Republic of Senegal

FY2018 Ex-Post Evaluation of Japanese ODA Grant Aid Project

"Project of Construction of Lower Secondary School in Louga Region and Kaolack Region"

External Evaluator: Haruo Ito, ICONS Inc.

0. Summary

The Project, which consisted of building new schools and expanding lower secondary schools in Louga and Kaolack Regions of the Republic of Senegal (hereinafter referred to as "Senegal"), was implemented to improve the poor learning environment caused by a shortage of classrooms and a reliance on rental or temporary classrooms due to a surge in the numbers of students resulting from improvements in the gross enrollment ratio in lower secondary education. Through this improvement in the learning environment, the Project ultimately aims to improve the access to basic education.

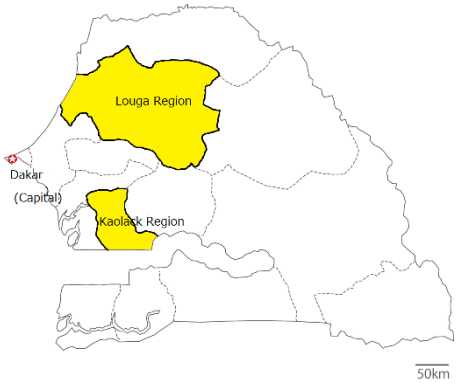
As a result of the ex-post evaluation, it was identified that the purpose of the Project is consistent with the development policies of the Government of Senegal to promote the unification between primary and lower secondary education and achieve 100% completion of compulsory education by 2025, with the development needs regarding the improvement of learning environment through the construction of school facilities, and with Japan's Country Assistance Policy for Senegal; therefore, the relevance of the Project is high. On the other hand, the project cost was as planned, but the project period exceeded the plan due to construction and procurement work caused by design changes and the addition of target schools using the remaining budget; therefore, the efficiency of the Project is evaluated as fair. The quantitative indicators of the Project, "the number of continuously usable classrooms" and "the number of students able to learn in a good learning environment," have been mostly achieved. In addition, the qualitative indicators, "Increasing student awareness of sanitation by the installation of toilets and motivation of female students for schooling" and "Strengthening the operation and maintenance system by implementing the capacity building program called the 'Soft Component'" have also been achieved. At the time of the ex-post evaluation, the project effects on the enrollment rate, the retention rate, and the dropout rate have not yet been confirmed, but other positive impacts such as transition from incomplete schools [1] to complete schools, mitigation of overcrowded classrooms, and promotion of a barrier-free environment have been identified. Therefore the effectiveness and impact of the Project are evaluated as high. There are no major problems in the operation and maintenance of the school facilities provided by the Project. Although some damage to facilities and furniture was confirmed during the school visits of the ex-post evaluation, most facilities and furniture were appropriately maintained; thus, the sustainability of the effects

[1] "Incomplete school" refers to schools unable to accept all lower secondary grades (6^e – 3^e) due to a shortage of classrooms and teachers.

produced by the Project is high.

In light of the above, this project is evaluated as highly satisfactory.

1. Project Description



Project Locations

Classroom at a Target School

1.1 Background

The gross enrollment rate of primary education in Senegal increased from 83% (2004/2005) to 94% (2009/2010), and that of lower secondary education increased from 32% (2004/2005) to 45% (2009/2010). On the other hand, the improvement of the gross enrollment rate led to a shortage of classrooms, resulting in a wide use of rental and temporary classrooms. The average number of students per classroom in primary school was 60 in Louga Region and 139 in Kaolack Region, and the average number of students per classroom in lower secondary school was 108 in Louga Region and 269 in Kaolack Region, far in excess of the desirable capacity per classroom (48 for primary school and 45 for lower secondary school) set by the Ministère de l'Éducation Nationale (hereinafter referred to as MEN) in Senegal. Therefore, the new construction and expansion of classrooms as well as replacement of temporary classrooms in primary and lower secondary schools were required in Louga and Kaolack Regions. With regard to primary education, as the construction primary school classrooms had been implemented during the last five phases of Japan's Grant Aid, the demands for construction of lower secondary school classrooms, which had not been a focus until then, has increased. In addition, with regard to the school toilets in Louga and Kaolack Regions, the fulfillment rate of the necessary number of toilets in both public and private schools remained at 79% in Louga and Kaolack Regions in 2009/2010. Even though the schools have toilets, they were unused, in many cases, due to severe damage or inadequate cleaning and maintenance, and a high demand for support to construct toilets and give instruction in the hygienic use and operation and maintenance of facilities was identified.

In order to cope with this situation, the Government of Senegal requested Japan for the Grant Aid to construct lower secondary schools in Louga and Kaolack Regions in August 2009.

1.2 Project Outline

The objective of the Project is to improve the learning environment by constructing and expanding lower secondary schools in Louga and Kaolack Regions, thereby contributing to the improvement of access and quality in basic education.[2]

Grant limit / Actual Grant Amount	1,164 million yen / 1,164 million yen
Exchange of Notes Date / Grant Agreement Date	June 2012 / June 2012
Executing Agency	Ministère de l'Éducation Nationale: MEN
Project Completion	December 2015
Target Area	Louga and Kaolack Regions
Main Contractors	Contractor: Générale d'Entreprises Procurement of equipment: Société Industrielle Sahélienne de Mécanique, de Matériels Agricoles et de Représentations: SISMAR
Main Consultant	Mohri, Architect & Associates, Inc.
Procurement Agency	Japan International Cooperation System
Outline Design	June 2011 – August 2011
Related Projects	【Technical Cooperation Project】 Project on the Improvement of the Educational Environment (May 2007 – May 2010) Project on the Improvement of the Educational Environment Phase 2 (September 2010 – August 2014) Strengthening Mathematics, Science, and Technologies Education Project (December 2007 – December 2010) Strengthening Mathematics, Science, and Technologies Education Project Phase 2 (September 2011 – August 2015) 【Grant Aid】 The 5th Project of Classrooms Construction in Primary Schools (E/N: December 2006) Project of Construction of Elementary and Lower Secondary Schools in Dakar and Thies Regions (E/N: March 2011)

2. Outline of the Evaluation Study

2.1 External Evaluator

Haruo Ito, ICONS Inc.

[2] The Project Outline (Project Purpose) was reorganized by the Evaluator based on the content of the Project and the expected effects (impacts). The new construction and expansion of schools by the project is expected to contribute to the "improvement of the learning environment" by eliminating overcrowded classrooms, reducing temporary classrooms (made of straws, and thus unable to be used in the rain), and transferring students from incomplete schools to complete schools that can accommodate all grades. As a result, some effects (impacts) are expected, such as "improve access" by heightening the student's motivation for schooling and "improve quality of education" as a result of providing high-quality lessons through small classes and a consistent curriculum between different grades in complete schools.

