

Lao People's Democratic Republic

FY2019 Ex-Post Evaluation of Japanese Grant Aid Project

“The Project for Improving Secondary School Environment in the Southern Provinces”

External Evaluator: Nobuyuki Kobayashi, OPMAC Corporation

0. Summary

The objective of this project is to improve the access and educational environment of lower secondary education by constructing and refurbishing the facilities and the equipment of the lower secondary schools in three southern provinces of Laos, thereby contributing to the quality improvement of the lower secondary education in the target area. At both the planning phase and the time of ex-post evaluation, the educational policy aimed at wide dissemination of education and increase in the gross enrollment rate of lower secondary education. At the time of the ex-post evaluation, the gross enrollment rates¹ in lower secondary education in Saravan province and Attapeu province showed room for improving the gross enrolment rates in lower secondary education. The scope of this project was consistent with Japanese aid policy. Therefore, its relevance is high. Given that the additional project scope increased the floor area, the actual project cost of the Japanese side was within the plan. In contrast, the project period exceeded the plan and thus efficiency of the project is fair. Concerning the quantitative indicators, “Students who can study in a good environment” increased and “Incomplete lower secondary schools²” declined. While both reached the targets, “Newly accepted students” achieved 80% of the target. Concerning the qualitative effects, teachers and parents had the opinion that improving the learning environment raised student motivation for learning. Furthermore, it is presumed that this project contributed to the improvement of both “Number of students per classroom and “Percentage of female students” to a certain degree. Therefore, effectiveness and impacts of the project are high. Concerning the institutional/organizational aspect, the number of new teachers did not meet the requirement estimated during the planning phase, and the majority of the schools that responded to the questionnaire replied that they did not have enough teachers. In terms of the technical aspect, the maintenance of school buildings did not require advanced technology. In terms of the financial aspect, the spending for the lower secondary education sector was on the rise. Concerning operation and maintenance, no serious damage that affected the use of the classrooms was found. For these reasons, sustainability of the project effects is fair.

In light of the above, this project is evaluated to be satisfactory.

¹ Total number of students at a specific education stage is divided by the school age population applicable to that education stage.

² Lower secondary schools which cannot teach all grades (M1-M4) of the lower secondary education.

1. Project Description



Project Location



School buildings constructed by this project

1.1 Background

In the first half of the 2010s when this project was formed, the Lao government was promoting a transition to a market-oriented economy, aimed at leaving the classification of least developed country by 2020. The country faced an increasing demand for human resources development to support industrial development, as well as a strong need to strengthen lower secondary education, which is the stage prior to vocational training, technical education, and higher education. In primary education, the increase in the number of schools improved the educational environment and access. Demand for lower secondary education, the next educational level, increased while existing secondary schools did not have enough classrooms. In addition, the period of lower secondary education was expanded from three to four years in FY 2009-10 but it was difficult to secure classrooms for all grades with existing school buildings. As a result, many lower secondary schools were forced to rent elementary school classrooms and construct temporary school buildings with the cooperation of residents. The schools faced an urgent issue in quality and access to education. In particular, this issue was more severe in the target area of this project, the provinces of Saravan, Sekong, and Attapeu, because the provinces were in mountainous areas and had many poor districts.

JICA had continuously supported primary education in the target area of this project. The grant aid “Project for Improvement of School Environments in Three Southern Provinces” accelerated the refurbishment and construction of elementary school buildings. The technical cooperation “Project for Supporting Community Initiative for Education Development (Phase 2)” worked on improving administrative and management capacity in primary education.

Against this background, the Lao government requested Japan’s grant aid for new construction/reconstruction of the buildings for lower secondary schools and provision of equipment in the three southern provinces.

1.2 Project Outline

The objective of this project is to improve the access and educational environment of lower secondary education by constructing and refurbishing the facilities and the equipment of the lower secondary schools in three southern provinces of Laos, thereby contributing to the quality improvement of the lower secondary education in the target area.

Grant Limit / Actual Grant Amount	1,069 million yen / 1,069 million yen
Exchange of Notes Date /Grant Agreement Date	March 2014 / March 2014
Executing Agency	Ministry of Education and Sports (MOES)
Project Completion	April 2017
Target Area	Saravan province, Sekong province, and Attapeu province
Main Contractors	[Construction] Vannavoung Construction Co., Ltd. (Laos), Somphamith Construction Co., Ltd. (Laos), Mitsamphan Construction Co., Ltd. (Laos), Phosy Construction Co., Ltd. (Laos), ST Construction Co., Ltd. (Laos) [Equipment] Chitchareune Construction Company Ltd. (Laos), Central Sign Trading Co., Ltd. (Laos)
Main Consultant	Mohri, Architect & Associates, Inc.
Procurement Agency	Japan International Cooperation System
Outline Design	June 2013 – May 2014
Related Projects	<ul style="list-style-type: none"> • Technical Cooperation “Project for Supporting Community Initiative for Education Development (Phase 2)” (2012) • Grant Aid “Project for Improvement of School Environments in Three Southern Provinces” (2009) • Grant Aid “Project for Improving Secondary School Environment in the Central and Southern Provinces” (2017)

2. Outline of the Evaluation Study

2.1 External Evaluator

Nobuyuki Kobayashi, OPMAC Corporation

2.2 Duration of Evaluation Study

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

Duration of the Study: September 2019 – December 2020

Duration of the Field Study: December 4, 2019 – December 24, 2019

2.3 Constraints during the Evaluation Study

In the impact of this ex-post evaluation, the effect of this project was based on a comparison of the project target schools, the number of students per classroom and the percentage of female students in the three southern provinces as well as the entire country of Laos. Other than this project, however, many factors affected the number of students per classroom and the percentage of female students. In this ex-post evaluation, careful attention was given to the accuracy of the above analysis.

