

**Ex-Post Project Evaluation 2015: Package IV-2
(Niger, Senegal, Mali)**

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Republic of Niger

Ex-Post Evaluation of Japanese Grant Aid Project
“Project for Construction of Classrooms for Primary Schools
in the Regions of Maradi and Zinder”

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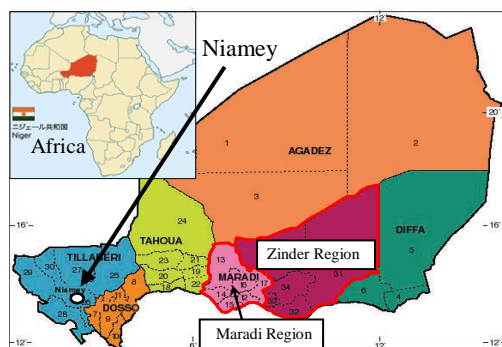
0. Summary

The objective of this Project was to enable appropriate school management and improve the hygienic learning environment by constructing permanent classrooms to replace straw-hut classrooms and toilets at primary schools in the regions of Maradi and Zinder, thereby contributing to an improved educational environment in primary education¹ in the target areas. This Project was highly relevant to the Niger’s development plan that focused on improving the accessibility of primary education and its development needs as the educational environment in the two target regions needed to be improved urgently. The Project was also in accordance with measures taken under Japan’s ODA policy toward Niger. Therefore, the relevance of the Project is high. Although the project cost was as planned, the project period exceeded the plan. The efficiency of the plan is therefore rated as fair. The construction of school facilities and toilets and the procurement of desks and chairs contributed to increase the number of students who study in an improved environment and decrease the number of students per classroom. The school environment was therefore remarkably improved. The provision of toilets helped to improve the school attendance by girls, and the financial burdens required for reconstruction of straw-hut classrooms were decreased in most of the target schools. The Guideline for activities formulated under the project soft-component (hereafter referred to as the “Guideline”) and the manuals for guiding school management and O&M were confirmed to have been used on only a very limited basis, and school O&M was not implemented as expected under the Project. On the other hand, an increase of the students’ motivation to study was confirmed as a project impact, so the effectiveness and impact of the Project are rated as high. Concerning the institutional aspect on O&M, a lack of teachers caused some undermanned schools teacher allocation, but the roles and responsibilities of each agency including schools related to the Project became clear. School management and O&M for schools on technical aspects were, however, not appropriately implemented based on the Guideline and manuals. Persons related to school management recognized the necessity of securing funds for school management and O&M and secured them accordingly. However, as the revenue and expenditure for school facilities was inaccurately recorded, appropriate fund management such as keeping records of revenue and expenditure is hoped to take place in the future. Under these circumstances, the sustainability of the project effect is rated as fair.

In light of the above, this Project is evaluated to be satisfactory as a whole.

¹ Educational system in Niger comprises preschool education (3 years), primary education (6 years), first secondary education (4 years), later secondary education (3 years : the same as high school in Japan), and higher education (the same as universities and vocational schools in Japan).

1. Project Description



Project Location



Hawan Dawaki Centre School in Maradi Region, constructed by the Project

1.1 Background

Recognizing education as one of the most important developmental issues of the country, the Government of Niger formulated a “10-year Educational Development Plan (PDDE) (2003-2012)” in 2001. The plan aimed to increase the Gross Enrollment Rate (GER) of primary education to 70% by 2012. The Government of Japan provided Grant Aid and Technical Cooperation Projects and the Government of Niger concurrently implemented a Special Program of the President (LPSP)² calling for the construction of 1,000 schools every year for 4 years, starting in 2001. These projects have helped to improve access to education. In fact, the GER of primary education in Niger had increased to 63% as of 2006.

There is, however, a distinct gap in the GER of primary education between urban and rural areas. In the Maradi and Zinder regions targeted under the Project, the GER of primary education remained lower in rural areas than in urban areas. Furthermore, approximately one-third of the classrooms (most are in rural areas) in Niger were straw-hut classrooms, and roofs and walls of these classrooms needed to be replaced every year. This was a great burden on people in the local communities, and straw-hut classrooms hardly provided an appropriate learning environment from the beginning as they were vulnerable to sand and rain being blown in. Classrooms were not only lacking, but were also overcrowded due to the rising numbers of students arising from the country’s sharp population growth of over 3% annually (3.2% increased per year).

Under these circumstances, the Government of Niger requested the Government of Japan to replace the straw-hut classrooms with permanent classrooms and furnish them with desks and chairs in Maradi and Zinder regions where school enrollment rate remains low and where an extremely poor learning environment (e.g., where many classrooms were built from straw) was confirmed. The Government of Japan implemented the Project through Grant Aid for Community Empowerment based on the active use of the local specifications, designs, and equipment in operation, in response to the request from the Government of Niger and in accordance with Education Policy Guidance in Niger.

² Policy of the ex-president Mamadou Tandja (Incumbency:1999-2010)

1.2 Project Outline

The objective of this Project is to implement school management appropriately and improve the hygienic learning environment in primary schools by constructing permanent classrooms to replace straw-hut classrooms and toilets in the regions of Maradi and Zinder, and thereby to contribute to an improved educational environment in primary education in the target areas.

Grant Limit / Actual Grant Amount		1,018 million yen/ 1,018 million yen
E/N ³ Date		February, 2007
Implementing Agency		At the project planning stage: Ministère de l'Education de Base et de l'Alphabétisation (MEBA) At the ex-post evaluation: Ministère de l'Enseignement Primaire, de l'Alphabétisation, de la Promotion des Langues Nationales et de l'Education Civique (MEP/A/PLN/EC) ⁴
Project Completion Date		June, 2010
Concerned parties to the Project ⁵	Main Contractors	20 construction companies and 2 furniture companies
	Consultants	Outline Design : Daiken Sekkei, INC. Consultant for Detailed Design (D/D)/Supervision : Agence d'Etudes, de Conseils et d'Assistance (AGECAS) Soft Component (Supervision) : Earth and Human Corporation Soft Component (Operation): Organisation Nigerien des Educateur Novateur (ONEN) ⁶
	Procurement Agent	Japan International Cooperation System (JICS)
Outline Design (O/D)		December, 2006
Detailed Design (D/D)		December, 2007
Related Projects		<p><Grant Aid Project></p> <ul style="list-style-type: none"> • The Project for Construction of Primary Schools in Dosso and Tahoua Regions (2003-2005) <p><Technical Cooperation Project></p> <ul style="list-style-type: none"> • Human Resources-Human Resources-Primary Education (Phase I : January, 2004-July, 2007, Phase II : August, 2007-January,2012) • The project on support to educational development through community participation (School for All) (May,2012-May, 2016) • Project on Strengthening of Mathematics and Science in Secondary Education in Niger (SMASSE-NIGER) (Phase I : October, 2006-October, 2009, Phase II : March, 2010-September,2013) <p><Other International Organization and donors></p> <ul style="list-style-type: none"> • Kreditanstalt für Wiederaufbau (KfW) "Primary School Education Project" (2002-2005) • International Development Association (IDA) " Project for Development of Basic Education" (2003-2007)

³ In other words, E/N is "Exchange of Notes"

⁴ Accompanied by the inauguration of the new Cabinet in 21st April, 2011, the name of the ministry was changed from MEBA to MEP/A/PLN/EC. MEP/A/PLN/EC is for use in this report.

⁵ As this Project was implemented through Grant Aid for Community Empowerment, or Japanese Grant Aid Type II, local consultants for D/D and supervision, local contractors and local furniture companies were selected.

⁶ ONEN is a local non-governmental organization that implemented soft-component activities. It was employed by Earth and Human Corporation.

2. Outline of the Evaluation Study

2.1 External Evaluator

Chiaki Yamada (INGÉROSEC Corporation)

2.2 Duration of Evaluation Study

Duration of the Study: October, 2015 - November, 2016

Duration of the Field Study: February 6 - 14, 2016 and May 8 - 12, 2016

2.3 Constraints during the Evaluation Study

The project target regions of Maradi and Zinder border on Nigeria and are identified as restricted areas subject to a high risk of iniquitous acts such as terrorist attacks. Security issues thus made it impossible for Japanese external evaluator to conduct the field survey. To execute the ex-post evaluation of the Project, the Japanese external evaluator held interviews with MEP/A/PLN/EC (the Implementing Agency), AGECAS (a consultant for D/D and Supervision), and ONEN (the organization that conducted soft component activities for collecting project information) in Niamey. Due to limitations in budget and time, 28 schools⁷ (approximately 41%) out of the 68 target schools were selected and monitored through the field study and beneficiary survey⁸ of the ex-post evaluation by local consultants. Interviews were also conducted with the Regional Directorate of Education in both the Maradi and Zinder regions to collect additional data.

3. Results of the Evaluation (Overall Rating : B⁹)

3.1 Relevance (Rating : ③¹⁰)

3.1.1 Relevance to the Development Plan of Niger

3.1.1.1 Relevance to Higher Development Plan

During the project planning stage, the “Poverty Reduction Strategy Paper (PRSP) (2002-2015)” issued in the development planning for Niger called for “improvement of access to high-quality social service” in four prioritized sectors: prioritized primary

⁷ Twenty-eight schools were chosen by extracting every third school in the list of schools arranged by department. After considering the geographical locations of the schools (e.g., the distances from departmental capitals and road conditions to the schools), the 28 target schools of the beneficiary survey were finally determined. If schools taken in the first selection were not easily reached, the next schools in the list were taken as targets.

⁸ The survey team interviewed 257 beneficiaries (23 school principals, 78 teachers called by the principals, 80 Comité de Gestion Décentralisée des Etablissements Scolaires (CGDES) members and 76 parents) in 28 out of 68 target schools, in target 2 regions from February to March 2016. The gender balance among CGDES members and parents was considered for avoiding unbalanced gender of beneficiaries (Breakout of gender: 103 men and 154 women).

CGDES : Based on the Ministerial Order released on 22nd February 2012, COGES (Comité de Gestion des Etablissements Scolaires) was changed to CGDES. In this report, CGDES is taken. CGDES comprises a school principal, a teachers’ representative, three parent representatives, 1 representative from educational mothers’ associations, and one student representative (seven persons in total). CGDES that exclude one student representative and accordingly comprise 6 members are confirmed.

⁹ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

¹⁰ ③: High, ②: Fair, ①: Low

education, public healthcare, HIV/AIDS prevention, and water hygiene. The educational development plan mentioned in the PRSP assigned priority to primary education as an educational sector policy. The LPSP targeted the construction of 4,000 new schools from 2001 to 2004 (1,000 schools per annum).

During the ex-post evaluation, “Stratégie de Développement Accéléré et de Réduction de la Pauvreté (SDARP) (2008-2012),” formulated as the 2nd PRSP based on the lessons learned from the PRSP, stressed that equal access to education opportunities increases school enrollment rate. The “Plan de Développement Economique et Social (PDES) (2012-2015)”, the successor of SDARP, singled out the education sector as a sector of the highest priority.

The Implementing Agency confirmed that the PDES, whose period of validity was extended for one year up to the end of 2016, continues to improve the delivery of basic social services such as education. The “Programme du Président Issoufou Mahamadou pour la renaissance du Niger (2011-2015)¹¹”, the successor of LPSP, targeted free education for all children up to the age of 16 years old and the construction of 2,500 classrooms over a one-year period up to 2015.

3.1.1.2 Relevance to Education Sector Plan

During the project planning stage, three sub-goals were set for achieving the GER to 70% in primary education by 2012, according to the PDDE: 1) Improved access to education, 2) Improved educational quality, and 3) Improved educational system and policy. “Loi d'Orientation du Système Educatif (LOSEN)” (1998) described education as a citizens’ right and recognized it as a national issue of the highest priority.

During the ex-post evaluation, the following three sectors were designated as priority issues in the “Programme Sectoriel de l’Education et de la Formation (2014-2024)” formulated as the new policy document the successor of PDDE: 1) Improved equal access to primary education, 2) Improved education quality and education relevance, and 3) Improved operation and management of the education sector. LOSEN has also remained in place during the ex-post evaluation and the priority of primary education has not been changed.

Accordingly, the Project was consistent with the Higher Development Plan and Education Sector Plan during both the project planning stage and ex-project evaluation.

3.1.2 Relevance to the Development Needs of Niger

The target regions of Maradi and Zinder were the 2nd and the 3rd most populated regions of Niger after the Niamey capital district during the project planning stage. They have the highest proportion of straw-hut classrooms requiring replacement. Poorer learning environments were prominent in these target regions. As shown in Table 1, the GER in the

¹¹ Policy of Mr. Mahamadou Issoufou, who served as president from 2011 to the ex-post evaluation.

Zinder region remained 10% lower than the national average in Niger. There were also wide gaps between urban and rural areas in the GER of schoolchildren: 66% and 75% in the urban areas and 45% and 34% in rural areas of Maradi and Zinder regions, respectively. The shortage of classrooms was the major factor behind the lower enrollment rate at these schools and because of this, many schools were reportedly limiting the number of applications accepted. In terms of the gender gap, the GER for girls stood at 42% and 35% in Maradi and Zinder, respectively, slightly lower than the national average of 43%. According to the interviews with the Implementing Agency, while there was no big difference in the GER in the two target regions compared to the national average, large populations were confirmed and the absolute numbers of students who studied in poor learning environments was high. Furthermore, Maradi region had a high rate of classrooms that need repairs and the Zinder region was below the national average in terms of the GER. Thus, the target areas selected for this Project was rated as relevant.

The GERs in the two targeted regions were increased in the ex-post evaluation, but the rate in the Zinder region still remains lower than the national average. The GER in the across-Maradi region increased to 87%. In the urban areas it notably climbed beyond 100%, while in the rural areas it reached 61%. There still exists an urban-rural gap¹². It was also confirmed, as of the ex-post evaluation, that the need for improved access to schools was still high in both the Maradi and Zinder regions. Table 1 shows the GER and Net Enrollment Rate (NER) in the Zinder region, in the Maradi region, and in Niger overall in 2005/2006 and from 2010/2011 to 2013/2014. Note that some figures drop between 2012/2013 and 2013/2014 due to a revision in the estimated number of students (the denominator) in the statistics from the 2012 census¹³.

Table 1 GER and NER in Zinder and Maradi regions and national level
(2005/2006, 2010/2011-2013/2014) (Unit : %)

Area	Item	2005/2006	2010/2011	2011/2012	2012/2013	2013/2014
Maradi	GER	61.0	105.8	91.4	97.9	87.2
	NER	57.0	80.3	82.7	85.4	65.2
Zinder	GER	49.0	89.9	92.3	82.1	67.7
	NER	43.0	68.4	72.1	72.6	55.0
National	GER	59.0	99.8	97.9	99.2	82.9
	NER	54.0	76.1	79.2	82.0	71.3

(Source : Statistiques De L'Education De Base et Alphanetisation Annuaire, 2005/2006, 2010/2011, 2011/2012, 2012/2013, 2013/2014)

(Notes: GER=Gross Enrollment Rate: number of students of any age enrolled at any grade, regardless of age / number of population of the corresponding age group x100
NER=Net Enrollment Rate: number of children enrolled at each grade who belong to the age group that officially corresponds to primary schooling / total population of the same age group) x100

¹² Statistiques De L'Education De Base et Alphanetisation Annuaire (2013-2014)

¹³ Before the National Census conducted in 2012, the total number of students (the denominator) was calculated based on the results of the National Census conducted in 2005. The National Census conducted in 2012 pointed out that the actual numbers of students exceeded the estimates. The enrollment rate was thus put on review.

3.1.3 Relevance to Japan's ODA Policy

The Medium Term Policy on Official Development Assistance (ODA) (2005) declared that people's capacity would be strengthened through education in the aid approach toward the realization of "Human Security." The Project was consistent with the Medium Term Policy, which expands the basic social services including education, are important for poverty reduction. Japan's ODA Country Data Book (2006) stated that the sectors addressing Basic Human Needs (i.e., education, healthcare, water provision, and rural development) are to be important objects of focus in the work done to contribute to the improvement of the poverty situation in Niger based on the implementation process of the PRSP. Speaking on the concretization of expanded aid for Peace in Africa at the Tokyo International Conference on African Development (TICAD) Conference on Consolidation of Peace held in 2006, the Government of Japan strongly advocated the proactive implementation of Grant Aid and Technical Cooperation Project for community development in the water, hygiene, and education sectors with an emphasis on human security. The Project which contributes to an improved educational environment is therefore relevant to Japan's ODA policy.