2.2 Duration of Evaluation Study

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

Duration of the Study: October 2018 – December 2019

Duration of the Field Study: January 6 – January 27, 2019

3. Results of the Evaluation (Overall Rating: A[3])

3.1 Relevance (Rating: ③[4])

3.1.1 Consistency with the Development Plan of Senegal

At the time of planning, the objective of the Project cohered with the second phase of the *Poverty Reduction Strategy Paper (2006–2010)* (hereinafter referred to as "*PRSP*"), which included "the promotion of rapid development for access to basic social services" to reduce poverty in the education sector. In addition, as the basic plan for development of education and training in Senegal, the *Ten-Year Education and Training Program (2000–2010)* (hereinafter referred to as "*PDEF*") was developed. In the *PDEF*, the gross enrollment rate in primary education was 96%, that in lower secondary education was 47%, and the advancement rate from primary to lower secondary was 68% by 2011, which were set as the indicators for the improvement of the access, quality, and management of education through classroom construction and the reduction of temporary classrooms. Therefore, the consistency between the *PDEF* and the Project, which is expected to contribute to increasing the enrollment rate in lower secondary schools, was confirmed.

At the time of the ex-post evaluation, the *Policy Letter for the Education and Training Sector* (2012–2025)[5] was formulated in 2012, which indicated the aim of attaining unification between primary and lower secondary education as well as 100% completion of compulsory education by 2025. The national education plan, the successor of *PDEF*, reflecting the contents of the above policy is the *Program for Improving Quality, Equity, and Transparency (2013–2025)* (hereinafter referred to as "*PAQUET*"). As one of eight priority issues, the *PAQUET* has set "to achieve universalization of basic education based on the right to receive education." Especially for lower secondary education, the *PAQUET* emphasizes the construction of lower secondary schools and formation of teachers to respond to educational needs. This project contributes to the quality of education by improving access and reducing classroom overcrowding in lower secondary education in Louga and Kaolack Regions; therefore, the Project has consistency with these education development plans.

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

[4] ③: High, ②: Fair, ①: Low

[5] Lettre de politique générale pour le secteur de l'éducation et de la formation (2012–2025).

3.1.2 Consistency with Development Needs of Senegal

At the time of planning, the gross enrollment rate of lower secondary education in Senegal improved from 32% (2004/2005) to 45% (2009/2010).[6] On the other hand, the improvement of the gross enrollment rate led to a shortage of classrooms, and as a result, the use of renting, lodging, and temporary facilities was prevalent. Moreover, with regard to school toilets, only 79% (2009/2010)[7] of public secondary schools in both Louga and Kaolack Regions were equipped with toilets. Most of the existing toilets were damaged or unable to be used due to inadequate cleaning and maintenance; thus, the need for the construction of toilets in schools in addition to classrooms was confirmed. In addition, the incidence of two-shift schools providing both morning and evening classes was low, at only 4% (2009/2010). However, the national average of schools with dual classes in which different grades are grouped together was 13% (2009/2010), and the disparities between the regions may be seen in the lowest and highest rates, 0.5% in Dakar and 38% in Kaffrine Region, respectively. In addition, as 58% (2009/2010) of the schools in Senegal were incomplete and the Tambacounda Region showed the highest rate of incomplete schools at 86%, the great need to improve school facilities so as to improve the quality of education was confirmed.

At the time of the ex-post evaluation, after completion of the Project, the attendance and enrollment rates in lower secondary schools had decreased in Senegal, and likewise in Louga and Kaolack Regions, as shown in Tables 1 and 2. "The Education Status National Report 2017" issued by MEN explained that the factors for this are the reduction of the enrollment rate from primary school to lower secondary schools and the advancement rate in the lower secondary schools, and increases in the dropout rate.

Table 1 Number of Lower Secondary Students

(Unit: Person)

Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Nationwide	754,964	779,301	745,763	720,554	722,356
Louga	36,036	37,658	34,622	33,326	33,211
Kaolack	57,838	59,873	55,152	50,820	49,442

Source: Questionnaire to MEN

Table 2 Gross Enrollment Rate (TBS) in Lower Secondary Education

(Unit: %)

Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Nationwide	56	58	54	51	50
Louga	39	38	42	37	34
Kaolack	22	25	29	23	22

Source: Questionnaire to MEN

[6] National Statistics for Education in 2004 (2010 National Education Status Report).
[7] National Statistics for Education in 2009/2010.

As shown in Table 3, the number of students per classroom has being decreased with the decline in the enrollment rate in lower secondary education. Meanwhile, for the realization of the *PAQUET*, the MEN formulated the "Norms and Standards for Quality of Education and Training"[8] in May 2014, and the ideal number of students per classroom in lower secondary education was set as 33 in accordance with international standards. Since this standard was not met at the time of the ex-post evaluation (2017/2018), the staff of MEN pointed out the necessity of constructing 1,260 new classrooms of lower secondary schools by 2020 to achieve the goal.

Table 3 Number of Students per Classroom

(Unit: Person)

Year	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018
Nationwide	50	49	43	46	45
Louga	50	49	37	42	43
Kaolack	53	55	51	48	47

Source: Questionnaire to MEN

As shown in Table 4, even at the time of the ex-post evaluation, many lower secondary schools still had problems with aging facilities, temporary classrooms, and renting facilities. Temporary or rental classrooms accounted for 11% at the national level as well as 12% in Louga Region and 7% in Kaolack Region, even at the time of the ex-post evaluation (2017/2018). As mentioned above, there are many students forced to study in a poor learning environment, and temporary classrooms (most of them made of straw), which need to be rebuilt every year, put pressure on the limited school budgets. Thus, the situation of high demand for school facilities has not changed.

Table 4 Rate of Temporary Classroom Use (2017/2018)

(Unit: Classroom)

	Temporary/Rental	Permanent	Total	Percentage of Temporary/Rental
Nationwide	1,090	8,823	9,913	11%
Louga	66	485	551	12%
Kaolack	65	816	881	7%

Source: Questionnaire to MEN

[8] Normes et Standards de Qualité en Education et Formation

Temporary classroom in a non-target school (Kaolack Region)

Classrooms provided by the Project (Kaolack Region)

3.1.3 Consistency with Japan's ODA Policy

At the time of planning, "improvement of basic social services" is defined as one of the priority areas of the "Country Assistance Program for Senegal" (planned in 2012). The Project was positioned as a "Basic Education Improvement Program" in the priority, and had consistency with Japan's assistance policy for Senegal. Furthermore, the Japanese government has emphasized support for the education development by improving the educational environment and science and mathematics education through the implementation of five phases of primary school classroom construction Grant Aid projects and technical cooperation projects since 1994. Therefore, it was confirmed that the Government of Japan puts a high priority on this sector. This project is to realize "support for construction and rehabilitation of school buildings and related infrastructure for primary and lower secondary schools" stated in the "improvement of access and quality in basic education" in the field of education in African countries expressed at the 4th Tokyo International Conference on African Development (TICAD IV) in 2008, which indicates that the Project is highly consistent with Japan's ODA policy.