3. Results of the Evaluation (Overall Rating: B³)

3.1 Relevance (Rating: ③⁴)

3.1.1 Consistency with the Development Plan of Laos

During the planning phase of this project, the national development strategy *the Seventh Five-year National Socio-Economic Development Plan (2011-2015)* (2011) prioritized education and assumed that sustainable economic growth and poverty reduction required dissemination and improvement of basic education. Moreover, the main policies of the plan were poverty reduction, human development, and reduction of disparities (urban/rural, poor/rich, genders) through knowledge and education. *The Education Sector Development Framework* (2009) focused on capacity development of teachers, improvement of educational quality, and improvement of curriculum as the main tasks, and emphasized construction of new educational facilities in rural areas. To reduce the number of imperfect elementary schools and expansion of secondary education, the sector plan adopted a policy to promote construction of educational facilities in areas where school construction was inadequate. *The Education Sector Development Plan 2011-2015* (2011) planned to raise the gross enrollment rate of lower secondary education to 75% in 2015 and to strengthen the expansion of secondary education facilities.

“Outcome 2” of *the 8th National Socio-Economic Development Plan (2016-2020)* (2016), the national development strategy at the time of the ex-post evaluation, included access to education

³ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁴ ③: High, ②: Fair, ①: Low

among all ethnic groups and genders. The strategy also planned to increase the total enrollment rate in lower secondary education to 85% during the strategy period. At the ex-post evaluation, the *Educational Sector Development Plan 2016-2020* (2016) stated that primary school graduates should continue to receive education and complete lower secondary education as the goal of lower secondary education. In addition to the increase in the gross enrollment rate of lower secondary education (85% in 2020), the plan set the target on the transition from the final year of primary education to the first year of secondary education (100% in 2020). The plan also mentioned specific activities such as school construction in areas where a school is needed, classroom construction in crowded schools, and improvements in the school environment.

During both the planning phase of this project and the time of ex-post evaluation, the national development strategies emphasized wide dissemination of education. The policy of the sector plans was to increase the gross enrollment rate of lower secondary education. In the plans, construction of school buildings to promote lower secondary education remained the same both before and after of this project. This project targeted the three southern provinces where the dissemination of lower secondary education has lagged. The major project effects were better access to lower secondary education and an improved educational environment. Therefore, it is concluded that this project was consistent with the dissemination of lower secondary education, which the national development strategies and the sector plans had continuously aimed for.

3.1.2 Consistency with the Development Needs of Laos

At the planning phase of this project, the net enrollment rate⁵ of primary education in Laos increased from 91.6% in FY2008-09⁶ to 96.6% in FY2012-13, and the completion rate of primary education in Laos increased from 64.2% in FY 2008-09 to 70.6% in FY 2012-13⁷. With the dissemination of primary education, it was foreseen that the number of students enrolled in secondary education would rise. Moreover, the period of lower secondary education was changed from three years to four years in FY2009-10. As the number of enrolled students increased, coping with this situation became an urgent issue. The gross enrollment rate of lower secondary education in FY2012-13 was 69.0% nationwide, while the rate was 44.9% for Saravan province, 57.4% for Sekong province, and 52.5% for Attapeu province. Since the project area was a mountainous area with poor access and inadequate facilities, these conditions prevented the dissemination of lower secondary education.

At the time of the ex-post evaluation, the net enrollment rate of primary education in Laos slightly increased from 96.6% in FY2012-13 to 98.8% in FY2017-18, and the same trend was observed in the three target provinces (see Table 1). The completion rate of primary education

⁵ At a specific education stage, the total number of students belonging to the age group assumed for that education stage divided by the total population of that age group

⁶ For the education system in Laos the fiscal year starts in September and completes in August.

⁷ The Preparatory Survey Report, p.1-16

in Laos increased from 70.6% in FY2012-13 to 80.4% in FY2017-18. Although the completion rates of primary education in the three target provinces also increased, they were lower than the entire country of Laos.