As mentioned above, this Project has been highly relevant to Niger's development plan (including education sector policy) and development needs, as well as Japan's ODA policy. Its relevance is therefore high.

3.2 Efficiency (Rating : ②)

3.2.1 Project Outputs¹⁴

3.2.1.1 Outputs from Japanese Side

This Project constructed 253 solid classrooms and 233 toilet booths in 68 schools in the Maradi and Zinder regions. Metallic storage racks and desks and chairs for students and teachers were also provided as major equipment. As shown in Table 2, classrooms, toilets, and equipment were all provided in the Zinder region as planned, while the addition of 2 target schools in the Maradi region required the addition of 6 classrooms and 6 sets of equipment to the planned numbers. These increases were covered with the remaining budget as a result of tender, so there was no change of project cost.

It has been confirmed that the soft component activities with the aim of capacity

¹⁴ The Project was implemented by the Procurement Guidelines of the Japanese Grant Aid. There were initially 79 target schools in total (33 in the Zinder region and 46 in the Maradi region) when O/D was conducted, but the D/D after the E/N signing newly set the number to 66 (33 schools in the Zinder region and 33 in the Maradi region). The decrease of the number of planned schools in the Maradi region was caused by the decrease of the number of schools constructed within the E/N grant limit due to the sudden rise of raw material costs and fluctuation in exchange. As the project outputs determined during the O/D are likely to be changed during the D/D after the E/N is signed, the planned values are considered as baseline values after the D/D (Departmental Directorate of Education).

development for Comité de Gestion Décentralisée des Etablissements Scolaires (CGDES)¹⁵ officers from the Departmental Directorate of Education (hereafter referred to as “Departmental CGDES officer”) were confirmed to have been conducted as planned. The achievements of the soft components activities are shown in “3.3 Effectiveness.”

Table 2 Planned and Actual Outputs (Facilities and Major Equipment) (Japanese side)

Region	Item	Planned	Actual	Difference	
Maradi	Facilities	Number of target schools	33	35	2 schools increased
		Number of classrooms	117	123	6 classrooms increased
		Number of toilets	81	81	As planned
	Equipment	Desk and chair for students	117	123	6 sets increased
		Desk and chair for teachers	117	123	6 sets increased
		Metallic storage rack	117	123	6 racks increased
Zinder	Facilities	Number of target schools	33	33	As planned
		Number of classrooms	130	130	
		Number of toilets	152	152	
	Equipment	Desk and chair for students	130	130	
		Desk and chair for teachers	130	130	
		Metallic storage rack	130	130	

(Source : Documents provided by JICA)

(Notes : A desk-and-chair pair for students is integrated for two students. One set is for 25 desks and chairs. The unit for desks and chairs is a “set.” The unit for a metallic storage rack is a “rack.”)

3.2.1.2 Outputs from Niger Side

According to the Implementing Agency, it is confirmed that the costs for both the removal of existing buildings in target schools and the implementation of soft component activities such as traveling expenses and daily allowance for Departmental CGDES officers were covered by the Niger side.

3.2.1.3 Type/Details of Changes on the Project Components during the Project

As shown in Table 3, six points had been changed since O/D and D/D. According to the interview survey with the Implementing Agency, JICS, and AGEKAS, all the changes from O/D reflected the local environmental conditions such as desert climates subject to frequent sandstorms, and the perspectives of the convenience for the schoolchildren and O&M, so they were appropriate and necessary to generate the project outcomes. It also has been confirmed that none of these changes affected the results of the project. The points changed from D/D were generally necessitated by the unavailability of materials initially planned for purchase. An inland country like Niger sometimes faces unstable supplies in its markets. Some materials required cannot be sourced for months at a time, resulting in delays in construction periods. It is therefore considered appropriate to replace these materials with

¹⁵ The main duty of Departmental CGDES officers is to monitor O&M for school facilities. The roles of the Departmental Directorate of Education are shown in Table 8. The administrative units in Niger are region, department, commune, and village (community), in descending order.

substitute materials of similar quality and durability. Some points were changed from the O/D and D/D for the above reasons. All of the changes, however, were considered appropriate to the project effects.

Table 3 Changes from the O/D and D/D and the reasons for the changes

Changes from O/D	Changes from D/D	Reasons for the changes
<u>In Maradi and Zinder regions :</u>		
• Berms were added to three outer walls of classrooms		• Prevent the erosion of the classroom foundations by rainfall and sands
• The steel double doors of the outer windows with louver of the classrooms were changed to steel flash windows (two departments in Zinder and three departments in Maradi)		• Prevent the invasion of large amounts of sand caused by sandblasting
• The steel double doors of the outer windows of the classrooms were changed to steel flash windows with louver (two departments in Zinder and three departments in Maradi)		• Prevent the invasion of large amounts of sand caused by sandblasting
• The wire netting of the external ventilation portion and steel frame was changed to iron louver		• Low durability and inappropriately constructed
	• Roof materials were changed from steel plates and aluminum zinc alloy (0.6 mm thick and 55% fusion) to steel plate and a fused zinc coat (0.6 mm thick) (two departments in Zinder and two departments in Maradi)	• The specified roof materials were unavailable in the market during construction.
<u>In Maradi Region :</u>		
	• School buildings were relocated inside of the school sites (four schools)	• Administrative requests by schools

(Source : Documents provided by JICA, Results of the interview survey with the Implementing agency, JICS, and AGECCAS)

3.2.2 Project Inputs

3.2.2.1 Project Cost

The actual project cost from the Japanese side was as planned, at 1,018 million yen, the same amount specified in the E/N (100% of the plan, or 97% of the plan after subtracting the costs for the two additional schools constructed (actual number of schools constructed increased from 66 to 68)). The cost from the Niger side was supposed to cover both the removal of existing buildings in the target schools and the implementation of soft component activities such as traveling expenses and daily allowance for Departmental

CGDES officers totaling 7 million CFA (approximately 1.56 million yen, 1 CFA = 0.22363 Japanese yen, as of O/D). While the interviews with the Implementing Agency indicated that the expenses for the implementation of the soft component and removal of existing buildings had been disbursed, no expenditure records with which to compare the planned total cost and actual total cost were available.

3.2.2.2 Project Period

The planned project period was a total of 29 months between February 2007 (E/N date) and June 2009. The actual project period was longer than planned (140% of the planned period), totaling 40.7 months between 1st February 2007 and 23rd June 2010¹⁶. The main reason for the extension was a lack of human resource at AGECAS, the D/D and Supervision consultant. The original implementation schedule specified that construction in the two target regions was to be started at the same time. But according to the interviews with JICS and AGECAS, limitations in the human resource capacity of AGECAS made it difficult for them to conduct the construction work at the same time in the two target regions. The construction was therefore extended in the implementation schedule after the construction commenced. The human resource capacity of AGECAS could not be assumed during the D/D period, so the construction period could not be extended. It also took an unexpectedly long time to reselect contractors to replace contractors who were dropped due to canceled contracts.

Although the project cost was within the plan, the project period exceeded the plan. The efficiency of the project is therefore rated as fair. As no information on the project cost from the Niger side is available, the planned and actual costs were compared only from the Japanese side.

3.3 Effectiveness¹⁷(Rating : ③)

As no operation indicators were provided at the project planning stage, the “Operational status of the school facilities (classrooms and toilets) constructed by the Project, the status of the use of major equipment (desks, chairs, and metallic storage racks) procured by the Project,” and “The number of students per classroom constructed by the Project” were set as supplementary operation indicators. As described in “2.3 Constraints during the Evaluation Study,” no data was available on the quantitative effects in the 68 schools targeted by the Project. Therefore, the evaluation was conducted by analyzing data collected through the beneficiary survey conducted in 28 of the 68 targeted schools.

¹⁶ 23rd June is the last day when school equipment such as desks and chairs was handed over.

¹⁷ The sub-rating for Effectiveness is to be assigned in consideration of the evaluation of the Impact.

3.3.1 Quantitative Effects (Operation and Effect Indicators)

- (1) Operational status of the school facilities (classrooms and toilets) constructed by the Project and status of the use of major equipment (desks, chairs, and metallic storage racks) procured by the Project

All of the classrooms developed and all of the metallic storage racks procured under the Project were confirmed to have been in use as planned. On the other hand, according to the result of the beneficiary survey, toilets were broken in 2 out of 22 schools where toilets were developed and desks and chairs for students and teachers were confirmed to be unusable in 5 out of 28 schools. Repair of toilets with broken basins is under planning by CGDES. As desks and chairs were assumed to be consumable supplies, a purchase plan is under discussion. The operational status of school facilities and major equipment is shown in Table 4.

Table 4 Operational status of school facilities and status of use of major equipment

Item	Facilities		Major equipment		
	Classrooms	Toilets	Desks and chairs for students	Desks and chairs for teachers	Metallic storage rack
Number of items provided	96	81	2,350	112	96
Number of items used	96	80	2,266	104	96
Number of items not used	0	1	84	8	0
Percentage of utilization (%)	100	99	96	93	100

(Source : Beneficiary Survey)

(Note : A desk-and-chair pair for students is integrated for two students. One set is for 25 desks and chairs. The unit for desks and chairs is a "set." The unit for a metallic storage rack is a "rack.")

- (2) Number of students per classroom

In the project planning stage, the criteria of MEP/A/PLN/EC set the standard number of students accommodated per classroom at 50. The beneficiary survey confirmed that principals in nine schools imposed enrolment ceilings of 50 students per classroom in the project planning stage, although many more students wished to enter school. Further, about 86% (147 out of 171 classrooms) of the classrooms surveyed in the beneficiaries' survey accommodated more than 50 students (see Table 5).

The MEP/A/PLN/EC criterion remains 50 students per classroom, but the percentage of classrooms accommodating more than 50 students was reduced in the ex-post evaluation. According to the result of the ex-post evaluation, classrooms accommodated more than 50 students in around 37% of the 28 schools visited (35 out of 96 classrooms). This result can be judged to have helped improve the learning environment even though classrooms accommodating more than 50 students were confirmed. The lowest number

of students per classroom was 18, followed by the second lowest of 21. Both classrooms were in the same school which has a small number of students at all grades. So the community where they are located appears to have a low population of school-age children. The number of students per classroom is currently lower than the 50 per classroom capacity, however, the number of students is expected to increase in the future. It is therefore considered appropriate to build classrooms based on the MEP/A/PLN/EC criterion of 50 students per classroom.

Table 5 Number of students per classroom developed by the Project

Number of students per classroom	The number of classrooms (%)	
	At the project planning stage	At the ex-post evaluation
Less than 31	2 (1%)	12 (12%) (18/classroom at minimum)
More than 30, less than 41,	10 (6%)	28 (29%)
More than 40, less than 51	12 (7%)	21 (22%)
More than 50, less than 61	96 (56%)	19 (20%)
More than 60 students	51 (30%) (121/classroom at maximum)	16 (17%) (80/classroom at maximum)
The number of classrooms	Total 171 classrooms (100%)	Total 96 classrooms (100%)

(Source : At the project planning stage : O/D report (27schools targeted), At the ex-post evaluation : Beneficiary Survey (28 schools targeted))

(Notes : The number of students per classroom in 27 schools (171 classrooms) with available information out of the 28 schools surveyed by the beneficiary survey during the O/D)

(3) Number of Students who learn in the improved environment

At the project planning stage, it was estimated that 12,350 students would gain access to an improved learning environment as an outcome of this Project. According to the interview with the Implementing Agency, the actual number of students who were learning in classrooms constructed by the Project (the improved environment) at the time of project completion was not confirmed. The actual number was also unconfirmed in the beneficiary survey, and none of the schools had grasped the increased number of students who studied in an improved environment at the time of project completion. Therefore, for the purpose of ex-post evaluation, the actual number of students in 2010 was estimated by multiplying 253 classrooms by 50 students per classroom based on the criterion set by MEP/A/PLN/EC. The actual number of students in 2015, meanwhile, was estimated from the results of the beneficiary survey. The results are shown in Table 6.

According to the beneficiary survey, 4,351 students were learning in the 96 classrooms constructed by the Project, or about 90% of the targeted 4,800 students (96 classrooms x 50 students). Given that this result is adapted into 253 classrooms constructed by the Project, an estimated 11,466 students gained access to an improved environment as an outcome of this Project.

The estimated 11,466 students confirmed in the ex-post evaluation were slightly under the targeted value but the Project contributed to an improved learning environment and an increased number of students who were accepted to enter schools. As the result of the beneficiary survey shown in chart 3, about 96% of students were more than ‘satisfied’ with the improved environment. Moreover, the targeted value of 12,650 indicates that there are now more places to receive new students. As mentioned above, the project effect is evaluated as high.

Table 6 Number of students who study in a comfortable learning environment and rate of increase in the number of toilets per year

	Baseline	Target ¹⁸	Target (Estimate)	Actual
	2006	2009	2010	2015
	Baseline Year	Target Year (Project Completion Year)	Completion Year	5 Years after Completion
Number of students who study in a comfortable learning environment*1 increased	0	12,350 *2	12,650 *3	11,466 *4
Number of toilets increased in target schools	0	233	393	390 *5

(Source : Baseline and Target, estimation based on documents provided by JICA; Actual, beneficiary survey)

(Note*1 : Interviews with the Consultant for the D/D/Supervision during the ex-post evaluation confirmed that the improved environment means concrete structures unaffected by heat, infiltration of sand into the classrooms due to wind or rain. Existing classrooms were made of sun-dried brick and straw-hut so it cannot be said that studying in these kind of classrooms is an improved environment.

Note*2 : Increase of 12,350 students = 247 classrooms (number of classrooms to be constructed at the planning stage) x 50 students (number of students accommodated per classroom defined by MEP/A/PLN/EC)

Note*3 : Increase of 12,650 students = 253 classrooms (actual number of classrooms constructed)x 50 students

Note*4 : Increase of 11,466 students = 4,351 students (in schools visited by the beneficiary survey conducted in 2015) /(96 classrooms in schools where the beneficiary survey was conducted x 50 students)x 12,650 students

Note*5 : 393 toilets newly constructed by the Project x percentage of utilization 99%

(4) Costs for reconstruction of straw-hut classrooms

Given that the number of students per classroom was 50, the share of expenses was expected to be reduced to 120 CFA/student/month at the project planning stage because the re-construction costs for straw-hut classrooms (72,000 CFA/classroom/year) were redundant.

¹⁸ The target value set at the time of project planning stage includes the number of students who study in existing classrooms. Yet nine and a half years have passed since O/D and it cannot be said that the classrooms used since the O/D remained in good condition. The classrooms constructed by the Project are thus determined to be targeted at the ex-post evaluation. The increased target number was set at 12,350 students (247 classrooms x 50 students).

Compared to this estimated share, the amount paid by beneficiaries in two schools¹⁹ which pay expenses of reconstruction during the ex-post evaluation was actually 350 CFA/student/month. This difference might have stemmed from a calculation based on the overestimated average value (50 students per classroom) in the planning stage versus the actual average number of students in those two target schools (less than 50 students). Approximately 64% of respondents (165 out of 257) answered that the collected expenses for re-construction of straw-hut classrooms decreased as a result of this Project, resulting in added funds to cover living expenses such as food costs. 92 respondents left the question unanswered, so the reasons could not be confirmed.