3.1.4 Appropriateness of the Project Plan and Approach

In the Project, the scheme of the "Grant Aid for Community Empowerment" was applied. Since the tender for the Grant Aid for Community Empowerment can be participated in by local contractors, there is an advantage in less chances of bidding failures than those involving Japanese contractors in the general Grant Aid Project, allowing the implementation process to be facilitated.[9] In addition, regarding quality assurance by the local contractor, which is in general one of the main problems of the Grant Aid for Community Empowerment, the "Mock-up" model work and workshops were implemented to improve the understanding of local contractors about

[9] According to interviews with the Japanese consultants, it was identified that the possibility of fail biddings (no participant company or disagreement over bidding price) is higher in the tender for general Grant Aid than the bidding with local companies due to decreasing numbers of Japanese companies placing bids as a result of increases in domestic demand, risks of foreign operation, low project costs, etc.

the quality required by Japan. At the same time, to promote bids by major construction companies with high skills, the Project optimized an appropriate lot size and set rigorous bidding requirements for the vendor selection (company size, past performances, bid deposit, etc.). This led to reduced participation by small companies with insufficient skills. Thus, an appropriate approach was adopted based on the past experiences of the Grant Aid for Community Empowerment.

Furthermore, by adopting an approach in which the community members were actively involved from the stage of construction, the ownership of the residents toward the operation and maintenance of facilities was fostered, as described by related staff from the MEN and Academic Inspection (hereinafter referred to as IA).

In light of the above, the Project has been highly relevant to Senegal's development plan and development needs as well as Japan's ODA policy. The project plan and approach adopted were also appropriate. Therefore its relevance is high.

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

As shown in the planned and actual project outputs in Table 5, the actual number of target school was 23 (22 lower secondary schools and 1 primary school),[10] as opposed to the 20 planned target schools. The reason for the increase in the target schools is that the Project used the remaining budget after reductions in some project components to avoid duplication with the classroom construction of the Government of Senegal, and from the competition in bidding process. With the increase of target schools, the number of classrooms, administration buildings, and furniture were increased accordingly. On the other hand, the number of toilets installed by the Project was less than planned because the Government of Senegal installed some toilets in the target schools through its own budget.

Table 5 Outputs of the Project (Planned and Actual)

		Target School	Classroom	Administration Building	Toilet
Louga	Planned	9	105	9	112
	Actual	9	105	9	112
Kaolack	Planned	11	131	11	138
	Actual	14	138	14	136
Total	Planned	20	236	20	250
	Actual	23	243	23	248

Source: Documents provided by JICA

[10] Among the target schools, Franco-Arab Dahra Secondary School in Louga Region has been operating as an upper secondary school since 2016, and three schools (Koumbal Secondary School, Ngthe Secondary School, and Fass Secondary School) in Kaolack Region have been operated as unified lower and upper secondary schools.

(1) Target schools with additional support components

The three target schools added due to the generation of the remaining budget were selected based on the priority list developed during the Preparatory Survey, and the construction of classrooms and administrative buildings and procurement of furniture were implemented. Among the target schools, since the Franco-Arab Sam Primary School[11] provides discipline based on the Islamic religion in addition to the lessons in the Arabic language, there is a high demand from parents to enroll their children in this school. As a result, the number of students per classroom was 65 even at the time of the ex-post evaluation, and this high number of students in this school was identified as supporting its relevance as an additional target school. As FASS Secondary School and GAPAKH Secondary School had only temporary classrooms before the Project and students in these schools were forced to study in a poor environment, it can thus be judged that their selection as additional target schools was appropriate.

(2) Target schools eliminate some support components

Some components of the Project were excluded from three target schools, THARE Secondary School (2 classrooms and 2 toilets), KOUMBAL Secondary School (1 classroom), and GAINTH KAYES Secondary School (1 classroom), after the Preparatory Survey, because new classrooms were established in these school through Budget Consolidated Investment (hereinafter referred to as BCI) controlled by the Ministry of Housing and Construction of the Government of Senegal. The exclusion of the classrooms and toilet booths was appropriate as those were the same number constructed by the Government of Senegal. At the time of the ex-post evaluation, the number of students per classroom was 35 in THARE Secondary School, 22 in KOUMBAL Secondary School, and 37 in GAINTH KAYES Secondary School, all of which were below 45 students per classroom, the standard number of students at the time of planning, and as the number of classrooms thus met requirements, it was confirmed that the number of excluded classrooms was relevant. In addition, regarding the excluded toilet booths in THARE Secondary School, it was confirmed from an interview with the principal that the number of toilets in this school corresponds with the number of students. Therefore it is judged that the exclusion of the project components from these target schools was relevant even at the time of the ex-post evaluation.

(3) Other changes of basic design

In order to prevent the salt erosion of concrete by the sulfate concentration in the soil and

[11] The project was initially requested by the Senegal Government to support both primary (8 schools) and lower secondary schools (42 schools). Based on the request, JICA conducted the Preparatory Survey, and only 20 lower secondary schools were selected as high priority, so the project was named the “Project of Construction of Lower Secondary Schools.” When adding target schools using the remnant budget, the Project selected this primary school according to the priority determined in the Outline Design.

salinity in tap water found in the soil survey after the Outline Design, the Project changed the underground structures and frequency of concrete and concrete block quality tests. The shape of the foundation and the methods of foundation construction were also changed. It was determined that these design changes leading to the improvement of construction quality were appropriate. Furthermore, in Franco-Arab SAM Primary School, one of the target schools in Kaolack Region, the construction of classrooms and toilets and the demolition of temporary school buildings were implemented after Detailed Design under the burden of the Government of Senegal. Due to this change in the site, the location of classrooms constructed by the Project was changed. The design was changed in Franco-Arab DAHRA Secondary School in Louga Region due to changes in the land area (school site) with land readjustment. However, it was identified in the ex-post evaluation that this design change had no impact on school management.

(4) Soft Component

The Soft Component was implemented from April 2013 to February 2016 in parallel with the facility construction and equipment procurement. For the purpose of operating and maintaining facilities and ensuring the hygienic use of the toilets provided by the Project, the Soft Component consisted mainly of i) revision of the existing *Facility Operation, Maintenance, and Hygiene Management Manual*, ii) implementation of construction site inspections and workshops, iii) implementation of activities in the targeted schools, and iv) provision of follow-up monitoring. Workshops for ii) were held 16 times to cover all target schools (6 times in Louga and 10 times in Kaolack Regions). At the workshop, lectures on the sharing purpose of the Soft Component, basic hygiene, preventive operation and maintenance, formulation of the maintenance plan, fundraising methods, and exchanges among participants were provided. In addition, the site visits during construction and the learning program about the school buildings and toilet structures were conducted as well as the *Facility Operation, Maintenance, and Hygiene Management Manual* was shared. As activities at target schools under iii), daily cleaning (inside the school and surrounding areas), greening of the schoolyard (planting greenery and setting a protection fence) and ground making (removing rocks and leveling), installation of waste bins, and waste disposal were implemented according to the contents of the lecture. In order to confirm the activities practiced in each school, the Project also hired NGOs to conduct the follow-up and monitoring of iv).