Table 1 Net enrollment rate and completion rate of primary education for Laos and three target provinces

	FY2012-13	FY2017-18
Net enrollment rate (Laos)	96.6%	98.8%
Net enrollment rate (Saravan province)	97.2%	98.9%
Net enrollment rate (Sekong province)	95.5%	97.7%
Net enrollment rate (Attapeu province)	95.4%	97.3%
Completion rate of primary education (Laos)	70.6%	80.4%
Completion rate of primary education (Saravan province)	47.5%	68.3%
Completion rate of primary education (Sekong province)	60.6%	70.4%
Completion rate of primary education (Attapeu province)	50.8%	72.3%

Source: MOES

At the time of the ex-post evaluation, the gross enrollment rate of lower secondary education (FY2017-18) was 83.1% nationwide, while 67.1% for Saravan province, 84.7% for Sekong Province and 76.3% for Attapeu Province (see Table 2). The number of lower secondary schools in the three target provinces rose from 140 schools in FY2013-14 to 183 schools in FY2018-19. However, to improve access to lower secondary education in the project area, lower secondary schools with sufficient capacity and easy access were needed. This showed a strong demand for development of classrooms.

Table 2 Gross enrolment rate of lower secondary education for Laos and three target provinces

	FY2012-13	FY2017-18
Gross enrollment rate (Laos)	69.0%	83.1%
Gross enrollment rate (Saravan province)	44.9%	67.1%
Gross enrollment rate (Sekong province)	57.4%	84.7%
Gross enrollment rate (Attapeu province)	52.5%	76.3%

Source: MOES

During both the planning phase of this project and the time of ex-post evaluation, the number of students who were able to advance to lower secondary education increased, and there was a substantial demand for continuous school education for graduates of primary education. During the ex-post evaluation, the net enrollment rate of primary education in the three southern provinces remained nearly 100%, and the completion rate was improving. To provide educational opportunities for the number of students who would be able to advance to lower secondary education, the construction of buildings for lower secondary schools is necessary in the three southern provinces. During the ex-post evaluation, the gross enrollment rates in lower secondary education in Saravan province and Attapeu province, both of which are in the target area, were lower than the national average and showed room for improvement in educational access by developing classrooms.

3.1.3 Consistency with Japan's ODA Policy

During the planning phase of this project, *the Country Assistance Policy for Lao People's Democratic Republic* (2012), which was formulated by the Ministry of Foreign Affairs of Japan, regarded human resources development as the “key for socio-economic development” and prioritized “improvement of educational environment and human resource development.” Furthermore, in *the Official Development Assistance (ODA) Country Data Book 2014*, the prioritized area in assistance for the country was “Development of Educational Environment and Human Resource Development.” Through the grant aid project, “Project for Improvement of School Environments in Three Southern Provinces” (2009), and technical cooperation project, “Project for Supporting Community Initiative for Education Development (Phase 2)” (2012), JICA contributed to the construction of elementary school facilities and the improvement of school management in the target area of this project.

The scope of this project was the construction and refurbishment of buildings and the provision of equipment for lower secondary schools. The priority area of Japanese ODA, which was “improvement of educational environment and human resource development,” and the project scope were consistent with the aid policy. In addition, JICA had promoted basic education with a focus on primary education. This project supported lower secondary education, which is the latter phase of basic education and, thus, it contributed to the enhancement of basic education. Therefore, this project is highly consistent with Japanese aid policy.

This project has been highly relevant to the country's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

This project constructed and renovated the facilities of the lower secondary schools and provided equipment such as desks and chairs in three southern provinces (Saravan, Sekong, and Attapeu) with support by the Japanese side. In addition, consulting services on detailed design and construction supervision were also provided in project implementation. According to the plan of the detailed design, construction work was to be implemented in 42 schools (total floor area: 20,648.80m²). The construction work was carried out in 44 schools (total floor area: 23,047.40m²) (see Table 3 for details). The geographical breakdown of the supported schools was 23 schools in Saravan province, 12 schools in Sekong province, and 9 schools in Attapeu provinces (see Table 4 for details).

Table 3 School construction supported by this project (Plan and Actual)

Plan (at the Detailed Design)	Actual
Target school: 42 schools	Target school: 44 schools
Classroom: 227 rooms	Classroom: 256 rooms
Teacher's room*: 34 rooms	Teacher's room*: 36 rooms
Latrine building: 34 buildings	Latrine building: 36 buildings
Storage: 34 rooms	Storage: 35 rooms
Student dormitory: 3 locations (6 rooms)	Student dormitory: 3 locations (8 rooms)

Source: documents provided by JICA

Note: *including teacher's room/storage

Table 4 School construction by this project (by province, Actual)

	Saravan province	Sekong province	Attapeu province	Total
Target school	23 schools	12 schools	9 schools	44 schools
Classroom	124 rooms	72 rooms	60 rooms	256 rooms
Teacher's room *	19 rooms	11 rooms	6 rooms	36 rooms
Latrine building	19 buildings	11 buildings	6 buildings	36 buildings
Storage	19 rooms	12 rooms	4 rooms	35 rooms
Student dormitory	2 locations (6 rooms)	—	1 location (2 rooms)	3 locations (8 rooms)

Source: documents provided by JICA

Note: *including teacher's room/storage



Exterior of school building



Classroom



Teacher's room



Student dormitory

The procurement of building construction was divided into the first group, the second group, and the additional group. When the first group's procurement was completed, there were unspent funds. To accept more students, the number of classrooms was increased in the second group. In addition, the additional group was set up to handle an increase in the number of schools covered by the project. As a result, the total floor area increased by approximately 10% from the initial plan.