3.3.2 Qualitative Effects (Other effects)

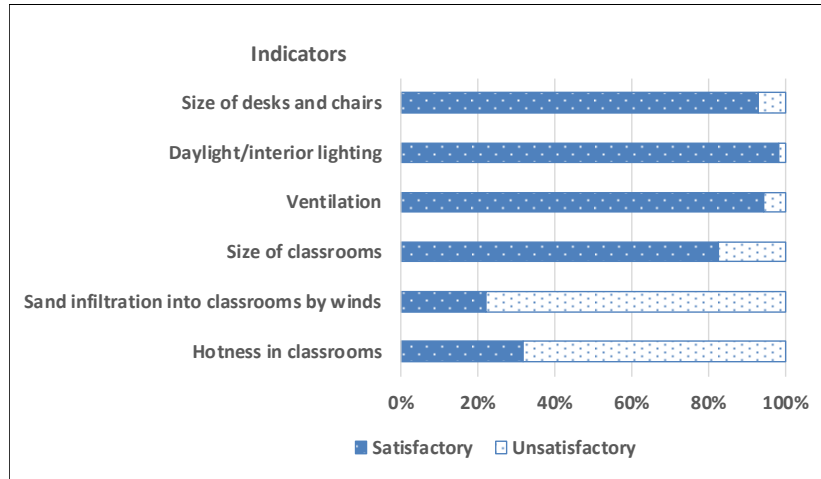
(1) Improved condition of the learning environment for girls due to the development of toilets

One of the interview questions in the beneficiary survey covered “The degree to which the learning environment for girls was improved by the development of toilets.” Approximately 98% (254 out of 257 students) answered “This has improved.” Most of the respondents offered responses such as, “Girls opined that they wanted to study at a school with clean toilets,” or “It is more comfortable using a proper toilet than going outside to find a place in the bushes.” Accordingly, the learning environment for girls was improved as the project effects. On the other hand, only three respondents answered “unchanged” to the question above, but these three respondents belonged to schools that had toilet facilities before the Project and are therefore assumed not to have seen any major changes. In five schools where the number of schoolgirls were confirmed in both the project planning stage and ex-post evaluation stage, the number of schoolgirls increased from 1,007 (approximately 44% of total number of students) at the project planning stage to 1,250 (approximately 51% of total) during the ex-post evaluation. During O/D, toilets were supposed to be respectively used for the boys, girls, and teachers, and it is assumed that the environment mentioned above would promote the enrollment of more girls. At the time of the ex-post evaluation, it was confirmed that toilets were used for boys and girls respectively as planned in about 82% of the schools where toilets were constructed (18 out of 22 schools). In the field survey during the ex-post evaluation, there were no schools where toilets were divided for students and teachers. Toilets used for boys and girls separately were assumed to be important for the improvement of the school enrollment and no problems were confirmed during the ex-post evaluation.

¹⁹ Although classrooms were constructed by the project, there is still need for classrooms, and it is confirmed that straw-hut classrooms have been constructed and replaced at the ex-post evaluation.

(2) Evaluation for classrooms and toilets

The evaluation results (size, ventilation and daylight/interior lighting) confirmed by the beneficiary survey are shown in Figure 1.



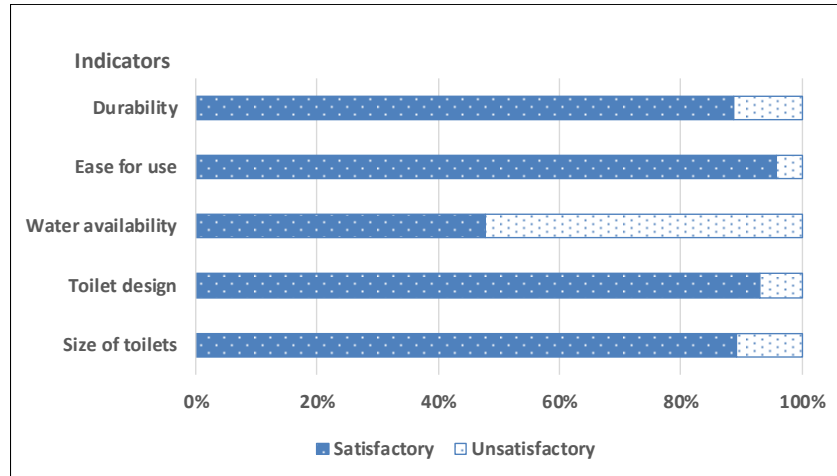
(Source: Beneficiary Survey)

Figure 1 Evaluation of Classrooms

Approximately 78% (200 out of 257 respondents) of the total number of respondents answered ‘Dissatisfied’ to the question regarding “Sand infiltration into the classrooms.” According to the interviews with school principals, the beneficiary survey was conducted concurrently with the season of the Harmattan²⁰, a trade wind that causes profuse entry of sand and dust into the classrooms. This was assumed to be a major factor behind the many “Dissatisfied” responses. Some principals, however, responded that they expected less sand and dust to infiltrate the classrooms after the Harmattan period. Some respondents also believed that the structures used to completely prevent sand and dust from entering the schools would reduce the ventilation in the classrooms, increase the temperatures, and ultimately hinder the classes held inside.

Figure 2 shows the results of the evaluation of toilets (usability, durability, etc.) confirmed by the beneficiary survey. As for water access in schools, the water supply situation has not been improved in the areas where the availability was originally poor and the situation has remained unchanged regardless of whether a school was constructed or not. As a result, half of the respondents indicated that they were “Dissatisfied” with the water access.

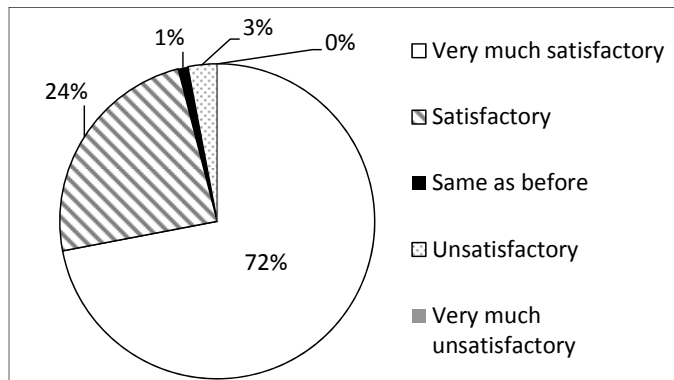
²⁰ Harmattan is a trade wind that stirs up huge amounts of dust during dry season from November to March, often causing the phenomenon of dust rain.



(Source: Beneficiary Survey)

Figure 2 Evaluation of Toilets

Turning to the overall evaluation, Figure 3 shows the result of the beneficiary survey on the level of satisfaction with “the current learning environment.”



(Source: Beneficiary Survey, 257respondents)

Figure 3 Satisfaction level to learning environment

Approximately 96% of respondents answered that the learning environment was improved by the Project,

and these respondents were confirmed to be satisfied with the current learning environment. Parents mentioned that the construction of high-quality classrooms helped to improve the learning environment so that children were keen to go to the schools. Teachers mentioned that both students and teachers were more able to concentrate on their class lessons. From the interviews with parents, it was clarified that approximately 97% (74 out of 76) of the students had an increased motivation to learn at home. The improved school learning environment imbued the students with the joy of studying, which contributed to their studies at home.

Many of the respondents who rated the learning environment as “Unsatisfactory” were from areas where many students lived. Students in these areas were unable to concentrate on class lessons because classes were conducted with more than 50 students even in the newly constructed classrooms. Regarding motivation for learning, some of the students became less motivated to learn at home because they were able to concentrate on studying more at school, which provided a better learning environment (no household chores at school, no desks at home, etc.).

Under the above circumstances, the Project improved the learning environment of primary education in the target areas as a whole.

(3) Soft Component

Table 7 shows the achievement of outputs 1-5 as the soft component activities planned. According to the Implementing Agency and the consultant in charge of the soft component management, outputs 1-5 were all achieved.

Table 7 Activity details of outputs 1 -5

Output	Activity details
1	Clarification of roles and responsibilities of maintenance for school facilities and establishment of a communication system among persons concerned with schools
2	Installation of school maintenance activities in all target schools and implementation of those activities
3	Implementation and practice of educational activities for the use and maintenance of toilets in all of the target schools
4	Implementation and practice of educational activities related to water hygiene control on the initiative of local people
5	Evaluation for school activities and formulation of the Guideline for activities

(Source: Documents provided by JICA)

3.4 Impacts

3.4.1 Intended Impacts

The following impacts were expected during the project planning stage as indirect effects of the project implementation:

- The Guideline²¹ prepared by the Project 1) becomes a guideline for school management and O&M by parents and 2) promotes MEP/A/PLN/EC's awareness of school O&M and contributes to improved school management as a whole.

The following situation was confirmed during the ex-post evaluation.

- According to the beneficiary survey, persons related to school management and CGDES played a central role in conducting hygiene education activities continuously in 7 schools (approximately 25%) where the Guideline was utilized out of the 28 target schools. Most of the principals in schools not utilizing the Guideline were dispatched to schools after the completion of the Project. When the incoming principles arrived at schools that used the Guideline, the outgoing principals failed to appropriately hand

²¹ Regarding the Guidelines, the "Guideline for school management" identified at the planning stage was replaced by the "Guideline for activities" at the project completion. The two guidelines have different names but share the same content, so in this report we use the "Guideline for activities." The "Guideline for activities" describes how to formulate an activity plan, steps for activities such as maintenance and hygiene, educational materials for school activities, training modules, and manuals. Concerning manuals, manuals for CGDES organization, school O&M, school health were prepared in order for CGDES to take an initiative for an appropriate school management and O&M. These manuals were distributed to Departmental Directorate of Education and schools.

over the guidelines. Information related to the Guideline for activities was therefore not shared with parents. There is a strong possibility that the Guideline is not recognized as a guideline for school management and O&M.

- The interviews with the Implementing Agency revealed that the schools recognized the Guideline but did not conduct activities to promote the use of the Guideline. It would therefore be difficult to conclude that the Guideline contributed to the improved awareness of MEP/A/PLN/EC on school management and O&M.
- As for the manuals related to school O&M, approximately one-third of the schools implemented school O&M with the use of manuals. On the other hand, schools that implemented school O&M without manuals representing their own points of view were confirmed.

As mentioned above, the indirect effect expected from the project implementation was not adequately generated.

3.4.2 Other Impacts, Unintended Positive/Negative Impact

3.4.2.1 Impacts on the Natural Environment

There was confirmed to have been no negative natural environmental impact from the project implementation, according to the results of the interviews with the Implementing Agency and persons related to target schools. Moreover, no generation of noise or vibration that might have influenced daily living in the neighborhoods surrounding the schools was confirmed during the construction phase.

3.4.2.2 Land Acquisition and Resettlement

According to the interviews with the Implementing Agency and persons concerned with the schools, no land acquisitions or resettlement took place as a result of the project implementation.

At the time of the ex-post evaluation, it was confirmed that classrooms, toilets and school furniture procured by the Project were largely utilized as planned. The number of students who study in an improved environment was presumed to have reached approximately 91%²² of the target value. The target value, therefore, was nearly achieved. In addition, in all of the schools where the beneficiary survey was conducted, the expenses to be paid by the parents for the construction of the straw-hut schools was either waived or decreased, and the learning environment for most of the girl students was improved. Regarding the project impact, the handover of the Guideline by outgoing principals to incoming principals was poorly executed.

²² Actual increment of students (11,466) / Target increment of students (12,650)

And while the Implementing Agency clearly recognized the Guideline, activities to promote the use of the Guideline in schools were also insufficient. Nevertheless, the improvements in the learning environment helped enhance almost all of the students' motivation for learning.

The schools newly constructed by the Project helped greater numbers of students study in an improved environment, which is a significant direct effect in terms of effectiveness. The motivation for learning was improved, although the utilization of the Guideline was limited. It can be said that indirect effects were generated. The substantial direct effects from the school construction and the indirect effects were confirmed, so the effectiveness and impact of the Project are rated as high.

3.5 Sustainability (Rating : ②)

3.5.1 Institutional Aspects of Operation and Maintenance

Interviews with the Implementing Agency revealed that the roles and responsibilities of the respective agencies remained unchanged from the planning stage. It was also confirmed that the CGDES's role remained unchanged from the time of its initial establishment in the Ministry of Education ordinance (2003). The roles of the respective agencies are listed in Table 8.

Table 8 Roles and responsibilities of the agencies concerned

Name of agency	Roles and responsibilities
MEP/A/PLN/EC	<ul style="list-style-type: none"> • Formulation and implementation of educational plan and policy • Financial management • Construction of educational facilities; Evaluation of the educational system • Research and establishment of lesson content and teaching methods • Securing and executing budgets for principals' and teachers' salaries
Regional Directorate of Education	<ul style="list-style-type: none"> • Management of the Departmental Directorate of Education • Implementation of educational policy
Departmental Directorate of Education and Commune office	<ul style="list-style-type: none"> • Management of schools in charge • Formulation of an allocation plan for teachers • Request for the construction of educational facilities • Implementation of entrance examinations and promotion examinations for students
School (principal and teacher)	<ul style="list-style-type: none"> • Management and maintenance of schools • Educating students • Supports for CGDES
CGDES General Assembly	<ul style="list-style-type: none"> • Conducting the CGDES general Assembly (3 times/year) • Supports for CGDES when necessary
CGDES	<ul style="list-style-type: none"> • Authority of participation in the assessment of land values where schools are constructed • Supervision and authority of school construction • Responsibility of repair and maintenance of school facilities
Parents	<ul style="list-style-type: none"> • Payment for the re-construction of straw-hut classrooms • Savings for the repair of school facilities

(Source : Interviews with the Implementing Agency based on O/D report)

A CGDES officer in Departmental Directorate of Education has been responsible for monitoring the management of all schools in each Department. According to the interviews with the Implementing Agency and Departmental CGDES officers, the Government of Niger mandated that every school should establish a CGDES in 2005. Since then, the number of schools which the Departmental CGDES officer visited for monitoring has increased, making it difficult for just one officer to regularly monitor all of the school activities within a given region²³. Yet according to the beneficiary survey, about 95% of respondents (244 out of 256²⁴) answered that “The CGDES have engaged voluntarily in school management and O&M.” The CGDES is said to have implemented a relevant role in consideration of the difficulty of regularly monitoring the school O&M activities. The monitoring structures slightly differ from department to department, but they basically work as outlined below.

- 1) A Departmental CGDES officer visits schools and also conducts telephone interviews to monitor the situation of the school O&M
- 2) CGDES representatives from each school attend a CGDES General Assembly²⁵ held three times every year to share information about school management, O&M, and school health and hygiene.

There are also commune CGDES officers (hereafter referred to as “Fédération”) positioned underneath the Departmental CGDES officers to reduce the work volume of the latter, and each Fédération monitors subdivisions of its region. The CGDES, however, raised concerns that the monitoring skills of the Fédération may be lacking. The ex-post evaluation also looked into the allocation of the teachers in each school. The same principals stayed on from the planning stage to ex-post evaluation without switching at only 2 of the 28 schools. Teachers were allocated appropriately in these two schools, but no specific reasons were confirmed.

The school principals were changed at 26 out of 28 schools during the project period, so the appropriateness of the teacher allocation in each school could not be simply evaluated or compared between the planning stage and the ex-post evaluation. It was confirmed through the beneficiary survey, however, that the teachers in 10 out of these 26 schools were inappropriately allocated (e.g., a lack of teachers was allocated at the ex-post evaluation). The survey also clarified a view that the present number of teachers was insufficient to handle all the duties assigned to them because even now they needed to conduct classes and regular O&M of classrooms²⁶.” One reason for the inappropriate allocation of teachers is the system

²³ According to the Implementing Agency and Departmental Directorate of Education, the increase of number of Departmental CGDES officers is not planned.

²⁴ One respondent was unanswered.

²⁵ CGDES General Assembly is CGDES Assemblée Générale de la FCC in French.

²⁶ Departmental CGDES officers recognized the importance of the new allocation of teachers with increased number of classrooms. The budgets for the newly recruited teachers, however, were insufficient, so the new recruits were not allocated to the schools suitably according to the situation. The number of teachers newly recruited in each school was not confirmed.

of teachers' employment and allocation in Niger. There are two types of contracts for teachers in Niger. First are teachers employed by the Ministry of Education as civil servants who are dispatched to every region of Niger after their employment. Second are teachers employed by the regions on a contract basis. The first group, the teachers as civil servants, are employed and deployed according to planning of the Ministry. There are always some, however, who leave their positions after being appointed to new positions in the countryside. The number of teachers contracted by the regions, meanwhile, is insufficient. It is presumed that many teachers do not wish to work in the rural areas of the country²⁷.

Under the circumstances, issues to do with teacher allocation need to be sorted out. It is confirmed, however, that the roles and responsibilities of each agency are clear and a monitoring system is established. Thus, it can be said that the school management and O&M are largely functional.