3.2.2 Project Inputs

3.2.2.1 Project Cost

The planned project cost (Grant Agreement: G/A) was 1,164 million yen, whereas the actual project cost was the same amount, 1,164 million yen. The remaining budget was generated

because of the general competitive bidding participated in by construction and furniture companies, and the classroom construction carried out by the Government of Senegal. The actual cost is within the planned cost because of this remaining budget, although the project provided the above-mentioned additional outputs.

The main burdens on the Senegalese side were: i) provision of necessary sites, ii) ground leveling work, iii) removal of ground and underground buried obstacles, iv) provision of temporary material storage in target schools, v) drawing electricity and water supply, vi) installation of school wall, vii) procurement of necessary furniture and equipment unplanned by the Project, viii) counterpart costs to implement the Soft Component, and ix) banking fees. The total amount for these was estimated at about 67.75 million yen. Although the Evaluator was unable to verify the actual amount of budget from the Senegalese side, all their burdens have been completed except for the electrical connection in Franco-Arab DAHRA Secondary School in Louga Region.[12] The application to the local government for work on the electrical connection to the school has been completed, and the school is currently waiting for the implementation of the work. No negative impact of a lack of electricity has been found as lessons are provided during the daytime, but it was confirmed by interviews with the principal that there are some constrains on the administrative tasks and the preparation of teaching materials with office devices (computers, copy machines, etc.).

3.2.2.2Project Period

The project period was estimated at 34 months starting from the date of the procurement agent contract, but the actual project period was 40 months (June 2012 – September 2015), exceeding the planned period (compared to the plan, 118%). The factors causing the increase in the project period were delays in the procurement of planned materials/equipment and workers to the sites, changes in the foundation structure and work methods based on results of the soil survey, and the need to redo the quality tests for concrete and concrete blocks. Furthermore, the basic design, such as numbers of class toilets, was changed due to the classroom construction in the target school sites through the budget of the Government of Senegal after the Detailed Design. The new design, construction, and procurement works for additional components using the remaining budget generated by the reduction of these components resulted in the extension of the project period. In this regard, the Japanese consultants reported as a measure to prevent recurrence that it was necessary to provide sufficient arrangements with the classroom construction plan of the

[12] Franco-Arab DHARA Secondary School gives priority to other infrastructure (such as water connections) and puts a lower priority on the electrical connection, which has less direct impact on the lessons during the daytime. It is assumed that measures will be taken by 2019, as the respective application has already been submitted to the municipal government.

recipient government and adequate explanation to the recipient of the measures to be taken where the recipient government constructs classrooms in target schools. Due to the delay in construction, the necessity arose to set up temporary classrooms at some schools in Kaolack. On the other hand, the results of interviews with IA and the target schools show that this extension of the project period did not impact quantitative indicators such as decreases in the number of students or increases in the repetition rate or dropout rate.

From the above, although the project cost was as planned, the project period exceeded the plan; therefore, the efficiency of the Project is fair.

3.3 Effectiveness and Impact[13] (Rating: ③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effect (Operation and Effect Indicators)

As for the quantitative effect indicators, the "number of continuously usable classrooms" achieved 102% of the target, and the "number of students able to learn in a good environment" almost achieved 80%. The results are shown in Table 6. It was pointed out that the reason that the "number of students able to learn in a good environment" remained at 80% of the target level is, as described in "Consistency with development needs" in "3.1 Relevance," the results of interviews revealed that issues of schooling, for instance early marriage, pregnancy, poverty, and the frequent relocation of nomads also caused stagnation in the enrollment rate. Furthermore, in the design stage of the Project, the number of classrooms required to convert incomplete schools to complete schools was calculated; however, IA Louga explained that the increase in classrooms in nearby schools led to a scramble for students in the same area and thus a sufficient number of students is not expected.

As a result, the number of students decreased and the capacity is not satisfied; thus, 2 out of 7 classrooms in KANENE NDIOB Secondary School in Louga and 9 out of 17 classrooms in Louga Commune II Secondary School are not used. Furthermore, in the other three target schools, some classrooms are used as an IT room, library, audio-visual room, and for other purposes.

On the other hand, no over-crowded classrooms with over 80 students per classroom[14] have been found as a result of securing a sufficient number of classrooms and an appropriate number of teachers in other target schools. Thus it was confirmed that the learning of students in a favorable environment is realized as described by the indicators. Although the indicators have been achieved, as unused and unintendedly used classrooms were identified due to the decrease in students as stated above, the quantitative effects are therefore evaluated as "almost achieved."

[13] Sub-rating for Effectiveness is to be included with consideration of Impacts.
[14] The classroom must be divided into two classes if the number of students per class exceeds 80, according to the standard.

Table 6 Baseline, Target, and Actual of Quantitative Effects of the Project

	Baseline	Target	Actual
	2010/2011	2017/2018	2017/2018
		3 Years After Completion	3 Years After Completion
Number of continuously usable classrooms	8 classrooms	246 classrooms	251 classrooms (102%)
Number of students able to learn in a good environment	360 students	11,070 students*	8,901 students** (80%)

Source: Documents provided by JICA, IA Louga and IA Kaolack

*The target are calculated based on the previous policy with 45 students per classroom. However, according to the current Norms and Standards for Quality of Education and Training issued by the MEN, the ideal number of students per classroom is defined as 33. If the target value is calculated with the current standard of 33 students, the target is 8,118 students, and the result exceeds this target level (110%).

**The actual number of students in the target schools was calculated using the statistical data (2017/2018) from IA Louga and IA Kaolack.

3.3.1.2 Qualitative Effects (Other Effects)

Qualitative effects set at the time of planning stage were "contribute to the improvement of students' awareness of hygiene by installing toilets," "improve the motivation of female students to attend school by installing gender-segregated toilets," and "strengthen the operation and maintenance system for facilities provided by school staff by implementing Soft Component." The results of the qualitative survey in the ex-post evaluation showed that there are issues in the Soft Component of cases where some attendees of the lectures left from the members in charge of operation and maintenance, and the *Facility Operation, Maintenance, and Hygiene Management Manual* has not been taken over. Many school staff members, however, indicated that the effects of the Soft Component were identified and activities in accordance with the lectures were implemented in all target schools. The qualitative effects of the Project therefore have been attained as originally expected.

The status of achievement of each qualitative effect at the time of the ex-post evaluation is shown below.

(1) Contribute to the improvement of students' awareness of hygiene by installing toilets

The principals of all target schools (100%) answered "Yes"[15] to the question, "Has the students' knowledge about hygiene has improved by the installation of toilets?" The students also answered during interviews[16] that "I am sure to wash my hands after going to toilet," "My teachers gave

[15] Three options of "Yes," "No," and "I don't know" were provided for each question.