The tasks of the Lao side were implemented almost as planned. At the time of the detailed design, electrical connection in 30 schools, water pipe connection in 6 schools, and well construction/repair in 15 schools were to be implemented and funded by the Lao side. Based on the information from the Provincial Education and Sports Service (PESS) of each province, electrical connection in 30 schools, water pipe connection in 1 school, and well construction/repair in 20 schools were implemented by the time of the ex-post evaluation,

3.2.2 Project Inputs

3.2.2.1 Project Cost

At the time of the detailed design, the planned project cost was JPY 1,076 million (JPY 1,066 million for the Japanese side and JPY 10 million for the Lao side⁸).

The actual cost of the Japanese side was JPY 1,069 million. Compared with the planned amount of JPY 1,194 million, adjustments due to the increased floor area (112% of the plan), the actual amount was within the plan (90% of the planned amount). According to the construction supervision consultant, there were unspent funds due to very competitive bidding for building construction. This allowed for additional construction work.

Since the project cost on the Lao side was funded by several sources such as PESS and municipal governments, it was difficult to accurately compile the actual amount of the project cost. Therefore, an assessment was made only for the cost of the Japanese side, which accounted for most of the project cost in the plan.

Table 5 Project cost for this project (Plan and Actual)

	Plan	Plan after adjustment	Actual	Comparison with the plan
Cost for the Japanese side	JPY 1,066 million	JPY 1,194 million	JPY 1,069 million	90%
Cost for the Lao side	JPY 10 million	—	—	—
Total project cost	JPY 1,076 million	—	—	—

Source: documents provided by JICA

3.2.2.2 Project Period

The project period at the time of detailed design was planned at 27 months (June 2014 - August 2016) and it covered the period from the commencement of consulting services to project completion. In actuality, it took 34 months (July 2014 - April 2017) from the start of consulting services to project completion. By comparing the actual period with the planned period of 30 months that adjusted for the increase in floor area (112% of the plan), the actual period exceeded the plan (113% of the plan). The delay in the project period was mainly due to the construction of the additional group, which was not expected at the time of the detailed design. This resulted in an increase in the project period beyond the expansion of the project scope.

⁸ The amount was based on the ex-ante evaluation sheet because the project cost for the Laos was not recalculated at the time of detailed design.

Although the project cost was within the plan, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.3 Effectiveness and Impacts⁹ (Rating: ③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects

During the planning phase, this project selected “Students who were able to study in a favorable environment,” “Newly accepted students,” and “Incomplete lower secondary schools” as indicators on the quantitative effects, and set the target after project completion for each indicator. The effectiveness and impact were evaluated based on the achievement level of the above targets.

Table 6 Quantitative effects of this project

	Baseline	Target	Actual			
	2013	FY2019-20	FY2016-17	FY2017-18	FY2018-19	FY2019-20
		3 Years After Completion	Completion Year	1 Year After Completion	2 Years After Completion	3 Years After Completion
Students who are able to study in a favorable environment	2,800 students	12,848 students*	—	—	—	12,848 Students
Newly accepted students	—	5,143 students	4,065** students	4,299** students	4,214** students	—
Incomplete lower secondary schools***	40 schools	24 schools	19 schools	13 schools	11 schools	—

Source: Documents provided by JICA and the executing agency

Note: * During the planning phase, this project set the target at 12,040 students, but the target was revised to 12,848 students in consideration of the additional project scope.

Note: **Number of students in 44 target schools (actual) - number of students in 2013 (actual)

Note: *** Number of incomplete lower secondary schools in the three target provinces (Salawan, Sekong, and Attapeu)

Based on the number of classrooms available in the target schools, the “students who were able to study in a good environment” reached the target. According to PESS of the three target

⁹ Sub-rating for Effectiveness is to be put with consideration of Impacts.

provinces, floods and typhoons damaged some schools after project completion, but these schools were repaired and cleaned promptly after the disaster. All classrooms were available at the time of the ex-post evaluation. (Achievement level: 100%). Secondly, “Newly accepted students” was mostly achieved based on the increase in the number of students at the target schools. In 2013, a year before the project was implemented, the number of students at the target schools was 7,371. In FY2018 -19 (as of December 2018), the number of students at the target schools was 11,585. The increase in the number of students was 4,214, which was 82% of the target (5,143). Finally, “Incomplete lower secondary schools” also achieved the target. The number of incomplete lower secondary schools in the three target provinces was 11 in FY2018-19 (as of December 2018), which was below the target of 24 schools (achievement level: 100%). During the ex-post evaluation, there were no incomplete lower secondary schools among the target schools in this project.

“Students who are able to study in a good environment” and “Incomplete lower secondary schools” reached their targets. The achievement level of “Newly accepted students” was approximately 80% of the target. It is concluded that the quantitative effects of this project reached the expected levels if the above three indicators are given the same weight.

3.3.1.2 Qualitative Effects (Other Effects)

To understand the project effects of the construction and refurbishment of facilities for lower secondary schools, interviews were conducted with the stakeholders in the target schools¹⁰. The qualitative effects found during the ex-post evaluation were as follows.