3.5.2 Technical Aspects of Operation and Maintenance

According to the beneficiary survey, repairing school furniture and simple parts of school facilities were confirmed in 10 out of 28 schools (approximately 36%) based on the Manual for school O&M. Approximately 98% of the respondents (252 out of 257) answered "Yes" when asked whether CGDES was positively involved in the school O&M. When asked whether the school properly carried out O&M procedures, approximately 95% (244 out of 256 respondents²⁸) answered "Yes." A majority replied in the beneficiary survey that the CGDES appropriately conducted school O&M, but because it failed to conduct termite treatment and demolition of straw-hut classrooms, it is highly likely that the CGDES is not fully aware of the necessity of O&M and does not even have enough skills. In this sense, the CGDES hardly conduct "appropriate" school O&M. Therefore, there is a need to review and disseminate the Guideline and the manuals for school O&M in order to better understand and impart the correct knowledge amongst the CGDES.

3.5.3 Financial Aspects of Operation and Maintenance

At the time of project planning, it was estimated that the school O&M cost per new classroom with a toilet would be 56,000 CFA/year (approximately JPY 12,523, 1 CFA=JPY 0.22363 and 1,120CFA/student/year as of O/D). Since the schools will no longer need to raise money for replacing straw-hut classrooms (which would cost 72,000 CFA/classroom/year), it was estimated that this Project would reduce the money spent by local residents for school O&M. Table 9 shows the actual school O&M cost annually per school and the cost for the

²⁷ The education policy, "Programme Sectoriel de l'Education et de la Formation," however, calls for an increase of the number of teachers (e.g., 2,500 contract-based teachers to be newly recruited). Concurrently, 3,900 contract-based teachers per year are planned to be official civil servants.

²⁸ One respondent was unanswered.

replacement of straw-hut classrooms (in 2 out of 28 schools) at the ex-post evaluation, as revealed at the beneficiary survey. There was no confirmation as to whether the actual annual cost for school O&M was sufficient.

Table 9 Expenses per classroom re-constructed

Item	Amount (CFA/year)
Maintenance costs for a classroom with a toilet	58,700
(Expenses per student)	(1,330)
Expenses per classroom re-constructed (in the 2 schools)	87,000

(Source: Beneficiary Survey)

The amount of money actually collected for the school O&M for a year was 58,700CFA (approximately JPY 11,340, 1CFA=JPY0.19317 as of the time of the ex-post evaluation, in February 2016), more or less the same as the amount estimated during the project planning. On the other hand, the amount of money collected per student was 1,330 CFA/year, slightly more than expected during the project planning. Still, the amount expended by students in most schools was less, as repair costs for straw-hut classrooms were no longer necessary. The amount of money collected for school O&M for each school is more or less the same as expected. It is difficult to say, however, that the school O&M is carried out properly as expected, because some schools were unable to tackle problems with termites or repair cracks or damaged floors of the school facilities. Regarding the school O&M, it has been pointed out that the cost for each task has increased and that school O&M costs more than had been estimated. While they claimed that they saved the money left over from school O&M expenses collected, there were no records and the ex-post evaluation could not confirm the actual balance expended and left. The cost for replacing straw-hut classrooms was slightly more expensive than estimated during the project planning, but the cost is considered reasonable in light of the inflation rate.

According to the beneficiary survey, the school O&M is left entirely to CGDES and the Regional Directorate of Education does not have roles or responsibilities to secure the budgets for the O&M of schools. It was confirmed that each school receives no financial support for O&M from its department or commune.

3.5.4 Current Status of Operation and Maintenance

The beneficiary survey confirmed the continuous O&M of school facilities and the hygienic status of the utilization of toilets as stated below.

<O&M of facilities>

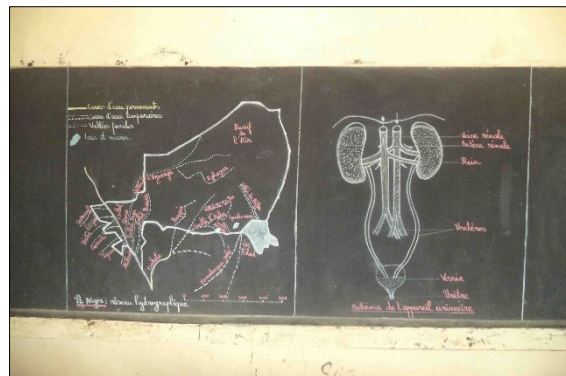
- According to the person related to schools, blackboards were repainted yearly in 27 out of the 28 target schools and savings for repainting blackboards were confirmed. Fittings, however, were not repainted, and savings for fittings were not pooled. The O/D report

recommends repainting for interior walls once every 10 years, for fittings once every 5 years, and for blackboards every year, for the sustainable and appropriate use of school facilities constructed by the Project. It would be difficult to say that the maintenance work was duly implemented on components other than the blackboards. Cracks on blackboards used every day were easy to find, but CGDES members failed to recognize the importance of school O&M maintenance because of the extended repainting interval for fittings and interior walls.

- Cracks were confirmed both inside and outside of the school buildings, especially inside.



Cracks found largely in the interior walls of schools (Kanembakache school, Department of Mayahi, Maradi Region)



Blackboard maintained appropriately (Djirataqua center school, Department of Madarounf, Maradi Region)

< Hygiene Environment >

- Toilets in 21 out of 22 schools where toilets were provided were utilized. The toilets in the remaining 1 school were not utilized due to a lack of water. The sustainable use of toilets requires the removal of waste materials and cleaning of the toilet water tank once every 3 years, as well as repainting of the interior walls and fittings. As it turns out, the removal of waste materials and cleaning of the toilet water tank had not been implemented even after the passage of approximately 6 years from the project completion. Furthermore, the interviews with persons related to school management reported that the CGDES did not secure budgets for these activities. The CGDES needs to recognize the importance of “securing maintenance costs for toilets” and should develop a routine to ensure that the expenses for toilets are understood, expenses are collected in a planned way, and payments are made. Table 10 shows the school management and O&M status confirmed by the interviews with the departmental CGDES officers and the beneficiary survey. No issues or problems beyond those described in the table were identified.

Table 10 Status of O&M for school facilities

Item	Status confirmed at the ex-post evaluation
Plan for school activity prepared by CGDES and the status of its implementation	<ul style="list-style-type: none"> Plans for school activities were prepared in all 28 schools targeted by the beneficiary survey Activities such as lessons on hygiene were implemented based on the plan in 27 out of 28 schools, but the types of activities implemented varied from school to school.
Status of monitoring by Departmental CGDES officers (implementation of periodic information exchange) and of support for the CGDES by Departmental CGDES officers	<ul style="list-style-type: none"> When problems the Fédération is unable to resolve are confirmed, the information is shared with the department CGDES officers during CGDES General Assembly. After the departmental CGDES officers interview the representatives of each CGDES by phone, they visit the schools to resolve the problems. The Department of CGDES officers recognize that the current monitoring system functions well. On the other hand, each CGDES pointed out that the Fédération's periodic monitoring during the CGDES General Assembly was not conducted with sufficient timeliness to share issues or resolve problems. The Fédération was also noted to have lacked sufficient practical knowledge and skills and the monitoring system still has issues.

(Source: Interview with the Implementing Agency and Beneficiary Survey)

CGDES members in 28 schools were interviewed about the personnel in charge of the school facility inspection and the frequency of the inspection. Table 11 shows the results of the interviews. The results of the inspection are confirmed to have been reported to the school principals, teachers, and CGDES members after the inspection.

Table 11 Person in charge of inspection and frequency of inspection

Person in charge of inspection (28 target schools)	Principals and teachers	26 schools (Approximately 93%)
	CGDES member	2 schools (Approximately 7%)
Frequency of inspection (28 target schools)	Once in a week	2 schools (Approximately 7%)
	Once in a month	3 schools (Approximately 11%)
	Once in 3 months	2 schools (Approximately 7%)
	Once in a year	3 schools (Approximately 11%)
	As necessary	18 schools (Approximately 64%)

(Source: Beneficiary Survey)

The table below confirms issues regarding the current O&M status of the school facilities and toilets pointed out during warranty inspection in the 28 schools targeted by the beneficiary survey.

Table 12 O&M status of the school facilities and toilets

Items confirmed	Status confirmed at the ex-post evaluation
Cracks in classrooms	Minor cracks due to age deterioration were confirmed
Fitting (e.g., classroom doors and windows) and clasps	No problem was confirmed.
Blackboards in classrooms	Implementation of periodic O&M was confirmed.
Cracks in roof beams	No problems were confirmed.
Toilets and furniture for classrooms	As mentioned in “3.3 Effectiveness.”

(Source: Field Survey)

School principals correspond to results of O&M for school facilities informed by teachers and CGDES members. The frequency of O&M for school facilities differs in each school. Some schools implement O&M every week, while others implement it over wide-ranging time frames such as once a year. The minor items are confirmed to have been repaired by CGDES, but items such as cracks, floor repair, termite treatment, and abolishment of schools built with straw, items CGDES cannot solve itself, remain unsolved. To respond to hygienic conditions in the learning environment, the school health committees and health clubs established by the Project successfully inculcated the daily habit of hand-washing after the use of toilets by the students. As mentioned above, however, toilets were not cleaned as planned and there were differences in the implementation status for activities. Under this circumstance, more extensive activation of school health committees and health clubs is recommended.

As indicated above, minor problems with institutional, technical, and financial aspects of O&M system were observed. The sustainability of the project effects is therefore rated as fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objective of this Project was to enable appropriate school management and improve the hygienic learning environment by constructing permanent classrooms to replace straw-hut classrooms and toilets at primary schools in the regions of Maradi and Zinder, thereby contributing to an improved educational environment in primary education in the target areas. This Project was highly relevant to the Niger’s development plan that focused on improving the accessibility of primary education and its development needs as the educational environment in the two target regions needed to be improved urgently. The Project was also in accordance with measures taken under Japan’s ODA policy toward Niger. Therefore, the relevance of the Project is high. Although the project cost was as planned, the project period exceeded the plan. The efficiency of the plan is therefore rated as fair. The construction of school facilities and toilets and the procurement of desks and chairs contributed to increase the number of students who study in an improved environment and decrease the number of students per classroom. The

school environment was therefore remarkably improved. The provision of toilets helped to improve the school attendance by girls, and the financial burdens required for reconstruction of straw-hut classrooms were decreased in most of the target schools. The Guideline for activities formulated under the project soft-component (hereafter referred to as the “Guideline”) and the manuals for guiding school management and O&M were confirmed to have been used on only a very limited basis, and school O&M was not implemented as expected under the Project. On the other hand, an increase of the students’ motivation to study was confirmed as a project impact, so the effectiveness and impact of the Project are rated as high. Concerning the institutional aspect on O&M, a lack of teachers caused some undermanned schools teacher allocation, but the roles and responsibilities of each agency including schools related to the Project became clear. School management and O&M for schools on technical aspects were, however, not appropriately implemented based on the Guideline and manuals. Persons related to school management recognized the necessity of securing funds for school management and O&M and secured them accordingly. However, as the revenue and expenditure for school facilities was inaccurately recorded, appropriate fund management such as keeping records of revenue and expenditure is hoped to take place in the future. Under these circumstances, the sustainability of the project effect is rated as fair.

In light of the above, this Project is evaluated to be satisfactory as a whole.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

- Review of monitoring framework

Officers known as “Fédérations” in the commune offices generally monitor the CGDES activities in each school. During the ex-post evaluation, however, the monitoring skills of the Fédérations were confirmed to be insufficient and school facilities in need of repairs were left unrepaired. The situation compelled the CGDES to demand the Departmental CGDES officers to monitor the schools. The means by which the Fédérations secure a monitoring framework and the means by which the departments of CGDES officers engage more actively in monitoring need to be considered from this time forward. Only one Departmental CGDES officer is allocated in each department, and it seems difficult for the department to monitor all of the schools under its purview periodically. Considering that facilities in need of repairs are left unrepaired, the departments of CGDES officers need to be further involved in monitoring and the monitoring skills of the Fédérations who monitor the schools on a routine basis need to be improved.

- Use of the Guideline and Manuals

It was expected that effects generated by the Project remained and activities implemented by the Project were to disseminate to other schools after the project completion through the use of manuals and the Guideline for activities formulated by the Project for the improvement of school management and O&M. According to the beneficiary survey, the Guideline and manuals were not well known even among the target schools personnel and therefore were not utilized as planned. Some schools were confirmed to have implemented O&M for school facilities without the use of the Guideline or manuals. The Guidelines and manuals feature the basic matters of school management and O&M. These materials, together with additional provisions which can be designed to meet the specific needs of each school, will help the schools to conduct management and O&M in an appropriate manner from a long-term perspective. Thus, it is recommended that the CGDES and target schools should review, if necessary, and make the most of these Guidelines and manuals.

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

- Securing the handover of the Guideline and manuals

The ex-post evaluation revealed that the rate of Guideline and manual utilization was approximately 40%. One explanation for the low utilization rate may be a failure to hand over the Guideline and manuals when CGDES members including school principals are replaced. Some school principals and teachers were unable to identify the Guideline and manuals, and some parents likewise lacked knowledge of their existence.

In order to ensure the use of the Guideline and manuals, awareness and recognition of the Guideline and manuals should be heightened and a protocol should be clearly defined for handing over the Guideline and manuals during the replacement of personnel such as CGDES members who implement O&M for school facilities. CGDES members and parents also need to recognize the importance of handing over the Guideline. If the handovers are not appropriately done, it will be necessary to develop an environment which allows the CGDES officers in local administrative organizations (the Regional/Departmental Directorates of Education and communes) to point out any problems that they find out.

Republic of Senegal

FY2015 Ex-Post Evaluation of Japanese Grant Aid Project

“Project for the Reinforcement of the Vocational and Technical Training Center (CFPT)
Senegal-Japan”

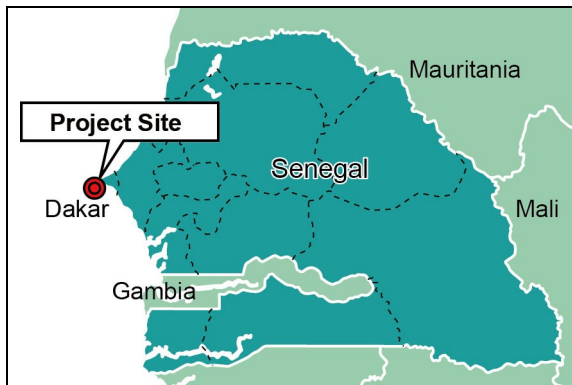
External Evaluator: Miho Kawahatsu, OPMAC Corporation

0. Summary

The objective of this project was to improve the quality of engineering education and training desired by industry, through the construction of facilities such as a building for Maintenance of Heavy Machinery courses and the procurement of equipment for two newly opened high level technician (Brevet de Technicien Supérieur: BTS) courses (Maintenance of Heavy Machinery, Maintenance of Construction Equipment) and three existing BTS courses (Electronic Machinery, Automatics, and Informatics) in the Vocational and Technical Training Center (Centre de Formation Professionnelle et Technique CFPT), thereby contributing to fostering human resources in the industrial sector as the foundation of economic development. The relevance of this project is high, as it was relevant to the policies and needs of Senegal both at the time of planning and the ex-post evaluation, as well as to the ODA policy of Japan at the time of planning. Also, the project was carried out as scheduled and provided the planned outputs. The project cost and project period were mostly within the plan. Therefore, the efficiency of the project is high. With regard to effectiveness, it has been confirmed that the total number of trainees in the BTS courses and the average BTS acquisition rate of trainees on all three existing courses have substantially increased. Furthermore, those in related business circles are in favour of improved quality of CFPT training service as this is fairly demonstrated in increases in CFPT income, the source of which is mainly from the holding of seminars for private enterprises. Also, as a qualitative effect of the improvement of the training environment, it has been confirmed that the project has particularly contributed to strengthening practical training. By the same token, with regard to intended impact, the contribution of CFPT in the fostering of skilled graduates who meet the needs of industry has also been confirmed, and there have been a series of international and domestic training activities, and an increase in the intake of foreign trainees. Thus, the effectiveness and impact of this project are high. Regarding sustainability, although equipment and facilities procured by the project are in good condition, there is a concern about the institutional aspect since CFPT has suffered from the resignations of instructors in recent years and thus faces the challenge of how to recruit instructors as well as how best to train and retain young instructors. This will affect the financial and technical aspects if the problem is not properly solved. Therefore, the sustainability of this project effect is fair.