[16] The Evaluator visited a total of 9 schools (out of 23 target schools) in Louga Region (3 schools): Franco-Arab Dahar Louga Commune II, Kanene Ndiob, and Kaolack Region (6 schools): Keur Baka, Koumbal, Ndiago, Gainth Kayes, Camp de Gared Secondary Schools, and Franco-Arab Sam Primary School. These schools were selected by taking into consideration the balance of school characteristics (urban / rural area, newly established / existing schools, lower secondary / primary schools). Among the targets of the exploration survey, 14 student council members and 2 students (male and female) were interviewed at total of 7 schools among the 9 visited schools.

me instructions about sanitation," and "We clean the toilets ourselves, we understand the importance of keeping the toilets clean."

(2) Contribute to improving the motivation of female students to attend school by installing gender-segregated toilets

Among the 23 target schools, the principals of all schools (100%) answered "Yes" to the question, "Does setting of gender-segregated toilets contribute to improving the motivation of female students to attend school?" In particular, the results of the questionnaire showed that it contributes to improvements in the absence rate of female students (during menstruation). Students expressed positive opinions during the interview: "In primary schools, we used the same toilets, male and female students, but here we have separate ones; it is good for girls," "Now we have toilets in our school, so we do not have to borrow from nearby houses," and "All students use the toilets because the toilets are kept clean."

(3) Strengthen the operation and maintenance system of school staff for the facilities provided by implementing Soft Component

With regard to the measurement of the qualitative effects of the Soft Component, achievement levels were confirmed based on the following three points in accordance with the purposes of the Soft Component.

Improvement of knowledge of operation and maintenance

Among the 23 target schools, the School Management Committee (hereinafter referred to as CGE)[17] members at 20 schools (87%) answered "Yes" to the question, "Do you understand the content of the lecture about the facility maintenance method by the Soft Component?" The members from three schools who answered "No" or "I don't know" stated that other members attained the lectures, so they were not able to judge the lectures. In addition, the principals from 16 schools (70%) answered "Yes" to the question, "Is the *Facility Operation, Maintenance, and Hygiene Management Manual* provided by the Soft Component used?" It was pointed out that the reason for the low usage level of the manual was that the *Facility Operation, Maintenance, and Hygiene Management Manual* was not taken over after the replacement of principals in some target schools.

[17] The members of the CGE consist of the principal and representatives of the teachers, students, and parent association, with the principal is its chairperson. Although the involvement of the CGE in maintenance varies in each school, the CGEs in almost all the target schools have supported the afforestation of the school, the cleaning at the beginning of the term, and the repair of the school facilities as their activities.

Fundraising of the operation and maintenance budget

All 23 target schools (100%) have established CGEs to manage the budget for operation and maintenance. As a result of practice applying the contents of the lecture on fundraising provided by the Soft Component, all 23 target schools allocate a part of the CGE's budget (registration fees from students) to the cost of the operation and maintenance. In the Soft Component, the target schools planned and implemented calls for donations from local residents and parents' associations, and reached out to authorities as other ways of fundraising. As a result, it was identified during the ex-post evaluation that 7 out of 9 (78%) schools visited by the Evaluator have practiced fund raising activities such as receiving water supply facilities, copy machines, and IT equipment from local NGOs, alumni, and local authorities, as well as calling for donations from the parents' association.

Reinforcement of the monitoring system for operation, maintenance, and hygiene management of facilities

Out of all 23 target schools, staff in all schools (100%), principals, teachers, student councils, security guards, or CGE members, practice monitoring for failures of school facilities/furniture based on the Operation, Maintenance, and Hygiene Management Manual provided by the Soft Component. On the other hand, the schools using the form of the monitoring plan introduced in the lectures of the Soft Component were not identified, but as mentioned above, the situation of school operation and maintenance is properly monitored by the competent persons.

3.3.2 Impacts

3.3.2.1 Intended Impacts

The impacts (indirect effects) of the Project, "an increased number of classrooms and improvements in the learning environment by the Project, whereby the enrollment rate, repetition rate, and dropout rate are expected to improve," were set as qualitative effects at planning. The achievements of these effects were verified by both the qualitative survey through interviews and the quantitative survey through data collection. As a result, in the questionnaire to the target schools, the principals of all 23 target schools answered that the improvement of the learning environment by the Project has contributed to increased motivation and performance by the students. However, since the period from the completion of the Project to the ex-post evaluation is as short as about 3 years and other factors of MEN's policy changes, etc., have a profound influence, the concrete impact on the improvement of access to and quality of basic education expected at the planning stage has not been confirmed in the educational indicators, such as number of students, repetition rate, and pass rate of the final exam. On the other hand, the other positive impacts, the reduction of the repetition rate in some schools and the securement of the

educational unification through the transition from incomplete schools that provide education only at certain grades to complete schools with education at all grades were identified, the ideal student classroom ratio in line with the national standard was achieved, and a barrier-free environment for the students with disabilities was created.

(1) Enrollment rate

The enrollment rate in each school based on the schooling age population in the school areas is unavailable in Senegal; thus, the average school attendance in target schools and target regions were applied instead for this indicator. As shown in Table 7, the average school attendance at target schools is on a declining trend after the completion of the Project. The averages of Louga and Kaolack Regions show the same trend. It was confirmed by interviews with the target schools that the problems for schooling such as early marriage and pregnancy, poverty, and frequent relocation of nomads also affect the stagnation in the school attendance numbers.

Table 7 Average Attendance per Lower Secondary School

(Unit: Person)

	Target School Average		Regional Average[18]	
	2014/2015	2017/2018	2014/2015	2017/2018
Louga	305	258	356	308
Kaolack	545	459	560	458

Source: IA Louga, IA Kaolack

(2) Repetition rate

The interviews with the principals in the target schools showed that the improvement of the educational environment thanks to the Project has contributed to increasing the students' motivation for learning, and the installation of the gender-segregated toilets has also contributed to reducing the repetition rate of female students. On the other hand, as shown in Table 8, in the target schools in Louga Region, the repetition rate has dropped significantly, but it has increased in Kaolack Region. This tendency is similar to the repetition rate in each region, so the clear quantitative effects of the Project on reducing the repetition rate therefore cannot be confirmed.

Table 8 Repetition Rate

(Unit: %)

	Target School Average		Regional Average	
	2014/2015	2017/2018	2014/2015	2017/2018
Louga	23	14	19	15
Kaolack	22	28	25	25

Source: IA Louga, IA Kaolack

[18] The number of lower secondary schools in each region is 75 (2014/2015) and 71 (2017/2018) in Louga Region; four lower secondary schools have been converted to upper secondary schools. There were 107 schools (2014/2015) and 108 schools (2017/2018) in Kaolack Region; the figure for Kaolack includes unified lower and upper secondary schools.