(1) Learning environment and students’ willingness to learn

During the planning phase of this project, many target schools used temporary school buildings constructed by neighboring residents. In many of these schools, the learning environment was not favorable, such as (1) there were roof leaks during rain, (2) the floor was soiled and covered with mud on rainy days, and (3) it became very hot in the dry season due to poor ventilation and the galvanized iron structure. According to teachers and parents, most interviewees were



Temporary school building
(not constructed by this project)

¹⁰ Interviews with stakeholders were conducted in December 2019 in 10 target schools (4 Saravan province, 5 Sekong province, 4 Attapeu province). The interviewees consisted of 26 teachers (19 men and 7 women), 16 parents (6 men and 10 women), and 21 students (10 men and 11 women).

of the opinion that rehabilitating the buildings in this project improved the learning environment. Some of them had the opinion that the students' motivation to learn was improved and the attendance rate increased.

(2) Blackboard easy to see and write

This project aimed at improving the educational environment and provided blackboards for the classrooms as well as the construction and rehabilitation of school buildings. The legibility of the blackboard contributes to better understanding of the lessons and the students' willingness to learn. The teachers were of the opinion that it was difficult to write clearly because the chalk slipped on the blackboards used before the project. The new blackboards allowed clear writing, and it was easy to write tables and figures because of the scales. The students also commented that they could read the blackboards more easily in the new school buildings. At the schools where the interview was conducted, there was no lighting in the classroom, but large windows were placed to allow in more daylight. Therefore, the students said that they could read the blackboards without lighting in the classroom.

3.3.2 Impacts

3.3.2.1 Intended Impacts

The impact of this project is "the quality improvement in lower secondary education in the target area." As this project did not set quantitative indicators about impact during the planning phase, quantitative indicators were newly selected at the time of the ex-post evaluation. Pre-post comparison of these indicators was used to figure out the improvement created by this project. In addition, out of the qualitative effects expected during the planning phase, the effects relevant with the impact was assessed based on interviews with the stakeholders in the project target schools.

(1) Students per classroom

As this project constructed classrooms, it was expected that the students per classroom would decrease at the target schools. Prior to the pre-project in FY2013-14 to the post-project in FY2018-19, the number of students per classroom decreased in the three southern provinces, throughout the nation and in the target schools (see Table 7). After the implementation of this project (FY2018-19), the number of students per classroom at the target schools was smaller than the classrooms in the three southern provinces and throughout Laos. Therefore, it is presumed that the target schools were able to conduct lessons in a relatively favorable environment.

Table 7 Student per classroom

(unit: persons)

	FY2013-14	FY2016-17	FY2017-18	FY2018-19
Laos	38.5	36.4	35.3	34.3
Saravan province	38.5	36.0	35.3	33.8
Sekong province	36.0	37.3	36.6	35.9
Attapeu province	36.8	37.1	35.9	36.4
Target schools	36.6	35.0	33.3	33.3

Source: MOES

(2) Percentage of female students

From the pre-project in FY2013-14 to the post-project in FY2018-19, the percentage of female students in lower secondary education increased slightly in Laos and in all of the three southern provinces. During this period, the percentage of female students at the target schools rose higher than the three provinces and Laos (see Table 8). This project contributed to better access to lower secondary education in remote areas. In rural areas, female students tend to avoid schools outside the communities in which they live. For this reason, improved access through this project presumably contributed to the increase in the percentage of female students.

Table 8 Percentage of female students

(unit: %)

	FY2013-14	FY2016-17	FY2017-18	FY2018-19
Laos	47.3	47.7	48.0	48.1
Saravan province	46.7	47.6	47.9	47.9
Sekong province	46.9	48.8	48.5	48.4
Attapeu province	47.1	47.5	47.3	47.5
Target schools	47.2	48.9	49.4	49.1

Source: MOES

(3) Parents' participation in school education

Based on the interviews with the stakeholders of the target schools, it was found that this project contributed to the participation of parents in school education. Teachers and parents commented that after the rebuilding of school buildings, the number of parents visiting the schools increased due to their interest in the new buildings. Moreover, teachers took advantage of the opportunities that arose when parents came to the schools, and conducted awareness campaigns for school education, requested funding and labor for repairs of school buildings and school events.

3.3.2.2 Other Positive and Negative Impacts

(1) Impacts on the Natural Environment

Based on JICA's *Guidelines for Environmental and Social Considerations* (2010), this project was classified as Category C (projects are likely to have minimal or little adverse impact on the environment and society) during the planning phase. As this project consisted mainly of rebuilding or expansion of existing school buildings and did not require preparation of building sites, its negative impact on the natural environment was very minimal. Moreover, the use of heavy machinery was limited, and there were no problems concerning emissions and noise. According to the construction supervision consultant, the negative impact on the natural environment was minor. Therefore, an environmental impact assessment and initial environmental examination were not required for the construction, and environmental monitoring was not conducted during and after the implementation of this project.