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

1. Project Description



Project Location



Building for practical training
(Maintenance of Heavy Machinery Course)

1.1 Background

The government of Senegal has undertaken a series of structural adjustment reforms since the 1990s and this endeavour has put the economy on a track to growth. Also, relatively stable macro-economic management has allowed the maintenance of a positive growth rate. Under the previous administration led by President Wade, the government embarked on large-scale economic infrastructure development programs that brought about the construction of commercial buildings, hotels and an urban road network which extended from downtown to the suburbs of Dakar. Concurrently, a large-scale intraregional construction plan has been initiated, including the Road Improvement and Transport Facilitation Program on the Southbound Bamako-Dakar Corridor. However, the booming construction business required the maintenance of heavy machinery and construction equipment; it thus elicited an unprecedented shortage of technicians and engineers. In order to make up this inevitable downside, dependence on engineers from abroad became an issue. As a growing industry with international competitiveness had not yet been fostered, there were concerns that, with the fragile economic structure, there would be further soaring deficits, both fiscal and in the current balance of payments.

Furthermore, in a projection from 2005 onward, it was estimated that the population would almost double in a 30-year period. Such rapid growth of the young population in particular has been considered problematic as it may likely result in massive unemployment of the young labour force by the application of *Ceteris paribus*, i.e. "all other things being the same." Therefore, effective job creation to cope with population growth has always been a pressing issue for the government.

As above, in order to achieve sustainable economic growth, it has been an urgent task to train young people to become the skilled workers who can fulfil the labor demands for the building

of an economic infrastructure. However, there was no public institution in Senegal to provide vocational and technical training and education in this area. The government of Senegal, therefore, requested the assistance of the government of Japan and through it was able to open two new courses in CFPT¹, where Japan had already assisted through grant aid and technical cooperation projects, and which had been the important regional hub for the development of human resources for the industrial sector in West Africa since its establishment in 1984.

1.2 Project Outline

The objective of this project was to improve the quality of engineering education and training desired by industry, by the construction of facilities such as a building for Maintenance of Heavy Machinery courses and the procurement of equipment for the BTS courses (two new courses and the existing three courses) in CFPT, thereby contributing to fostering human resources in the industrial sector as the foundation of economic development.

<Grant Aid Project>

E/N Grant Limit / Actual Grant Amount	1,074million yen / 1,054million yen
Exchange of Notes Date (/Grant Agreement Date)	March, 2011 / March, 2011
Implementing Agency	Centre de Formation Professionnelle et Technique Sénégal-Japon (CFPT)
Project Completion Date	August, 2012
Main Contractor	Construction & Procurement of Equipment Consortium of Toda Corporation and Sirius Corporation (for the maintenance of heavy machinery course)
	Procurement of Equipment Kanto Bussan Co., Ltd. (for the other 4 courses)
Main Consultant	Consortium of INTEM Consulting, Inc. and Yokogawa Architects & Engineers, Inc.
Basic Design	December, 2010

¹ Established in 1984, CFPT, as a public vocational training center, providing two diploma programs: industrial technician (Brevet de Technicien de l'Industrie: BTI) and high level technician (Brevet de Technicien Supérieur: BTS). BTI is a three-year program for junior-high school graduates, consisting of 3 courses: electrotechnics, automobile engineering and electronic machinery. BTS is a two-year program at the junior college level, consisting of five courses: the maintenance of heavy machinery (opened by the project) and the maintenance of construction equipment (opened by the project), electronic machinery, automatics, and informatics. Daytime classes are free for Senegalese trainees, but night classes are subject to fees. All foreign trainees are obliged to pay for tuition.

Related Projects	<p>[Grant Aid]</p> <ul style="list-style-type: none"> - Vocational and Training Center Construction Project (1982-1984) - The Vocational Training Center Expansion Project (2003) <p>[Technical Corporation]</p> <ul style="list-style-type: none"> - The Senegal-Japan Vocational Training Center (1984-1991) - The Senegal-Japan Vocational Training Center After Care I (1995), - The Senegal-Japan Vocational Training Center Expansion Project (1999-2004) - Entrepreneurship and Management Development (2006) - Project for Reinforcement of CFPT Senegal-Japan (2011-2015) <p>[Non-JICA project]</p> <ul style="list-style-type: none"> - CIDA “curricula formulation for the course of Maintenance of Construction Equipment” (2011)
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2. Outline of the Evaluation Study

2.1 External Evaluator

Miho Kawahatsu, OPMAC Corporation

2.2 Duration of Evaluation Study

Duration of the Study: October, 2015 – November, 2016

Duration of the Field Study: February 14, 2016 – February 27, 2016, and May 23, 2016 – May 31, 2016,

3. Results of the Evaluation (Overall Rating: A²)

3.1 Relevance (Rating: ③³)

3.1.1 Relevance to the Development Plan of Senegal

At the time of project planning, the Second Poverty Reduction Strategy Paper (Document de Stratégies de Réduction de la Pauvreté: DSRP II) had been formulated in 2006 to serve as a framework for national development policy. With regard to the 4 main pillars of the strategy, the following areas were to be retained: 1) wealth creation, 2) the promotion of access to basic social services, 3) good governance and decentralized and participatory development, 4) social protection, prevention and the management of risks and disasters. Furthermore, for the encouragement of substantive job-creation, it emphasized technical and

² A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

³ ③: High, ② Fair, ① Low

vocational education and the training sector. Later, a follow-on strategy, the National Strategy for Economic and Social Development (Stratégie Nationale de Développement Économique et Social 2011-2015: SNDES) highlighted the strategic path which Senegal must follow in the context of poverty reduction. As its strategic axes, it emphasized “growth, productivity and wealth creation”, “human capital, social protection and sustainable development” and the development of the selected strategic sectors. Furthermore, employment was addressed as a cross-cutting issue for the strategy. With the advent of a new administration in 2012, “SNDES 2013-2017” was revised with a new timeframe. However in 2014, it was incorporated into the Emerging Senegal Plan (Plan Senegal Emergent: PSE) that had been formulated in 2012. At the time of the ex-post evaluation, with the aspiration of joining other emergent nations by 2023, the ten-year strategic orientation of the PSE was based on the following three axes: 1) structural transformation and growth of the economy, 2) governance, systems/institutions, security and social stability, and 3) human capital, social protection and sustainable development. Socio-economic growth is envisioned through a balanced approach with the reinforcement of human development in areas such as education and health services. In terms of financing the strategy, notably it is stated that some projects and programs are to be financed by matching funds under the auspices of public-private partnership. A collaborative role on the part of the private sector is thus featured in national development.

With regard to education policy at the time of project planning, the Ten Year Programme for Education and Training (Programme Décennal de l'Éducation et de la Formation, 2000-2010: PDEF) placed high importance on technical and vocational education and the training sector in the three strategic sectors of construction, food processing, and port & harbor improvement. As such, the selected fields of the project — the maintenance of heavy machinery and construction equipment — were in line with the strategic intent of upper level policy. At the time of the ex-post evaluation, in the Program to Improve the Quality, Equity and the Transparency of the Education and Training Sector (Programme d'Amélioration de la Qualité, de l'Équité et de la Transparence dans l'Éducation et de la Formation, 2013-2025: PAQUET-EF) which was adopted by the current administration, the significance of vocational and technical training in terms of poverty reduction and economic modernization was concurrently emphasized as addressed in the PSE above. Furthermore, in order to crystallize the policy directions stated in the PAQUET-EF such as the promotion of strong public-private partnerships in aspects of decision making and the mobilization of funding for public vocational and technical training centers, the basic law stipulating provisions for national vocational and technical training was revised and then became effective as of January 2015.

Thus, a project aiming to improve vocational and technical training and education was

relevant to Senegalese development policy, growth strategy, education policy and related laws both at the time of project planning and ex-post evaluation, and the issue has been consistently and clearly addressed.

3.1.2 Relevance to the Development Needs of Senegal

The following observations illustrate the need for human resources in the industrial sector, both at the time of project planning and ex-post evaluation, in related fields based upon the business trends of incorporated enterprises in Senegal.

According to the corporate analyses report⁴ issued by the National Agency of Statistics and Demography (Agence Nationale de la Statistique et de la Démographie: ANSD), since the implementation of the PSE in 2012, the general business environment has mostly improved, furthering private sector development as the number of enterprises in all sectors has steadily increased (see Fig. 1). However, the trends in the related sectors⁵: “Others in the Industrial Sector” and “Construction and Civil Engineering Work”, indicate that compared to the commerce and service sectors, the number of enterprises in the industrial sector has been consistently small, although increasing yearly, as shown in Fig. 1. Moreover, according to a productivity analysis by the ANSD, the percentage of personnel costs in total added value⁶ in the industrial sector has risen up to 60.2% in recent years. There is a concern that this rise, elicited by a continued serious shortfall in desired human resources, has been pushing down the profit ratio of the sector⁷. In addition to this, a significant portion (43.3%) of equipment in the sector has become obsolete over the period 2008 to 2012⁸. Also, at the time of the ex-post evaluation, since it may not always be possible for the management of each business to renew equipment, it was deemed indispensable that productivity performance was maintained by the proper maintenance of existing equipment.

The macroeconomic data obtained by the ANSD shows a decline of total added value production in the industrial sector⁹ and there is a concern, based on the analysis, that there has been a shortfall in the desired human resources in such industries. Therefore, it was seen

⁴ Ministère de L' Economie, des Finances et du Plan, Agence Nationale de la Statistique et de la Démographie, Banque de Données Economiques et Financieres, Dec.2015.

⁵ In corporate statistics in Senegal, enterprises are classified into four sectors: "industrial", "service", "commerce", "construction and civil engineering." These are further divided into 35 smaller categories. For example, "the food processing industry" in the industrial sector is further classified into nine groups by type of food. In addition, "others" in the industrial sector is classified into nine groups. Energy-related and mechanical industries fall into this category. Of the service industry, "other personal services" refers to repair shops, education, medical care and the other services. On the other hand, "others" in commerce refers to either retailing or wholesaling.

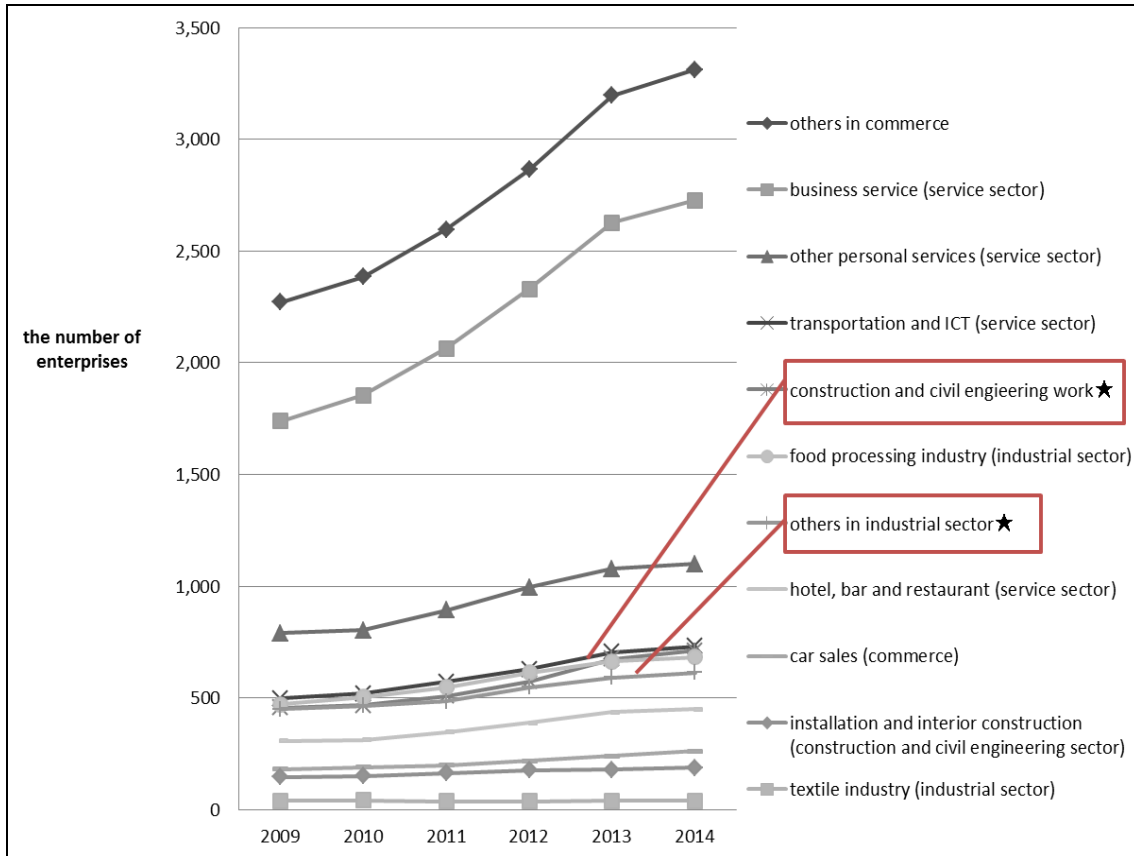
⁶ Total added value is generally obtained either by deducting the various production costs of raw materials, purchase, fuel and outsourcing from total production, or by summing up operating profit, personnel expenses, rent, royalties, amortization expenses, etc.

⁷ ANSD (2015), op.cit., p5.

⁸ ANSD (2015), op.cit., p7.

⁹ ANSD (2015), op.cit., p3.

at the time of ex-post evaluation that there had been a continued need for human resources in the industrial sector and for acquisition of the skills required for the operation and maintenance of equipment.



Source: Compiled based on two tables from Ministère de L' Economie, des Finances et du Plan, Agence Nationale de la Statistique et de la Démographie (ANSD), Banque de Données Economiques et Financieres, Décembre 2015, pp.15-16.

Figure 1: The Number of Domestic Enterprises by Sector in Senegal

With regard to the balance of payment in two respective areas (Table 1 and Table 2), there was a pressing need for the right sets of skills for the operation of imported equipment and the use of materials, since the expansion of economic infrastructure development at the time of project planning. Furthermore, both the use of heavy machinery and construction has increased imports of related equipment in recent years. Also, there has been a constant excess of imports in both areas. It can be said that the practical sets of skills and expertise in these sectors are desirable in order to handle foreign materials as well as to operate equipment that is manufactured abroad. Therefore, the equipment procured by the project to be utilized in training was to meet these very needs.

Table 1: Balance of Payment for the Heavy Machinery Sector

Unit: billion CFA¹⁰

	2009	2010	2011	2012	2013	2014	2015
Import	6.1	11.3	9.1	12.5	19.3	15.2	19.8
Export	0.3	1.0	0.9	3.1	0.1	1.6	2.6

Source: ANSD

Table 2: Balance of Payment for the Construction Sector

Unit: billion CFA

	2009	2010	2011	2012	2013	2014	2015
Import	20.3	21.8	22.3	23.7	26.6	29.1	27.0
Export	1.6	2.0	1.5	1.4	1.2	1.8	1.8

Source: ANSD

The aforementioned report by the ANSD gives a breakdown of the total operating expenses by sector and includes the amounts for the annual external service¹¹ costs in construction and civil engineering work¹². According to an interview with the ANSD, as there were not many domestic enterprises of good standing in the construction and civil engineering sector, the external service costs are virtually equivalent to the payments for technical services made by foreign enterprises. Business in the sector is increasingly dependent on foreign enterprises. Table 3 shows the percentage of the external service cost: the cost of outsourcing technical services in the sector abroad has risen to around 30% of the total operating expenses in recent years. Therefore, from the point of view of improving profitability in construction and civil engineering, it is essential that skilled Senegalese technicians of relatively low cost are trained to effectively replace external services. Likewise, in terms of macroeconomic management, in order to narrow the trade balance deficit as well as promoting economic infrastructure development, it is important to facilitate the process of the domestic substitution of external services, first and foremost by producing many more skilled workers, and then by improving the job market so that they can promptly perform to the fullest extent in Senegalese enterprises.