(3) Dropout rate

Although the dropout rate data for the target schools was unavailable, it was confirmed in interviews with IA that the trend is similar that to the repetition rate above.

3.3.2.2 Other Positive and Negative Impacts

(1) Impact on the natural environment

The Project constructed facilities on the sites of existing schools, and some trees needed cutting. Since extensive land arrangement was not required, it was confirmed that there were basically no negative environmental impacts.

(2) Resettlement and land acquisition

The classrooms in the target schools in the Project were expanded using the existing sites. As for the only newly constructed school, CAMP DE GARDE Secondary School, it was confirmed that there was no social impact caused by the resettlement and land acquisition because the Project used the existing primary school site for the construction of this school.

(3) Other impacts

Pass rate of the Lower Secondary School Qualification (BFEM)

On the questionnaire to the target schools, the principals of all 23 target schools replied that the improvement of the learning environment by the Project has contributed to improving the motivation and achievement of their students. Regarding the pass rate of the Diploma of Secondary Education Completion (hereinafter referred to as “BFEM”), as shown in Table 9, the pass rate in the target schools has been substantially improved in the Louga Region after the completion of the Project, and the pass rate in 2017/2018 was above the regional average. However, in Kaolack Region, the pass rate in the target schools has hardly improved. Although it was above the regional average in 2014/2015, it fell below the regional average in 2017/2018. This shows that it is too short to demonstrate impacts, as only approximately 3 years have passed since the completion of the Project. In addition, since many factors are assumed to have an influence on the pass rate of BFEM besides the environmental improvement due to the school construction, it is reasonable to regard the BFEM pass rate as a reference indicator.

Table 9 BFEM Pass Rate

(Unit: %)

	Target School Average		Regional Average	
	2014/2015	2017/2018	2014/2015	2017/2018
Louga	52	68	43	47
Kaolack	42	43[19]	41	46

Source: IA Louga, IA Kaolack

Transition from incomplete schools to complete schools

Being an incomplete school was applied as one of the criteria for the selection of target schools in the Project. Through the implementation of the Project, a sufficient number of classrooms was established to make incomplete schools into complete schools able to accept all grades, and accordingly a necessary number of teachers was allocated in the target schools. As a result, all former 10 incomplete schools (7 schools in Louga and 3 schools in Kaolack) of the 23 target schools have been operated as complete schools since the end of the Project. It was confirmed by interviews with the target schools that the conversion from incomplete to complete schools has reduced the repetition rate and allowed the provision of consistent lessons, and as result has contributed to the improvement of student's learning ability. In order to verify the results of the interview, the repetition rates and BFEM passing rates of the schools transferred from incomplete schools to complete schools by the Project and complete schools from the beginning were compared (see Table 10). As a result, especially in the repetition rate, a significant improvement was confirmed for the schools that transitioned from incomplete to complete schools. On the other hand, with regard to the BFEM pass rate, the pass rate has improved at the target schools that transferred from incomplete schools to complete schools, but the increase is slightly lower than in the complete schools from the beginning. Therefore, a clear impact was not identified.

Table 10 Repetition Rate and BFEM Pass Rate in the Schools Transferred from Incomplete to Complete School

(Unit: %)

		2014/2015 (A)	2017/2018 (B)	Difference (B−A)
Repetition Rate	Complete from beginning	19.3	24.1	4.8
	Incomplete→Complete	29.2	19.6	−9.6
BFEM Pass Rate	Complete from beginning	35.7	46.3	10.6
	Incomplete→Complete	56.5	66.8	10.3

Source: IA Louga, IA Kaolack

Alleviation of overcrowded classroom

Since a sufficient number of classrooms was provided, the number of students per classroom is now appropriate in the target schools. The teachers in the target schools expressed in interviews

[19] Data from 4 target schools under the Education and Training Inspections (hereinafter referred to as IEF) in Nioro du Rip were excluded from the pass rate of BFEM in 2017/18 because they were not available.

the view that the reduction of overcrowded classrooms has made it possible for teachers to provide high quality education by giving an appropriate instruction with fewer students and group work activities. As shown in Table 11, the number of students per classroom in the target schools is lower than the average in both regions at the time of the ex-post evaluation (2017/2018). The average in Louga Region is below the current MEN standard of 33 students per classroom, and that in Kaolack Region is close to the standard figure.

Table 11 Number of Students per Classroom (2017/2018)

(Unit: Person)

	Target School Average		Regional Average	
	2009/2010	2017/2018	2009/2010	2017/2018
Louga	n.a.	23	66	45
Kaolack	n.a.	38	72	47

Source: JICA, IA Louga and IA Kaolack

Barrier-free environments for students with disabilities

Ramps for classrooms and toilets as well as toilets for students with disabilities are installed at the school facilities provided by the Project. As the target schools also accommodate students with physical disabilities, the Project contributes to create barrier-free environments for those students.

As for effectiveness, the quantitative effect indicators “number of continuously usable classrooms” was achieved, and “the number of students able to learn in a good environment” was almost achieved. However, as a result of the reduction in the students enrolled in lower secondary education due to the change in policy that emphasizes the quality of national education, some unused or unintended-use classrooms were identified. On the other hand, the qualitative effect indicators “Students’ hygiene knowledge,” “Improvement of motivation of female students toward attending school,” and “Strengthening the operation and maintenance system with the Soft Component” were almost achieved. As for the impact, although the improvement of quantitative effects in the indicators such as enrollment rate, repetition rate, and dropout rate could not be identified, there were other positive impacts such as securing educational unification and the reduction of the repetition rate by converting incomplete schools into complete schools, the improvement of the quality of education by alleviating overcrowded classrooms, and the promotion of a barrier-free environment for students with disabilities.

From the above, we see that this project has largely achieved its objectives, and therefore effectiveness and impact of the Project are high.

3.4 Sustainability (Rating: ③)

3.4.1 Institutional / Organizational Aspect of Operation and Maintenance

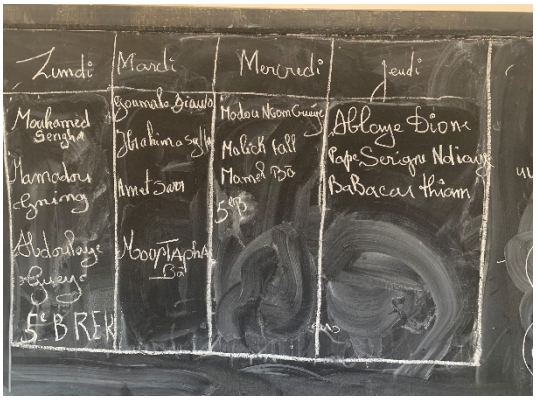
The Government of Senegal has been promoting “decentralization” from the central to local

governments and “deconcentration” from the central government to local agencies under the Decentralization Law promulgated in 1996. The decentralization and deconcentration of the administration in the education sector have also been promoted as part of this political reform.