(2) Resettlement and Land Acquisition

During the planning phase, it was assumed that no resettlement would occur for this project. According to the construction supervision consultant, the main scope of this project was rebuilding or expanding existing school buildings, and land acquisition was not required. For this reason, resettlement of residents did not occur in the implementation phase of this project.

(3) Contribution to Upper Secondary Education

The contribution to upper secondary education was an unexpected positive impact during the planning phase. Prior to the implementation of this project (2013), nine out of 44 target schools provided upper secondary education (5th grade in secondary education and above). After the implementation of this project (FY2018-19), 17 of the target schools provided upper secondary education. According to school officials and parents, additional costs such as commuting by motorcycle and boarding is required and the financial burdens of parents are significant if an upper secondary school is not located in the neighborhood. It has been concluded that this project constructed school buildings and contributed to the dissemination of upper secondary education by providing educational opportunities in the neighboring area.

This project has mostly achieved its objectives. Therefore, effectiveness and impacts of the project are high.

3.4 Sustainability (Rating: ②)

3.4.1 Institutional/Organizational Aspect of Operation and Maintenance

At the time of ex-post evaluation, MOES oversaw the supervision of school operations and the budget distribution through PESS and the District Education and Sports Bureau (DESB). While

each school was responsible for its operation and maintenance activities of school facilities, the Village Education and Development Committee (VEDC) supervised and supported these activities. According to the questionnaire response from the executing agency and interviews with school personnel, the major roles in operation and maintenance following school construction are given in the following table.

Table 9 Division of roles in operation and maintenance

Organization	Roles in operation and maintenance
MOES	Supervision on the distribution and use of subsidies, decisions on the number of teachers, budget allocation of teachers' salaries
PESS	Preparation of budget plan for lower secondary schools in the province
DESB	Preparation of operation plan for lower secondary schools in the district (assessment on the numbers of teachers and teaching materials, etc.)
VEDC	Supervision of operation and maintenance, facilitation of residents' supports (funding, labor, etc.)
Each school	Implementation of operation and maintenance (cleaning and minor repairs)

Source: MOES, interview with the project stakeholders

Concerning the assignment of teachers, it was estimated that 214 teachers would need to be additionally assigned to the target schools because of the increase in classrooms during the planning phase of this project. The number of teachers at the target schools increased by 97 from FY2013-14 to FY2018-19, but the increase was smaller than the requirement estimated at the planning phase. Based on a questionnaire survey of the target schools¹¹, for the question "Is there a sufficient number of teachers in the school?" the answer "Yes" accounted for 23% of the respondents, "Yes to some extent" for 23%, "No to some extent" for 20%, "No" for 34% (see Figure 1). In addition, for the question "Are there subjects which cannot be taught due to lack of teachers?", "Yes" accounted for 38% of the respondents and "No" for 62% (see Figure 2). Many schools mentioned IT, Physical Education, and French as the subject which they could not teach. Based on the interviews with the teachers, the teachers were responsible for not only lessons, but also school administration and repairs of facilities and furniture.

¹¹ The questionnaire survey was conducted from December 2019 to January 2020, targeting the officials (such as principals, deputy principals) of the target schools. Out of 44 schools supported by this project, 30 schools replied to the questionnaire (response rate: 68%). The breakdown of the responding schools was 11 in Saravan province, 11 in Sekong province, and 8 in Attapeu province.

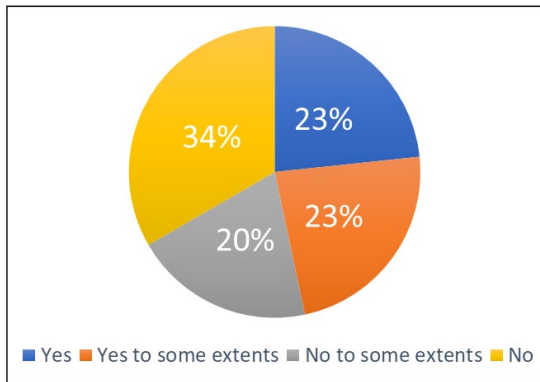


Figure 1 Assignment of enough teachers

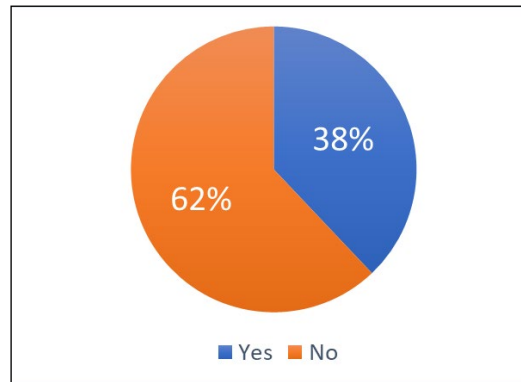


Figure 2 Subject cannot be taught due to the lack of teachers

During the ex-post evaluation, the division of roles for the operation and maintenance of school facilities was clearly defined. Every year, along with the division of roles, the school operation plan was prepared, the budget was allocated in accordance with the plan, and the operation and maintenance activities were carried out. In contrast, the increase in the number of teachers did not reach the requirement estimated during the planning phase, and a majority of the schools replied that the number of teachers was not sufficient. Therefore, it is concluded that the operation and maintenance of this project has a minor problem with the institutional/organizational aspect.