Table 3: External Service Costs in Construction and Civil Engineering work

Unit: million CFA

	2009	2010	2011	2012	2013	2014
External Services	78,213	75,636	116,260	180,465	183,816	185,655
Total Operating Expenses	399,556	375,970	509,932	608,431	602,087	559,438
Ratio of External Services against Total Operating Expenses (%)	19.5	20.1	22.7	29.6	30.5	31.2

Source: Ministère de L' Economie, des Finances et du Plan, Agence Nationale de la Statistique et de la Démographie (ANSD), Banque de Données Economiques et Financières, Décembre 2015, p264

¹⁰ CFA francs (CFA) have a fixed exchange rate to the EURO. At the time of ex-post evaluation, 1 CFA was equivalent to 0.17 JPY.

¹¹ It refers to the outsourcing necessary services in order to produce and/or sell their own products or services.

¹² It's called BTP (Bâtiments et Travaux Publics)

As the graduates of the two new courses targeted by the project will be most likely be employed by enterprises in the sector of construction and civil engineering work, which has been growing in recent years, this may mean that the number of enterprises which are able to hire trainees of CFPT are also increasing. According to the beneficiary survey described in detail later, almost all respondents from enterprises said that they always seek and welcome candidates who have a good skill set. On the other hand, it is also true that some enterprises in the industrial sector most likely face critical challenges such as financing for the renewal of existing equipment as well as inevitable price hikes for certain raw materials and equipment. With such management priorities the employment situation for young unskilled workers will certainly be harsh.

Therefore, the project has been highly relevant to the development needs for the training of competitive and skilled technicians and engineers in Senegal.

3.1.3 Relevance to Japan's ODA Policy

At the time of project planning, the Country Assistance Policy for Senegal in May 2009 had described the need for vocational and technical training and education as one of the objectives of "fostering human resources in the industrial sector" under the section "laying the foundation for sustainable economic development." Here, human resources in the industrial sector were deemed to serve as an engine of the building of a foundation for economic growth. More specifically, regarding the assistance for CFPT, it has been clearly stated that in light of the promotion of human resources development and employment aligned with needs of industry in Senegal, Japan has mainly assisted CFPT, which has been playing a leading role in the training of middle and high level technicians since its establishment in 1984. Also, the intention has been to seek further development.

Therefore, as CFPT was the specific target in the country assistance policy for Senegal, the project was relevant to Japan's ODA policy.

This project was highly relevant to Senegal's development plan and development needs, as well as to Japan's ODA policy both at the time of planning and the ex-post evaluation. Therefore, its relevance is high.

3.2 Efficiency (Rating: ③)

3.2.1 Project Outputs

Details of the planned outputs of the project are shown in Table 4 and 5.

Table 4: Construction plan: facilities for the Maintenance of Heavy Machinery course

Floor	Main components	Floor area
“Maintenance of Heavy Machinery” building		
2fl.	2 Classrooms, multi-functional rooms etc.	234.90m ²
1fl.	Entrance, Space for practice of operations, Hangar, Storage, Teachers’ room, Changing room, Electric lab room, Injection pump room, etc.	950.68m ²
Power generation building		
1fl.	Electric control room, Non-utility generator room	42.00m ²
Total		1,227.58m ²

Source: Reference document provided by JICA

Changes from the original construction plan were only minor ones¹³. As CFPT requested them on the grounds of usability improvement, they are deemed to be adequate.

Table 5: Procurement plan for training materials

Equipment by course	Quantity
Maintenance of construction equipment	
Training materials for Electrotechnics and electronic machinery (renewable energy and installation of photovoltaic (PV) panels etc.)	62
Training materials for teleinformatics (intercommunication network system etc.)	65
Training materials for air-conditioning and refrigeration	26
Maintenance of heavy machinery	
Bulldozer	1
Backhoe loader	1
Training materials for diesel engine	7
Sets of general tools	10
Set of repair tools	14
Set of special tools	3
Major components for assembly/disassembly	13
Testing stand device for injection pump	1
Forklift	1
Electronic simulator	3
Simulator for ABS brake	1
Electronic machinery	
Training materials for electronic machinery (grinding machine, lathe etc.)	106
Training materials for hydraulic system	4
Training materials for pneumatic system	8
Automatics	
Training materials for automation system (production process system model etc.)	52
Informatics	
Training materials for ICT (server, PC etc.)	110
Common for all courses	
Training materials for drafting	20
Equipment to make teaching materials for the Third Country Training Program (projector etc.)	9

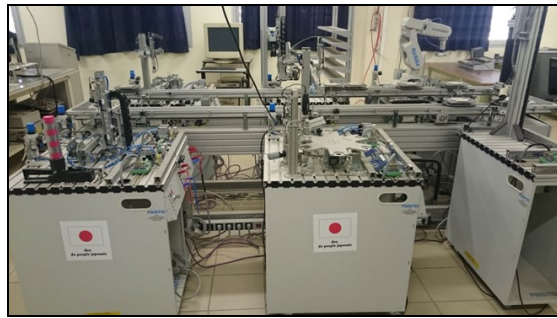
Source: Reference document provided by JICA

¹³ (1) Move lavatories for trainees from the 2nd floor to the 1st floor, (2) move a changing room to the 2nd floor, and replace the space with storage on the 1st floor; (3) move tool storage to replace the space of the men’s lavatory (for trainees) on the 2nd floor.

Procured equipment was almost as planned both in the quantity and items¹⁴. Major equipment is regularly maintained and cleaned so that it is ready for use on a daily basis. Also, equipment is always protected from dust with a cover whenever it is not in use for training. By and large, the operational status is considered to be good. CFPT reported that only the forklift recharger was broken and that the forklift could not be used. However, during the field study, a trainee was able to fix it and it was confirmed working without problems.



Installation of photovoltaic (PV) panels training equipment with a cover (Maintenance of Construction Equipment Course)



Production process system model (Automatics Course)

The outputs that were to be undertaken by Senegalese side, such as the removal of obstacles, fence installation, waste disposal, utilities and fire-extinguisher appliances during construction and tax exemption procedures, were mostly carried out and disbursed as planned. However, regarding fence installation, as there was a large open area of public land with no adjacent buildings and roads around the construction site, CFPT reported that it had been decided not to build the fence to enclose the site as physical damage to people or physical objects was not foreseen. There was no bottleneck or other problem caused by not having a fence during the construction period.

3.2.2 Project Inputs

3.2.2.1 Project Cost

The planned project cost was 1,073 million yen for the Japanese side and 9 million yen for the Senegalese side. Thus the total planned cost was 1,082 million yen. Of the planned cost, the actual cost borne by the Japanese side was 1,054 million yen. Thus was due to the fact that, for the enhancement of efficiency, CFPT requested that the method of procurement be changed so that the total contract work for equipment could be divided

¹⁴ When CFPT inspected equipment received, they pointed out that they had requested a “grinding machine” for the electronic machinery course and not the drill machine that had actually arrived. This was therefore additionally procured during project implementation.

into 2 lots and assigned by each contracting party¹⁵. As such, unnecessary transaction costs of procurement and for the work period were reduced as expected.

As stated above, the total actual cost, including the 9 million yen Senegalese financial burden, was 1,063 million yen against an EN grant limit of 1,074 million yen (98%). Thus it was mostly as planned.

3.2.2.2 Project Period

The planned project period was 18 months at the time of project planning. The project was implemented from March 2011, the time of the Exchange of Notes, until August 2012. Thus the actual total project period was 18 months as planned.

Both the project cost (98% to the planned cost) and project period (100% to the planned period) were mostly within the plan. Therefore, the efficiency of the project is high.

3.3 Effectiveness¹⁶ (Rating: ③)

3.3.1 Quantitative Effects (Operation and Effect Indicators)

(1) Operation Indicator

The number of trainees on all five BTS courses was identified as an operation indicator.

Table 6: Comparison of the Target and the Actual of the Operation Indicator

Number of trainees (of 2 Grades)	Baseline value	Target value	Actual Value			
	2009	2015	2012	2013	2014	2015
	Planning year	3 years after completion	Completion year	1 Year After Completion	2 Years After Completion	3 Years After Completion
Maintenance of Construction Equipment (open after the project)	0	32	16	32	30	28
Maintenance of Heavy Machinery (open after the project)	0	32	16	31	32	30
Electronic Machinery (existing before the project)	40	48	96	111	109	101
Automatics (existing before the project)	32	48	66	68	87	93

¹⁵ The contract work was divided into 2 Lots as following;

Lot 1 (Construction of a building for maintenance of heavy machinery courses & Procurement of Equipment): Cautious coordination was required to create a building design to retract heavy machinery and the pipe arrangement for utilities and air-conditioning. A construction company consortium was adopted to build the facilities and a trading company used to procure equipment.

Lot 2 (Procurement of Equipment planned to be installed in the existing facilities): By combining the type of practical training equipment for which price competition was less likely to occur, and generic products such as PCs for which price competition was most likely to occur, the makeup of Lot 2 on the whole provided economies of scale as well as price competition. It was thus assumed that both the total transaction cost would be reduced and the bidding process facilitated.

¹⁶ Sub-rating for Effectiveness is to be put with consideration of Impact.

Number of trainees (of 2 Grades)	Baseline value	Target value	Actual Value			
	2009	2015	2012	2013	2014	2015
	Planning year	3 years after completion	Completion year	1 Year After Completion	2 Years After Completion	3 Years After Completion
Informatics (existing before the project)	32	48	59	75	96	88

Source: CFPT

Note: At the time of project planning, the quota for the 2 new courses was set at 16 people per grade. It was planned that the quota for the existing 3 courses would increase to 24 people by the target year. All BTS courses require a 2-year training period. Thus the basis for the target value was primarily set to fulfil the planned quota described above.

In order to evaluate the actual value, we have reviewed the current enrollment status of both daytime and night classes including whether the actual numbers of trainees fell below the quota¹⁷. With regards to the two new courses, the actual figure is slightly below the target. According to CFPT, a reason why the target was not reached is that among those who passed exams, some declined to enter as they decided to study abroad. Also, CFPT would not admit any candidate who failed to meet the standard, just to fill up a vacancy. Moreover, at the time of the ex-post evaluation study, it was not yet permissible to open new night classes, which may include corporate training, as the government required 3 to 4 years of steady training as a prerequisite for authorization. Therefore, the reason that the target figure was not reached was not because of a lack of popularity, but was a consequence of the current admission system through which CFPT duly selected eligible candidates.

With regards to the actual figure for the existing three courses, after project completion, CFPT decided to increase the quota following a visit from the Minister in charge of vocational training to request that the CFPT management double the number of trainees. This indicates a strong recognition on the part of the government regarding the importance of human capacity development in the industrial sector in which CFPT has been engaged for years.

As stated above, with regard to the two new courses, it can be said that the intended objective was essentially achieved. Also, considering that the overall number of trainees in the existing three courses has more than doubled, the project has accomplished presupposed effectiveness.

(2) Effect Indicator

The target was to increase from the baseline value of the average BTS diploma acquisition ratio, the employment rate of BTS graduates and CFPT self-generated income to measure effectiveness.

¹⁷ All courses except the two new courses have opened night classes that are subject to fees. The majority of the trainees are employees of enterprises.

Table 7: Comparison of the Target and the Actual of the 3 Effect Indicators

	Baseline value	Target value	Actual Value			
	2009	2015	2012	2013	2014	2015
	Planning year (2010)	3 years after completion	Completion year	1 Year After Completion	2 Years After Completion	3 Years After Completion
(1) BTS diploma acquisition ratio (%) (Average of all courses)	Revised baseline value 89.4% ^(*)	Increase	N/A ^(*)	79.3% *New courses were not yet applicable	75.8% *Average figure of the existing 3 courses is 96%	85.6% *Average figure of the existing 3 courses is 93%
Maintenance of Construction Equipment			--	--	44	67
Maintenance of Heavy Machinery			--	--	47	81
Electronic Machinery			--	77	97	95
Automatics			--	97	96	97
Informatics			--	64	95	88
(2) Employment rate of BTS graduates (%)	80%	Increase	N/A ^(*)			
(3) CFPT self-generated income and revenue from seminars for private enterprises (CFA) ^(*)	235,297,023 (14,756,500)	Increase	217,437,572 (10,920,000)	235,365,000 (31,200,000)	198,143,923 (12,424,300)	202,574,500 (19,452,000)

Source: CFPT

Note 1: The baseline value was originally 91% at the time of project planning. However, according to data obtained from CFPT at the time of the ex-post evaluation study, the figures for the existing 3 courses were 88.5% (Electronic machinery), 84% (automatics) and 95.8% (informatics). Thus, the average value of the baseline was revised as 89.4%.

Note 2: Relevant data for the year 2012 is missing at CFPT.

Note 3: CFPT has stopped collecting data about graduates' employment status since 2009.

Note 4: Those figures shown in parentheses are revenue from Public-Private Partnership (PPP) related activities such as the holding of seminars for enterprises. The classified items for self-generated income consist of tuition of night class trainees, tuition of foreign trainees, seminar participation fees from enterprises, third country training program grants, and miscellaneous income from facility usage charges such as dormitory rooms for foreign trainees, a cafeteria, an athletic field and classrooms.

(1) BTS diploma acquisition ratio

Taking into account each actual value of the ratio by course, the low ratios for the two new courses push down the average figure for all BTS courses. According to CFPT, for those industrial fields, the BTS examination method of the government has been changed to be based on an approach¹⁸ that is limited to a set of technical skills that relevant private enterprises find necessary. It was extremely difficult for CFPT to make a timely revision of curriculums and pedagogical content for the first year trainees. However, the figures of success rates improved in 2015, as revision and reform has made steady progress.

¹⁸ Introduction of the concept of the competency-based approach, namely l'Approche Par Compétences (APC) in French to the vocational training, was mainly supported by the Canadian government. In the context of the new courses of CFPT, CIDA selected several enterprises to let them choose an essential skill set to be learned intensively. MFPA decided to use the concept of APC for the national examination for BTS. Consequently, CFPT needed to eliminate some of the ongoing class subjects and reform pedagogy and the overall curriculum.

Furthermore, considering that the baseline value of 89.4% was calculated by the ratios of the existing three courses, it is notable that the exclusive acquisition rate of the three courses increased to 93%, in spite of the fact that the number of trainees per instructor in the courses doubled. Table 8 shows that the national average has remained stagnant at around 50%. There is the reservation that a comparison at face value of the average figures includes different subjects, however, generally speaking, the CFPT achievement is noteworthy.

Table 8: The National Average of BTS Diploma Acquisition Ratio

	2009	2010	2011	2012	2013
National average of BTS diploma acquisition ratio	57.34%	42.80%	55.40%	53.62%	48.26%

Source: Rapport National D’Evaluation de L’Éducation pour Tous (EPT) 2015, p34

(2) Employment ratio

Currently, CFPT does not have systemically recorded information regarding the employment status of graduates. This was deemed to be a management issue that CFPT must cope with. However, it has never been considered the duty of such public vocational institutions to have job search, guidance and placement services for their trainees. Finding a job in Senegal¹⁹ is generally assumed to be solely done through the effort of individual job seeker. The desirable new approach to facilitate employment may require systemic data collection and analysis of trainees, enterprises and industries as a workable base for proactive public relations and outreach activities. Thus, it may be indispensable to assign a full-time expert in human resource management as a part of the organizational and functional restructuring.

The following BOX shows the outline of the beneficiary survey.

Outline of the beneficiary survey	
Main feature of responding groups	(1) Trainees including graduates and foreign trainees (valid responses 104, of which 42 graduates and 62 current trainees, 36 female, 68 male) Regarding the sampling of graduates and trainees, about 120 respondents were selected based on the respective lists given by CFPT. Also, considering the quota of each course, sampling numbers by course were randomly proportional to each quota of the course. However, taking into account that there were only 90 graduates of the two new courses, which was very few compared to the number of graduates of other 3 existing courses (about 400 people at the same period), the graduates of the two courses were selected with an approximate 3 times to adjust the group composition of the population. There are few female trainees so we selected at least one female for each course of both BTI and BTS from a gender segregated list.

¹⁹ According to the study below, for all the approaches for seeking a job, the use of personal connections is quite common (54%). On the other hand, only 4 % use public services. It was pointed out that information asymmetry is rampant in the labor market as shared knowledge and information between job-seekers and enterprises is virtually non-existent. This may result in the stifling of the motivation and confidence of young people with no working experience as their qualification and skills that were acquired at school are not very useful for getting a job. République du Sénégal. Étude réalisée dans le cadre de l’Initiative conjointe pour l’emploi des jeunes en Afrique Mai 2014. *Diagnostic sur L’emploi des jeunes au Sénégal*, p71.