With regard to the educational administration, the administrative authority has been delegated from the MEN to its branch agencies of IA and IEF.[20] IA has the responsibility of managing upper secondary schools, while IEF, the municipal government, and village communities are in charge of managing primary and lower secondary schools. Each party plays a role in the development of the learning environment, such as the expansion of educational facilities including school construction, provision of their operation and maintenance, and procurement of textbooks and equipment. The IA employs Regional Technical Advisers (CTR) (2 in Louga and 1 in Kaolack Region) who regularly monitor facilities in both primary and lower secondary schools and provide assistance as needed. However, their functions are limited due to a lack of personnel and budget.

Thus, under decentralization and deconcentration, the CGE installed in each school in fact manages their school by estimating the budget for development of school facilities, operation and management of facilities, purchase of equipment and consumables, implementation of examinations, etc. using subsidies from the MEN and annual registration fees from the students as their main financial resources. The CGE usually holds semiannual meetings at the beginning and end of the school year. The school operation and budget plans are determined in the meeting at the beginning of the school year, and the expenditure report is submitted to the IEF at the end of the school year.

At the time of planning, some difficulties in providing for the cleaning and maintenance of school facilities were identified in the schools that had only rental or temporary classrooms. These schools, which had no experience in providing operation and maintenance for their own school facilities, showed low ownership consciousness of their school facilities. As of the ex-post evaluation, however, students practice daily cleaning (in most cases, female students are in charge of sweeping and male students of cleaning the blackboard and schoolyard) in all target schools as a result of the effects of the Soft Component of the Project. Most target schools have employed a cleaning staff with its own budget. Before the start of every semester, the student council organized in each school also takes initiative in weeding, cleaning, and tree planting activities under the guidance of teachers. In most target schools, security



Student’s cleaning turnouts listed on blackboard in target school

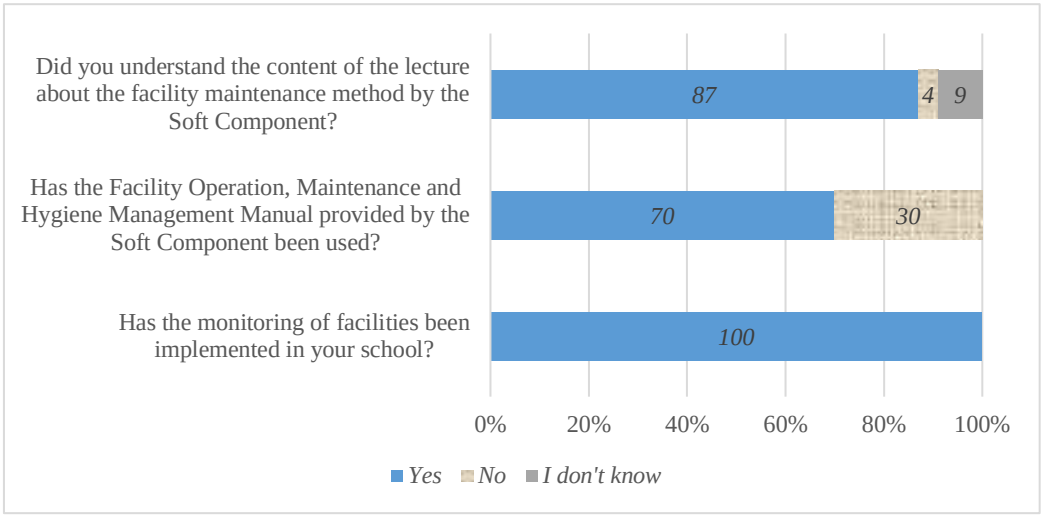
[20] The education administration at the regional level was formerly managed by the Inspection Department of National Education (IDEN), but it was reorganized into the IEF in 2013 during the implementation of the Project.

guards employed by the school's own budget or by teachers themselves repair furniture, clean clogged pipes, or provide other routine maintenance of facilities and furniture.

3.4.2 Technical Aspects of Operation and Maintenance

In the Project, the Soft Component related to facility operation and maintenance was implemented and lectures were given on fostering knowledge about operation and maintenance methods, strengthening relationships with internal and external stakeholders, fund-raising for maintenance and operation, and regular monitoring.

In the results of the questionnaire in the ex-post evaluation, as shown in Figure 1, CGE members in 20 of the 23 target schools (87%) answered "Yes" to the question, "Do you understand the content of the lecture about the facility maintenance method by the Soft Component?" The members in three schools who answered "No" or "I don't know" said that they cannot evaluate the contents of the lecturers because its participants had already left. In response to the question, "Has the *Facility Operation, Maintenance, and Hygiene Management Manual* provided by the Soft Component been used?" the principals of 16 schools (70%) answered "Yes." In some target schools, it was confirmed that the *Facility Operation, Maintenance, and Hygiene Management Manual* was not taken over due to the replacement of principals. In addition, with regard to the question, "Is the monitoring of facilities implemented in your school?," it was confirmed that monitoring is implemented at all 23 target schools (100%) by principals, teachers, student councils, security guards, or CGE members. On the other hand, the schools that had developed the monitoring plan introduced by the Soft Component were not identified.



Source: Questionnaire

Figure 1 Answers on Effects of Soft Component

As mentioned above, CGE members who have taken the Soft Component lectures show a high level of understanding. Although the schools that have formulated the monitoring plan introduced

in the lecture were not identified, teachers or employed security guards regularly check for damage to facilities or furniture and repair minor damage by themselves. The technical aspect of operation and maintenance at each target school therefore shows no problem. On the other hand, although the repairs that require advance skills such as repairs to concrete components or ceilings are supposed to be outsourced, it was confirmed at the time of the ex-post evaluation that this kind of damage has not occurred.

3.4.3 Financial Aspects of Operation and Maintenance

When new classroom construction or large-scale renovation occur, subventions from the central government, MEN (mainly by donors), or BCI, under the direct control of the Ministry of Housing and Construction, are used. On the other hand, each school bears its daily operation and maintenance costs and the budget for operation and maintenance in each target school mainly consists of i) governmental subsidies from the MEN and ii) annual registration fees from students. The amount of government subsidies under i) varies depending on the size of the school, as the target schools range from 657,500 FCFA to 1,800,000 FCFA/Year.[21] Subsidies from the government are not available for use for the operation and maintenance of school facilities because they can only be used for limited items such as office supplies. The costs of facility and equipment maintenance have been covered by the annual registration fees from students under ii), and the registration fee per student at the target school varies from 5,000 FCFA to 10,000 FCFA/Year (average 6,725 FCFA/Year). CGE can decide the usage of the registration fee, and it is used for copying materials, office supplies, insurance, examinations, uniforms, hiring security guards and cleaning workers, and repairing furniture and facilities. The remainder is carried over to the next year. The registration fee is strictly managed by CGE, and the CGE balance report is submitted to IEF and IA at the end of the year. The averages (actual amount) of the registration fee and facility maintenance expenses in the target schools are shown in Table 12. As the registration fee has many uses as mentioned above, sufficient budget for maintenance is not fully secured. According to the results of the interviews with the target schools, the classrooms and toilets installed by the Project, however, were constructed with high quality, so a large expense for their daily cleaning, operation, and maintenance is not required, and this cost can be covered by the registration fee.