3.4.2 Technical Aspect of Operation and Maintenance

As the construction of this project was based on the technical standards of Lao companies, all contractors in this project were Lao companies (school building: 5 companies, equipment: 2 companies). According to the construction supervision consultant, it was not technically difficult to conduct maintenance as the local contractors constructed the school building. As for electrical equipment, and advanced operation and maintenance activities were not required because only lighting and outlets were used. Due to this point, this project did not prepare a maintenance manual. Based on the questionnaire responses from MOES, the ministry conducted annual training for facility management staff of PESS and explained them on the maintenance manual prepared by the government. According to PESS staff, it was easy to find a contractor with appropriate technical capacity when the school buildings required major repairs.

In terms of the technical aspect, the maintenance of the school buildings did not require advanced technology and the schools can do the repairs to some extent. Therefore, it is concluded that there are no technical problems that affect the sustainability of the project effects.

3.4.3 Financial Aspect of Operation and Maintenance

From FY2014-15 to FY2018-19, the Lao government's spending on education and lower secondary education increased nominally (see Table 10). However, due to the flood in 2018, the spending on education and lower secondary education decreased in FY2018-19. After inflation was adjusted with the GDP deflator, education spending leveled off and lower secondary education increased (see Table 11). During this period, the number of lower secondary education schools increased slightly, but the expenditure for lower secondary education per school increased by almost 10% from FY2014-15. While the number of students remained flat during the same period, the expenditure for lower secondary education per student increased by almost 20% from FY2014-15.

Table 10 Lao government's spending for education and lower secondary education (nominal)

	FY2014-15	FY2015-16	FY2016-17	FY2017-18	FY2018-19
Education (spending, million Kip)	3,216,247.47	3,252,890.60	3,409,241.76	3,521,759.90	3,408,432.20
Lower secondary education (spending, million Kip)	434,479.26	497,489.65	474,374.12	559,731.14	558,213.91

Source: MOES

Table 11 Lao government's spending for education and lower secondary education (real)

	FY2014-15	FY2015-16	FY2016-17	FY2017-18	FY2018-19
Education (spending, million Kip)	3,216,247.47	3,178,249.54	3,233,293.03	3,279,268.95	3,113,959.85
Lower secondary education (spending, million Kip)	434,479.26	486,074.22	449,891.98	521,190.82	509,986.88
Lower secondary education (spending) / School	282.50	310.39	281.01	321.52	310.02
Lower secondary education (spending) / Student	1.01	1.11	1.03	1.20	1.19
Number of schools*	1,538	1,566	1,601	1,621	1,645
Number of students**	429,559	439,187	438,861	432,961	426,822
GDP deflator (2012=100)	112.57	115.21	118.70	120.90	123.22
GDP deflator (base year 2014=1.00)	1.00	1.02	1.05	1.07	1.09

Source: MOES, World Bank

Note: *total of public lower secondary school and unified lower and upper secondary schools

Note: ** total of students in public lower secondary school and students in complete schools

For routine operation and maintenance expenses of the schools, the central government budget covered teacher salaries and school block grants (70,000 Kip per student in FY2019-20). The school block grant showed a significant increase after the project commenced because the grant was 20,000 Kip per student in FY2012-13.

To supplement the school block grant, parents additionally paid operating expenses in most schools. According to school officials and parents, parents paid 5,000 to 50,000 Kip per student, and the payment amount differed across schools. Some measures such as flexible payment timing of the expense was undertaken for poor households.

The school block grant and the operating expenses from parents were used for minor repairs, school events, teaching materials (such as additional purchase of textbooks, materials used for art, and sporting goods). Based on interviews with school officials and the questionnaire survey of the target schools, there were no schools that were not able to teach due to a budget shortage.

Over the past five years, the spending for lower secondary education was on the rise and the school block grant per student recently showed a significant increase. There were no schools where teaching was on pending due to the lack of a budget. Financially, there were no problems that affected the sustainability of the project effects.

3.4.4 Status of Operation and Maintenance

Out of the 44 target schools, the site survey was conducted in 20 schools¹². There were 2 schools damaged by floods and typhoons after the project was completed. After the disasters, both schools carried out cleaning and repairs, and resumed schooling.

School buildings: Among the visited schools, this project supported the construction of school buildings in all the schools (20 schools). Minor damages (such as broken doorknobs, unusable window latches, and insect bites in the desks) were found in classrooms and teachers' rooms, but there were no serious damages that made teaching difficult. Teachers and students regularly cleaned the school buildings. Doorknobs, windows, desks and chairs were repaired properly. Some schools had unused classrooms as new schools were established in the neighborhoods. The classrooms were expected to be used in the future when the number of



Broken doorknob

¹² The site survey was conducted from December 2019 to January 2020. Based on the expected number of students at the planning phase, the target schools were divided into 3 categories and, then, 10 schools in the first category (large scale), 4 schools in the second category (medium scale), and 6 schools in the third category (small scale) were visited. The breakdown of schools visited was 11 in Saravan province, 5 in Sekong province, and 4 in Attapeu province.

students increased. Among the visited schools, the flood in 2019 affected the Houaykhon unified lower and upper secondary school and damaged desks and chairs. According to the teachers in the school, they repaired and used the desks and chairs again.