Outline of the beneficiary survey	
	(2) CFPT Instructors: director, instructors and lecturers. (valid responses: 9) Besides using a survey questionnaire, the consultant conducted interviews mainly with some instructors of the 2 new courses. (3) Enterprises or institutions which have hired the graduates of CFPT (valid responses: 15) Besides using a survey questionnaire, the consultant conducted interviews with 2 enterprises.
Method	Questionnaire response, focus group and/or individual interview
Main contents	<ul style="list-style-type: none"> • Confirmation of the effect and impact of the project (intended for all groups) • Cost-benefit performance of the training (intended for all groups) • CFPT competitiveness, uniqueness, and current facts of quality and quantity about its technical education and vocational training (intended for instructors and enterprises) • Issues and problems with how to respond to the needs of the industry sector (intended for instructors and enterprises)

As the beneficiary survey was not a complete census, it does not definitively express the employment status of CFPT graduates. However, an inquiry was made into the salary level of 42 graduates and the data obtained was used to supplement our judgment. These were asked to respond with information about how many percent their actual salary is higher than the salary they had expected prior to training at CFPT. Five graduates from the 2 new courses answered that it was more than double than the expected level. Therefore, this suggests that private enterprises offer favourable hiring conditions for those who trained on the courses.

(3) CFPT self-generated income

At the time of project planning, “increase in self-generated income” was considered as an indicator for measuring enhanced Public-Private Partnership (PPP) by this project. Also, discretionary income generation for CFPT was limited only to the holding of seminars for private enterprises. With regard to the rest of the items, except for the Third Country Training Program conducted mainly through a JICA grant, the government imposes certain restrictions²⁰ as a public institution. Furthermore, the level of tuition based income has its own limits along with its capacity based on a set quota, although there must have been a potential demand for training. Thus, in light of the above, it would be rather more sensible to assess revenue solely from the holding of seminars for private enterprises rather than from the total amount of self-generated income of CFPT.

Although revenue from the services to private enterprises has fluctuated, Table 7 shows an increasing trend; from the baseline value of about 14 million CFA in 2010 to the actual value of about 19 million CFA in the target year, 2015. CFPT would continue to assign importance to PPP related activities, such as holding seminars in particular, as this is a source of income that utilizes existing assets including equipment procured by the project to the fullest possible extent and without any legal restriction. It can be predicted that revenue

²⁰ As stated above, it is not permitted to open night classes without a certain examination period for authorization. The 2 new courses, therefore, have not yet become a source of income in this respect.

will increase from here onwards.

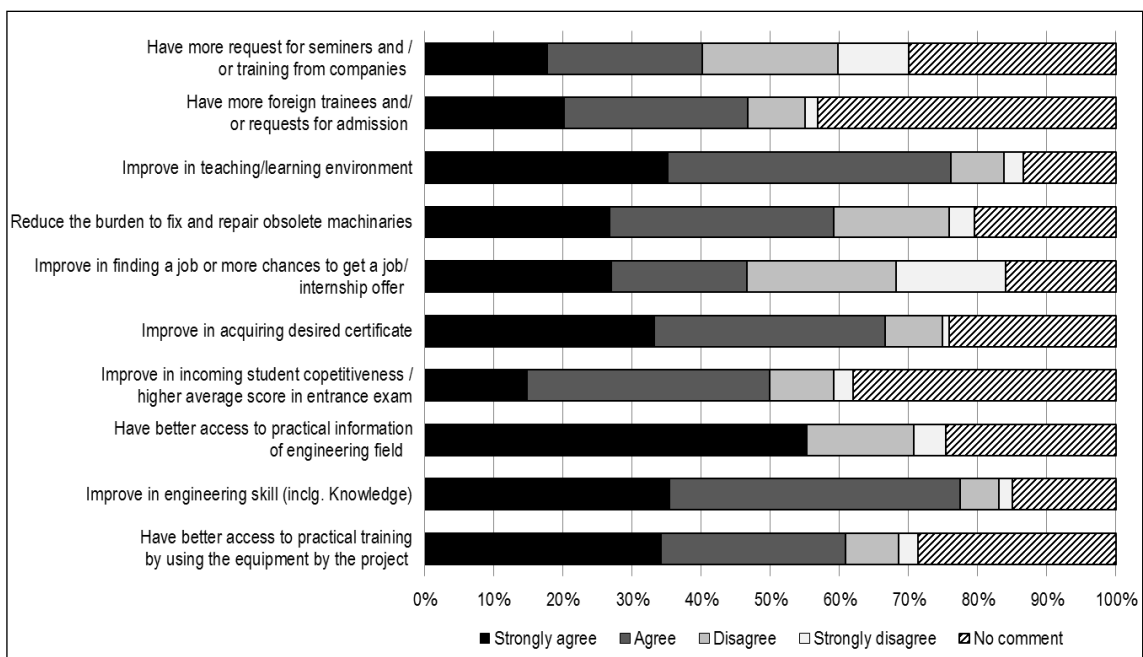
As stated above, due to a lack of numerical data, it is difficult to fully examine the quantitative effects of the project. However, in light of the supplement data and information based on the premises and structural constraints of CFPT, we can conclude that the effectiveness of the project has been confirmed in this regard.

3.3.2 Qualitative Effects

At the time of project planning, improvement of the training environment at CFPT was set as a qualitative effect of the project.

It has to be noted that improvement here might have a twofold significance; that there is improved access, both in quality and quantity, for people in terms of training opportunities as was rightly addressed by the aforementioned PDEF, as well as institutional improvement of technical education and vocational training through the upgrading of facilities and equipment.

In order to confirm the nature of the improvements in skills and knowledge observed after project completion, during the beneficiary survey, 10 multiple-choice questions (which also allowed for free descriptions) were given to trainees and instructors (total 113 respondents). More than 70% of them responded that, in descending order, “engineering skills and knowledge”, “the teaching/learning environment”, and “access to practical information in the engineering field” had improved.



Source: Beneficiary survey

Figure 2: Improvement of Vocational Training at CFPT after the Project

We also asked if the project had helped strengthen practical training at CFPT which was useful in responding to the actual job needs on site, and if so, why. Forty people responded to this question and 38 respondents²¹ said that “practical training had been strengthened”. As for the reason for this, 30 people answered that it was “because of the new equipment”. This shows that the project has assisted CFPT to perform practical training.

In light of the above, with regard to improvement of the training environment both in terms of quality and opportunity, it can be said that the project has substantially accomplished the qualitative aspect of the effects.

3.4 Impacts

3.4.1 Intended Impacts

The project sought to achieve the following 3 impacts at the time of project planning:

- (1) By improving the existing courses, trainees are enabled to become technicians with skills to meet the demands of industry in Senegal. Thus, the performance of private enterprises is helped to improve by hiring these graduates. This would eventually contribute to the development of industry.
- (2) The reputation for service of CFPT would facilitate public-private partnerships.
- (3) As the number of foreign trainees and third country training programs are increased, there would also be a contribution to the human resource development of other African countries.

On the matter of the contribution to private enterprises which leads aggregately to the development of industry, as CFPT does not have a reliable database on the situation of graduates, it is difficult to quantitatively examine the impact. While the government intends to facilitate PPP and encourages public institutions to be financially more independent, in order to retain a good reputation and promote competitiveness through collaboration between private enterprises, it is essential that there is a clear understanding of the status of trainees after graduation. Furthermore, it is increasingly indispensable that the service for trainees and private enterprises is expanded with regard to employment. CFPT itself should initiate an analysis of the needs and the problems of private enterprises through the asset of having so many graduates.

According to a comparative study conducted by the national specialized institute²² on the

²¹ This question was designed to get responses only from those graduates and instructors who know the situation before and after the project.

²² The Study was conducted to analyze 17 vocational training centers including CFPT in Senegal. The results of comparative assessment from interviews with 20 enterprises concerning CFPT graduates (p14, pp42-45) were reported on. However, the number of enterprises is limited to only 20 and the study may just incidentally reflect a subjective view of respondents. Also, it does not clarify the number of hired graduates. Therefore, we only take note

assessment of CFPT graduates on the part of enterprises, shown in Table 9, a majority appreciate the discipline, attendance and punctuality of CFPT graduates, compared to other items of assessment. In addition, they are relatively satisfied with their technical skills.

Table 9: Summary of the Assessment of CFPT graduates on the part of Enterprises
(Comparison of Competing 17 Vocational Training Centers)

	Number of enterprises whose assessment is favorable to CFPT	Number of enterprises that made a mixed assessment	Number of enterprises whose assessment is unfavorable to CFPT
Technical Skills	10	9	1
Soft skills	5	11	4
Behavior	14	3	3
Adaptability	7	7	6

Source: Office National de Formation Professionnelle, March 2015. *Study and Data Collection in the Field of Vocational and Technical Training in Senegal*, p44, Table 25.

Furthermore, in the beneficiary survey, 15 enterprises were asked if the cost of recruiting and hiring engineers with the required skills had been raised after 2012, the year of project completion. Nine enterprises out of 15 answered that the cost has been raised. They were also asked if they will invest more (c.f. the training cost) to retain qualified technicians in the future. Thirteen enterprises responded they will invest more. Thus, there is a substantial need among private enterprises for more technicians and engineers in the labour market. This indicates the continuing importance of human resources development in the engineering field.

With regard to the CFPT service for private enterprises, the holding of seminars and training, it was targeted that the number of seminars be increased by the year 2014 based on the accumulated value from 1989 to 2009 as the baseline value at the time of project planning. As Table 10 shows, CFPT has held seminars every year and the accumulated number thus amounted to 344 in 2014. However, the annual average number has fluctuated. According to the aforementioned comparative study, it is confirmed that CFPT has a good reputation for the quality of its services²³. It also argues that CFPT can be distinguished from other competing institutions because of the technical and financial support from Japan²⁴.

of the propensity of the assessment. Office National de Formation Professionnelle, March 2015. *Study and Data Collection in the Field of Vocational and Technical Training in Senegal*.

²³ Office National de Formation Professionnelle, op.cit., p40.

²⁴ On the other hand, it is also mentioned that the network of 14 Higher Vocational Education Institutes (HVEI) was created by the support of the World Bank, Agence Française de Développement (AFD) and the Korean International Cooperation Agency (KOICA); the management of HVEI is encouraged to be more autonomous and independent as business leaders are involved in decision making on the basis of financial performance. CFPT is now under pressure to compete with others in terms of PPP activities.

Table 10: Number of Seminars for Private Enterprises and Participants

	1989-2009	2010	2011	2012	2013	2014	2015
Number of seminars	*292 accumulated number of seminars *Average 14 times per year	12	10	13	8	9	12
Number of participants	N/A	117	103	153	106	57	112

Source: CFPT

During the interviews in the beneficiary survey, 15 enterprises were asked about the purpose of participating in CFPT activities (multiple answers allowed). “Upgrading their/their staff’s skills” got the highest score, among which were “acquirement of state-of-of-the-art standards and innovative methods”, “providing them/their staff with useful skills”, “learning how to maintain machinery at work”, “getting trained to operate equipment”, “recruiting new staff (engineers).” This indicates that there was a wish to be promoted by gaining BTS or BTI diplomas through the training at CFPT. It can be said that the training service for night classes is also much in demand.

Moreover, there is a notable case in point where it may be advantageous in the medium to long-term to utilize equipment for future collaboration with the private sector. The production process system model procured for the automatics course may have much to offer in extending possible joint research with engineering research groups of universities and institutes,. According to CFPT, as Senegalese researchers are very interested in the model of 8 integrated production processes, they often request visits to CFPT in order to study it. Gaining a holistic understanding of integration is essential as it would be critical engineering knowledge for a viable upscaling of commercial manufacturing in industrial development. At the time of the ex-post evaluation study, the model was unique, with one-of-a-kind equipment in Senegal, and this may have contributed to facilitating the endeavour for envisioned development.

On the matter of international cooperation, as Table 11 shows, the third country training programs have been almost constantly implemented except for the year of 2014. Also, Table 12 also shows that the total number of foreign trainees has shown an increasing trend²⁵ .

Table 11: Records of the Third Country Training Program by JICA Grant

	2009	2010	2011	2012	2013	2014	2015
The number of Third Country Training	2	2	2	2	2	0	2

Source: CFPT

²⁵ According to CFPT, recently the number of BTI trainees is increasing as the tuition level is a half of BTS. Foreign trainees are from 23 countries: Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Comoros, Ivory Coast, Djibouti, Gabon, Guinea, Guinea-Bissau, Equatorial Guinea, Lebanon, Madagascar, Mali, Mauritania, Niger, Republic of the Congo, Democratic Republic of the Congo, Togo, Chad, France, and USA.

Table 12: Number of Foreign Trainees by Course

		2009	2010	2011	2012	2013	2014	2015
		Baseline year			Completion year	1 Year After Completion	2 Years After Completion	3 Years After Completion
BTS	Maintenance of Construction Equipment (open after the project)					1	2	0
	Maintenance of Heavy Machinery (open after the project)					0	0	1
	Electronic Machinery	5	5(7)	6(1)	7(2)	5	5 (of which 1 female trainee)	6 (of which 1 female trainee)
	Automatics	5	8(1)	8(1) (of which 2 female trainees)	5 (of which 2 female trainees)	3(1)	5	7
	Informatics	4(1)	5(3)	4	2(1) (of which 1 female trainee)	1(1)	3	3
	BTS Total	14(1)	18(11)	18(2)	14(3)	10(2)	15	17
BTI	Electrotechnics	3	3(1)	7	8	4	3(1)	3
	Automobile engineering	0	0	1	1	2	2(1)	6(2)
	Electronic machinery	3	2	1	2	1	4	4(1)
	BTI Total	6	5(1)	9	11	7	9(2)	13(3)

Source: CFPT

Note: Those figures shown in parentheses are the numbers of night-class foreign trainees.

Table 13: Revenue from Admission of Foreign Trainees

		Unit: CFA						
		2009	2010	2011	2012	2013	2014	2015
Total amount of tuition from foreign trainees		23,530,000	23,580,000	26,239,998	22,161,000	26,190,000	21,348,350	28,415,000

Source: CFPT

The aforementioned comparative study concludes that CFPT has comparative advantages with its experience of international cooperation and unique, one-of-a-kind, training courses such as on the maintenance of heavy machinery and automatics²⁶. Its long-standing experience of leading international cooperation in the West African region is particularly important. It was also reported that further reinforcement of the development of networks and the extension of its influence through such activities is desirable. Furthermore, the government also considers that its international cooperation such as the admission of foreign

²⁶ Office National de Formation Professionnelle, op.cit., p46.

trainees and third country training has a great impact in terms of playing a leading role in the regional economy. Being fully aware of the importance, the CFPT management reported that it will try its best to dedicate itself to cooperation.

On the other hand, CFPT has set a 15% admission quota for foreign trainees so far based on the respective enrolment limit of each course. That automatically results in the imposition of a limit on the maximum tuition income from foreign trainees. Therefore, as we cannot expect large increase in number of intakes, the level of contribution should be assessed rather by the qualitative aspect of the foreign trainees' networks both during training and post-graduation. It was recognized that the planned network building of graduates should include foreign graduates. In CFPT, it is thus deemed necessary that a strategy plan to organize alumni associations, including branches in foreign countries, is thoroughly examined in order to invite more foreign trainees through the international advertising campaign.

3.4.2 Other Impacts

3.4.2.1 Impacts on the Natural Environment

According to CFPT, no negative impacts on the natural environment through implementation of the project were observed. Also, it was confirmed that there was not even noise and vibrational damage that may have negatively affected the surroundings during the construction period.

3.4.2.2 Land Acquisition and Resettlement

The project was to construct facilities on the land owned by the government. However, it was reported that there was the removal of informal businesses that had illegally occupied some portion of the area. As the project site is situated on official land, the Ministry was solely in charge of the negotiations and the removal was duly processed. There was no problem of such a serious magnitude as to delay project completion.

3.4.2.3 Unintended Positive/Negative Impacts

According to CFPT, the utilization of equipment procured for the Maintenance of Construction Equipment course also became a component of cooperation projects of other donors. The result of this was that multifaceted cooperation was made possible in the light of policy-based promotion of employment. In one notable case, since 2016, with the assistance of the World Bank and the French government, a four-year program has been launched targeting approximately 10,000 trainees of six selected public vocational and

technical training centers in an effort to promote productivity and employment²⁷. CFPT has been selected as one of the pilot centers and the target project is the practical training for the installation of photovoltaic panels, which is part of the Maintenance of Construction Equipment course.

