries and departments concerned.

4.2.2 Recommendations to JICA

With regard to the reform components that are not yet achieved in this program, it is recommended to continue to utilize the JICA project scheme for the relevant sectors to ensure that each ministry and agency can monitor implementation, and policy advisers and JICA experts can provide complementary assistance.

4.3 Lessons Learned

(1) Approach combining financial support and other forms of assistance

Combining budget support with other forms of assistance, which have been considered from the beginning for Lao PDR's PRSOs, is essential for smooth implementation of these operations. First, policy advisors in each sector play major roles as it is a program that directly works on policies in each reform area. Furthermore, combination of other forms of assistance with technical cooperation is effective, and ranging from the setting of the trigger to the monitoring, there are possibilities for the technical cooperation experts to assist in hands-on manners, through which outcomes can be achieved. If there is no technical cooperation at the time of operations, it is desirable to engage experts of relevant sectors in related assistance by conducting relevant investigation as much as possible, or by collaborating with other forms of aid.

(2) Issues of indicator setting and statistical data

There were difficulties inherent in setting indicators in the policy matrix. If an indicator was too easy, it would not lead to advance reform-related efforts. If an indicator was too difficult, the actions would be burdensome for the responsible technical ministries. Especially, when the allocation of sufficient budgets to the ministries concerned is not planned or when the personnel in the department in charge is unable to respond to the policy system improvement, setting a difficult indicator can be a serious burden. When selecting indicators, it is desirable to consult with the involved parties and the departments in charge as much as possible.

There was also a problem of the insufficient maintenance of statistical data, which made it difficult to judge whether indicators were achieved and whether the quality of data was maintained. In addition, there were cases in which the department in charge had not grasped it or there was no appropriate data for judging the degree of achievement of the indicator. It is necessary to implement support for data collection and data management in parallel with a program loan.

(3) Points to keep in mind about budgetary support through the program approach

In the program approach, one advantage is to reduce the administrative burdens of a recipient country, which derive from individual project management procedures for each donor. Although it is preferable to be able to promote policy dialogues and aid coordination, the burdens on the recipient country's government, such as time and effort spent to set, report, and monitor policy actions and indicators, are significant. One needs to pay careful attention to government personnel, institutional systems, and the capacity. It is important to note that, in this program, the ministries and departments in charge of the areas of reforms were obliged to implement policy actions without additional budgetary or human resource inputs, which resulted in increased burdens in addition to their regular functions.