Latrine buildings: Among the visited schools, this project supported the construction of latrine buildings in 15 schools. During the ex-post evaluation, water pipes or wells were installed at the expense of the Lao side, and the latrine buildings had water in most of the visited schools. However, one school had the problem of a water pump that was temporarily out of order and another school had a problem where water would not flow into one toilet bowl. Except for the school where the pump was temporarily out of order, the latrine buildings were in use during the site survey; and teachers and students also cleaned them.

Student dormitories: Among the visited schools, this project supported the construction of student dormitories in two schools. During the site survey, students or teachers used the student dormitories. Since teachers at remote schools sometimes faced difficulty in commuting to school daily, they used the dormitories in the schools. The student dormitory was regularly cleaned by users.

The site survey confirmed minor damage to the school facilities supported by this project but did not find any serious damage affecting the use of the classrooms. Regarding the current status, it is concluded that there was no problem that affected the sustainability of the project effects.

Some minor problems have been observed in terms of the Institutional/Organizational aspect. Therefore, sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objective of this project is to improve the access and educational environment of lower secondary education by constructing and refurbishing the facilities and the equipment of the lower secondary schools in three southern provinces of Laos, thereby contributing to the quality improvement of the lower secondary education in the target area. At both the planning phase and the time of ex-post evaluation, the educational policy aimed at wide dissemination of education and increase in the gross enrollment rate of lower secondary education. At the time of the ex-post evaluation, the gross enrollment rates in lower secondary education in Saravan province and Attapeu province showed room for improving the gross enrolment rates in lower secondary education. The scope of this project was consistent with Japanese aid policy. Therefore, its relevance is high. Given that the additional project scope increased the floor area, the actual

project cost of the Japanese side was within the plan. In contrast, the project period exceeded the plan and thus efficiency of the project is fair. Concerning the quantitative indicators, “Students who can study in a good environment” increased and “Incomplete lower secondary schools” declined. While both reached the targets, “Newly accepted students” achieved 80% of the target. Concerning the qualitative effects, teachers and parents had the opinion that improving the learning environment raised student motivation for learning. Furthermore, it is presumed that this project contributed to the improvement of both “Number of students per classroom” and “Percentage of female students” to a certain degree. Therefore, effectiveness and impacts of the project are high. Concerning the institutional/organizational aspect, the number of new teachers did not meet the requirement estimated during the planning phase, and the majority of the schools that responded to the questionnaire replied that they did not have enough teachers. In terms of the technical aspect, the maintenance of school buildings did not require advanced technology. In terms of the financial aspect, the spending for the lower secondary education sector was on the rise. Concerning operation and maintenance, no serious damage that affected the use of the classrooms was found. For these reasons, sustainability of the project effects is fair.

In light of the above, this project is evaluated to be satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

Assignment of maintenance staff

In the target schools, teachers were responsible for a wide range of tasks (teaching, school administration, maintenance of facilities and furniture), but some schools were unable to teach some subjects due to the lack of teachers. Although there are budgetary constraints, it is appropriate to reduce the teachers’ burden concerning maintenance activities. It is recommended that MOES and PESS facilitate each school to conduct maintenance by using various resources (such as school subsidies, VEDC, NGOs, domestic and foreign volunteers).

Assignment of teacher by using a school cluster

Although the number of teachers increased at the target schools, it was below the requirement estimated during the planning phase. In the questionnaire survey given to the schools, it was found that some subjects could not be taught due to the lack of teachers. In Laos, primary education introduced a school cluster system, where teachers within the cluster are shared in subjects where there is an insufficient number of teachers. During the ex-post evaluation, the trial use of the school cluster system was planned for lower secondary education. As soon as the trial use of the school cluster in lower secondary education is completed, it is desirable to assess the introduction of the system in the target schools.

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

To request parents' support at the completion of new school buildings

In this project, there was a large number of parents who visited the schools after school buildings were rebuilt or expanded. By taking advantage of the opportunity for parents to visit the schools, teachers conducted an education awareness campaign and tried to obtain funds and labor for school building repairs and school events. Immediately after rebuilding or expanding school buildings, parents were interested in the new school buildings and often visited. To create a desirable environment in maintenance after project completion, it is appropriate to take advantage of this opportunity during the project period and to secure funds and labor to repair school buildings in the future. The endeavor such as holding monthly meetings and opening the school to local communities, vocational training (agriculture, traditional textiles, etc.) involving parents raises their interest in education and helps obtain their support for school events.

Careful assessment and monitoring on an increase of teachers

During the planning phase, it was anticipated that the target schools will need more teachers in tandem with an increase in classrooms. The number of teachers in the target schools had increased during the ex-post evaluation, but it did not reach the requirement estimated during the planning phase. If the number of teachers is expected to increase in projects to construct schools, it is desirable to carefully assess the feasibility about such an increase during the planning phase and to monitor whether sufficient teachers are assigned in the project implementation phase.