Table 12 Average Registration Fee Income and Maintenance Expenses in Target Schools

(Unit: FCFA/Year)

Year	2015/2016	2016/2017	2017/2018
Registration Fee	1,313,233	1,129,526	1,278,157
Maintenance Expense	386,056	532,409	513,219

Source: Questionnaire

[21] 1 FCFA = 0.192 yen (JICA Rate as of May 2019)

3.4.4 Status of Operation and Maintenance

Mortar cracks, cracks in corridors, and broken windows were observed in some of the nine schools visited by the Evaluator. In addition, damage to the toilet doors and the lids of western-style toilets were identified in one school. The furniture was utilized properly in most schools, but some bolt defects, peeling of wood, and graffiti were observed. Although such minor damage has been confirmed, each school has repaired the defects to the best of its ability, and the facilities and furniture are properly maintained.

Cleaning staff employed by the target school

From the above, no major problems have been observed in the institutional/organizational, technical, or financial aspects. Although minor damages of facilities and furniture were observed at the time of the ex-post evaluation, most were properly maintained. Therefore, the sustainability of the project effects is high.

4. Conclusion, Lessons Learned, and Recommendations

4.1 Conclusion

The Project, which consisted of building new schools and expanding lower secondary schools in Louga and Kaolack Regions of Senegal, was implemented to improve the poor learning environment caused by a shortage of classrooms and a reliance on rental or temporary classrooms due to a surge in the numbers of students resulting from improvements in the gross enrollment ratio in lower secondary education. Through this improvement in the learning environment, the Project ultimately aims to improve the access to basic education.

As a result of the ex-post evaluation, it was identified that the purpose of the Project is consistent with the development policies of the Government of Senegal to promote the unification between primary and lower secondary education and achieve 100% completion of compulsory education by 2025, with the development needs regarding the improvement of learning environment through the construction of school facilities, and with Japan's Country Assistance Policy for Senegal; therefore, the relevance of the Project is high. On the other hand, the project cost was as planned, but the project period exceeded the plan due to construction and procurement work caused by design changes and the addition of target schools using the remaining budget; therefore, the efficiency of the Project is evaluated as fair. The quantitative indicators of the Project, "the number of continuously usable classrooms" and "the number of students able to learn in a good learning environment," have been mostly achieved. In addition, the qualitative indicators, "Increasing student awareness of sanitation by the installation of toilets and motivation of female students for schooling" and "Strengthening the operation and maintenance system by implementing the capacity building program called the 'Soft Component'" have also been

achieved. At the time of the ex-post evaluation, the project effects on the enrollment rate, the retention rate, and the dropout rate have not yet been confirmed, but other positive impacts such as transition from incomplete schools to complete schools, mitigation of overcrowded classrooms, and promotion of a barrier-free environment have been identified. Therefore the effectiveness and impact of the Project are evaluated as high. There are no major problems in the operation and maintenance of the school facilities provided by the Project. Although some damage to facilities and furniture was confirmed during the school visits of the ex-post evaluation, most facilities and furniture were appropriately maintained; thus, the sustainability of the effects produced by the Project is high.

In light of the above, this project is evaluated as highly satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

Effective use of unused classrooms

The number of students has fallen below the quota in some of the target schools (KANENE NDIOB and Louga Commune II Secondary School in Louga Region), resulting in some unused classrooms. It is therefore necessary to consider means to ensure the effective use of these unused classrooms (for other purposes such as IT rooms and libraries or to lend to primary or upper secondary schools). It was also identified in the interviews with principals that despite the fact that the enrollment rate in lower secondary education tends to decline, the schools that have enough students have tried to increase student and parent satisfaction by offering an ideal school environment, high-quality education, and a high pass rate of BFEM, and by establishing a school management system by CGE. For this reason, IA and IEF need to support reinforcing the learning environment and the management system in order to ensure an adequate number of students for effective use of the vacant classrooms in these two schools.

Strengthen the school facility monitoring system of IA and IEF

The operation and maintenance of facilities and furniture provided by the Project have been properly implemented with the efforts of each school. On the other hand, a shortage of personnel and lack of budget for periodical monitoring by IA and IEF, which play the role of monitoring the use and need for repairs of school facilities, were identified. MEN should strengthen the monitoring system for school facilities in IA and IEF by allocating the necessary personnel and budget, as well as providing regular support to maintenance activities at each school, thereby improving the continuity of activities.

4.2.2 Recommendations to JICA

Follow-up on unused classrooms

It is necessary to make a request to MEN and promote the effective use of unused classrooms in the above two schools.

4.3 Lessons Learned

Effective use of the past experience of the Grant Aid for Community Empowerment (introduction of model construction, tightening selection criteria for contractor)

In the implementation process of the Project, the model construction was introduced in each construction group to secure a certain quality and reduce the risk of delay of the construction. This consisted of the mock-up work and training sessions before the start of each type of work, which is able to ensure a certain level of quality and to reduce rework by deepening the contractors' understanding of the required quality. Furthermore, the Project optimized the size of bidding lots to promote the participation of major construction companies with high skills, as well as tightening the conditions for participation in bidding to restrict the bidding of small companies without sufficient skills. The effective use of these past experiences of the Grant Aid for Community Empowerment to ensure quality and prevent the delay of the construction period may be applied to other similar projects.

Necessity of designs based on the number of students in the target area

The number of students using the newly established classrooms by the Project fulfilled 80% of the target. Although the target was almost achieved, the number of students expected has not been fulfilled due to stagnation in enrollment. In addition, the issue of the calculation method for the number of classrooms at the time of scaling in the Detailed Design was pointed out by IA Louga. For the scaling in the Detailed Design of the Project, the number of classrooms newly required to convert incomplete schools into complete schools was estimated based on the number of students in the individual target schools. The increase in the number of classrooms has led to the competition for students in same area, resulting in an insufficient number of students in some target schools. Therefore, particularly in the target schools with additional new classrooms, it is required to estimate the number of classrooms in consideration of the plans of expansion in the neighboring schools and on the data for prospective students in the whole area.

Sufficient coordination with the school construction plan of recipient government for the timely completion

In the Project, the construction of classrooms by the Government of Senegal after the Detailed Design caused a design change involving a review of the number of classrooms and toilets that affected the extension of the project period. To prevent a recurrence of this delay of the project

period, it is important that the Project should explain measures (agreement on the design change and its period extension) in case classrooms are constructed in the target sites by the recipient government and forge a consensus with the recipient government at the time of the explanation of Outline Design.

END