Furthermore, it is noted that as the government of Senegal has made a commitment to promote renewable energy, and in line with this policy it may well establish a new qualification for the installation of photovoltaic panels. CFPT anticipates positive results from the program such as having trainees certified in the new field.

With regard to effectiveness, the quantitative effects of the project could be obtained as the target figures were on the whole achieved. While quantitative data on employment were not obtainable, other supplementary data indicates that CFPT has a positive reputation. As for the qualitative effects, according to the beneficiary survey, the majority of respondents agreed that the project had contributed to improving the training environment. The reinforcement of practical training was attributed largely to the equipment procured by the project.

Concerning impact, it was confirmed that CFPT has made contributions in terms of producing quality graduates with the desired skill sets for industry, holding seminars for private enterprises and international cooperation through the third country training programs and also in the increase in the number of foreign trainees. Further, as an unintended impact, CFPT has been able to take part in a new assistance program for the promotion of employment led by other donors utilizing equipment procured by the project. As above, it is concluded that impact can be identified as the project enabled CFPT to receive increased recognition both domestically and internationally.

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

3.5 Sustainability (Rating: ②)

3.5.1 Institutional Aspects of Operation and Maintenance

At the time of project planning, the Ministry responsible was the Ministry of Technical Education and Vocational Training (Ministère de l'Enseignement Technique et de la Formation Professionnelle: METFP). With the new administration led by President Sall, in

²⁷ In line with the policy implementation of the Vocational and Technical Training for Employment and Competitiveness (Formation Professionnelle pour l'Emploi et la Compétitivité: FPEC), based on assistance from the World bank and the French government, the program is to train young people from a three to six month period at the pilot centers. Thereby it is expected that special certificates will be provided (Certificats de Spécialité) to facilitate job creation for the benefit of young people.

2012, it was reorganized by integrating the jurisdiction of the handicraft sector and was renamed the Ministry of Vocational Training, Apprenticeship and Handicraft (Ministère de la Formation Professionnelle, de l'Apprentissage et de l'Artisanat: MFPAA). As MFPAA was responsible for the project at the time of ex-post evaluation, there has not been any substantial change in terms of the organizational framework of O&M with respect to CFPT as the Implementing Agency²⁸. Furthermore, from the time of project planning to the time of the ex-post evaluation, the Ministry and CFPT have consistently shared an understanding of the due responsibility of CFPT for the exercising O&M on a daily basis. As such, 2 laboratory assistants (contract staff) for each course are engaged in daily check-ups, maintenance and repairs of equipment. In the case of any breakdown or malfunction, the designated instructors of each course are immediately given a report from the assistant and the problem is dealt with by the organization.

However, out of all 47 instructors, 4 instructors have recently resigned or retired from CFPT (2 of them were in charge of the Maintenance of Heavy Machinery course). In order to fill their posts, instructors have been redeployed and attempts have been made to rehire those who reached retirement age as part-time instructors. As it has been difficult to recoup the balance of government budget for personnel costs, a position for the superintendence of precision measuring at the electric machinery course has not yet been filled.

Furthermore, a major organizational challenge for CFPT is embedded in the imbalanced age structure of the 47 instructors, as illustrated in Table 14. Within the next decade, 42% of current instructors will be sequentially retired with slightly less than half of those instructors being replaced by new hires. As there were very few instructors in their forties at the time of ex-post evaluation, the instructors in their thirties will have to play the role of the veteran instructors in their fifties.

As CFPT has long had the reputation of providing quality vocational training for those industrial sectors of high demands in the economy, it will not be at all easy to recruit well-adapted instructors from the outside. Urgent attention is therefore needed on how young instructors can be trained, for example, by prudently building incentives into the salary packages based on a personnel evaluation system that runs along with the training plan.

Table 14. Distribution of Instructors by Age Group

Age Group	Instructors	%
30-35	14	30
35-40	11	24
40-45	1	2
45-50	1	2
50-55	9	19
55-60	11	23
Total	47	100

Source: Study and Data Collection in the Field of Vocational and Technical Training in Senegal, Office National de Formation Professionnelle, March 2015, p31 Table 17.

²⁸ According to an interview with officials of MFPAA at the time of ex-post evaluation, it was mentioned that the government has set a policy direction that all public vocational training centers will be transformed into independent administrative institutions in the near future.

As seen above, the organizational challenge of CFPT revolving around the issue of the instructors, affects not only O&M but also the future succession of technical knowledge and skills among instructors, the hands-on training of young instructors, the utilization of equipment, and the quality levels of training and education for trainees. Therefore, in the mid-term action plan of CFPT, it is important that pending issues of management such as how to secure MFPAA support for personnel costs are substantiated and that a reinforcement of the personnel system is realized.

3.5.2 Technical Aspects of Operation and Maintenance

At the time of project planning, there was concern that the procurement of spare parts from abroad and the repair of foreign-made equipment may cause problems. So far, however, instructors on each course have dealt with these matters on their own. There has been no record of the sending out of broken equipment to any foreign manufacturer. Furthermore, at the time of the ex-post evaluation, there was almost no broken equipment left unrepaired and this has ensured that the operation status has remained good. In addition, all manuals were duly translated into French as a follow-up of Japan's technical cooperation project. Based on the manuals, CFPT has had a policy that the instructors of each course are primarily responsible for repairs, even including the manufacture of some necessary spare parts by themselves. Thus, they have acquired the skills and technical knowledge to ensure the function of O&M²⁹.

No major problems are observed in terms of the technical aspects of operation and maintenance.

3.5.3 Financial Aspects of Operation and Maintenance

According to CFPT, expenditure items disbursed from the budget of MFPAA were legally established and utilities³⁰ and personnel costs (regular personnel) were duly paid by the government. At the time of project planning, a part of the annual financial burden of CFPT for the costs of the O&M of the equipment of the project, such as the purchase of consumables, was about 12,500,000 CFA. The cost of the O&M of the facilities, including the cost of diesel oil for power generation, the replacement of lamps, and the maintenance of non-utility generation facilities was about 5,122,000CFA. The total annual expenditure was

²⁹ Air-conditioning and refrigeration training equipment was chosen from a German manufacturer, GUNT. Some instructors made an inquiry about certain in-depth principles for operation which was presumed to be in the manuals but, as it was only explained in German, it was not totally clear that it was fully understood. Young instructors are generally positive about learning new technical knowledge. However they are also aware of their lack of training and experience compared to the veteran instructors. They commented that they need to upgrade their skills and get more hands-on experience.

³⁰ With regard to utilities, it is the governmental arrangement that bills are directly forwarded to the government to pay. No CFPT administrative procedure is required.

about 18 million CFA. CFPT reported that the actual expenses incurred through the project were fully within the planned amount as shown in Table 15. They also had no trouble making payments. However, as the total costs of O&M seem to have been falling in tandem with decreasing personnel costs over the period, there is a concern as to whether this might have caused a lower operation rate of equipment.

Table 15: Financial Statement of CFPT

Unit: CFA

	2009	2010	2011	2012	2013	2014	2015
Total revenue	265,229,208	282,712,497	268,936,893	256,208,850	255,043,891	185,680,780	192,322,170
Government funding	60,328,000	63,887,497	52,649,117	22,833,703	55,488,786	19,003,275	31,200,000
Revenue	204,901,208	218,825,000	216,287,776	233,375,147	199,555,105	166,677,505	161,122,170
Total expenditure	265,228,391	282,684,788	268,936,893	255,411,230	255,063,891	185,680,774	192,322,170
Personnel cost (regular personnel)	148,999,524	148,827,833	152,600,851	148,063,234	130,377,714	91,292,280	98,038,708
Personnel cost (contract staff)	27,706,923	30,035,924	26,705,689	26,427,673	33,860,055	25,161,493	32,001,797
General administrative overhead	7,287,501	9,914,855	8,726,935	11,762,175	11,983,913	13,977,585	12,980,356
Operation and maintenance cost (consumables & parts)	75,995,928	88,117,338	74,093,428	62,624,554	65,703,821	38,581,731	42,479,489
Repayment	0	2,099,940	0	2,444,833	7,113,638	3,985,899	0
Others (assistance for extracurricular activities of trainees etc.)	5,238,515	3,688,898	6,809,990	4,088,761	6,024,750	12,681,786	6,821,820
Balance (Total revenue –Total expenditure)	817	27,709	0	797,620	-20,000	6	0

Source: CFPT

CFPT has also to cope with any costs incurred in the implementation of their own projects. Thus, in order to realize the active execution of any activity for which strengthening of the personnel system is mission-critical, it is essential, first and foremost, to negotiate with the government for the corresponding increase in personnel cost. If it is impossible to secure the personnel cost from the governmental budget, it may be difficult to carry out income generation activities in a forward-looking manner. If the worst comes to the worst, such activities may taper off, resulting in a vicious circle. Moreover, the government has uniformly announced that implementation agencies such as CFPT are solely responsible for the renewal of obsolete equipment. Thus, it is better that an early introduction of deliberate fund management based on standard corporate accounting practices is considered, as CFPT needs to reserve a depreciation allowance for equipment from its own revenue.

As above, no major problems were observed in terms of the current financial status. However, as the current governmental policy direction is on the furtherance of independence of public institutions it is expected that CFPT will have no choice but to reform its method of financial management.

3.5.4 Current Status of Operation and Maintenance

With regard to equipment procured by the project, a part of the usage such as that of measuring equipment was sluggish, largely because of the resignation of some instructors in their forties. On the other hand, O&M has been properly dealt with on the whole through internal coordination of instructors and assistants.

Facilities have been in a good condition and are kept clean by dedication to the familiarization of staff with the need for O&M.

Some minor problems have been observed in terms of the institutional aspect of operation and maintenance. Therefore sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objective of this project was to improve the quality of engineering education and training desired by industry, through the construction of facilities such as a building for Maintenance of Heavy Machinery courses and the procurement of equipment for two newly opened high level technician BTS courses (Maintenance of Heavy Machinery, Maintenance of Construction Equipment) and three existing BTS courses (Electronic Machinery, Automatics, and Informatics) in CFPT, thereby contributing to fostering human resources in the industrial sector as the foundation of economic development. The relevance of this project is high, as it was relevant to the policies and needs of Senegal both at the time of planning and the ex-post evaluation, as well as to the ODA policy of Japan at the time of planning. Also, the project was carried out and provided the planned outputs. The project cost and project period were mostly within the plan. Therefore, the efficiency of the project is high. With regard to effectiveness, it has been confirmed that the total number of trainees in the BTS courses and the average BTS acquisition rate of trainees on all three existing courses have substantially increased. Furthermore, those in related business circles are in favour of improved quality of CFPT training service as this is fairly demonstrated in increases in CFPT income, the source of which is mainly from the holding of seminars for private enterprises. Also, as a qualitative effect of the improvement of the training environment, it has been confirmed that the project has particularly contributed to strengthening practical training. By the same token, with regard to intended impact, the contribution of CFPT in the fostering of skilled graduates who meet the needs of industry has also been confirmed, and there have been a series of international and domestic training activities, and an increase in the intake of foreign trainees. Thus, the effectiveness and impact of this project are high. Regarding sustainability, although equipment and facilities procured by the project are in good condition, there is a concern about the institutional aspect since CFPT has suffered from the resignations of instructors in recent years and thus faces the

challenge of how to recruit instructors as well as how best to train and retain young instructors. This will affect the financial and technical aspects if the problem is not properly solved. Therefore, the sustainability of this project effect is fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

(1) Establishment of a system of employment assistance for graduates

A fundamental challenge is that CFPT cannot solve current problems of job seeking and employment as there is no function to systematically collect data/information on the employment status of graduates. In order to cope with this, it is recommended that a specialized unit of public relations is set up in CFPT that also includes assistance with job-seeking for trainees. Provided that CFPT succeeds in putting this in place, as it must consistently offer reliable information on possible employment opportunities, regardless of economic fluctuation, the primary mission of the unit will be to expand its information network among relevant enterprises and associations through various public-private partnerships in order to update information on a daily basis. In the next stage, matching and placement between enterprises and trainees should be provided by fully analysing individual information registered in the database regarding the desired level of skills and the hiring conditions of each enterprise as well as the desired conditions and characteristics of each trainee. In order to provide such services for trainees, CFPT is responsible for funding the personnel costs of dedicated staff member(s) and this should be considered to be a high priority item of its top management. With regard to the ongoing internships of trainees, CFPT should hold official orientation sessions as needed, ideally together with people from enterprises, to keep them fully informed in advance as to what they should learn at work. Internships are a precious time especially from the perspective of leadership and teamwork that are a required competency for would-be corporate staff members.

(2) Reinforcement of a personnel system of instructors and the utilization of an alumni network

As the political and economic environment has been undergoing substantial change, the training and retaining of instructors is deemed to be a major organizational challenge for CFPT. On the other hand, as the government budget framework for the personnel costs of public workers is not flexible, it is difficult to immediately recruit adequate staff. Therefore, in order to fully cope with any new projects without unnecessarily putting an extra burden on instructors at present, the hiring of part-time instructors who can be in charge of partnering

with the private sector may be a practical proposition. It may be especially effective to offer selected graduates work as part-time instructors and to utilize the alumni network to full advantage. Particularly graduates, who have hands-on experience in corporate management and/or have started their own business as entrepreneurs can be of help in making constructive revisions to the current curriculum and in planning/implementing effective income generation activities. If a team of graduates proposes new projects based on the needs of the private sector as part-time instructors, it would be possible to expand the scope of activities and facilitate the training of young instructors without increasing the workload of full-time instructors. In order to realize this, first and foremost, it is critical that the information database on graduates from home and abroad is improved. Therefore the aforementioned unit of public relations which will assist with employment should deal with the issue in a synergistic manner. As the governmental recommendation to encourage public-private partnership has been announced by law in 2015, it may be relatively easy to budget the project costs for this purpose even including personnel costs.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

Promoting incentive measures for retaining and training of instructors in the vocational training centers

The resignation of some mid-career instructors has caused a serious imbalance in the age structure of instructors at one target vocational training center of the project. Not only do instructors instruct trainees, they also plan and carry out seminars for private enterprises, and therefore these instructors play an integral role in income generation. As such, in order to avoid quality degradation and lower revenue levels, urgent attention is needed on how a sensible personnel system for instructors can be deliberately redesigned.

Where income generation is to be driven by a team of instructors, the top management should set proper performance targets in line with a personnel system that enables the remuneration of instructors based on the evaluated degree of contribution to income. Also, the most essential part of sustainable management that serves private sector development is skillful instructors with high morals and ethics. It is indispensable that a properly designed incentive system is established in order primarily to train and retain such instructors. Although such a system can differ depending upon the country or type of organization, providing bonuses or attractive training programs in the context of the development of career paths can be exemplary. Moreover, the prerequisite for the workability of such systems must be that the existing personnel evaluation system is sufficiently fair and transparent. Therefore, these should be

revised as needed if the newly designed incentive systems are not fully aligned.

Optimization of income generation toward autonomous management

According to the government, the Implementing Agency is solely responsible for the renewal of obsolete equipment procured by the project. As such, CFPT needs to reserve a depreciation allowance for equipment from its own revenue. However, currently no such financial projection has been made to deal with this issue.

At the time of project planning, how the depreciation allowance would be managed was not clearly defined. On the other hand, as the current government clearly set out a funding policy which assigns importance to the financial independence of public institutions and their performance in private sector development, it is urgent that financial projections are made by corporate accounting and that measures are established for the expansion of self-generating income.

In cases such as those above, if the vocational training centers themselves need to finance the renewal of facilities and equipment as desired by corporate accounting, it is important to that they are recommended to put deliberate fund management in place over an optimal level of cost and profit by the earliest possible introduction of standard corporate accounting practices. Specifically, when procuring equipment, the concept of depreciation should be fully understood as a requirement, also it is deemed that it would be effective to assist the Implementing Agency to secure the optimal level of self-generating income in the hope of instilling autonomous management from the outset.

Republic of Mali

FY2015 Ex-Post Evaluation of Japanese Grant Aid Project
“Project for the Construction of Elementary Schools (phase III)”

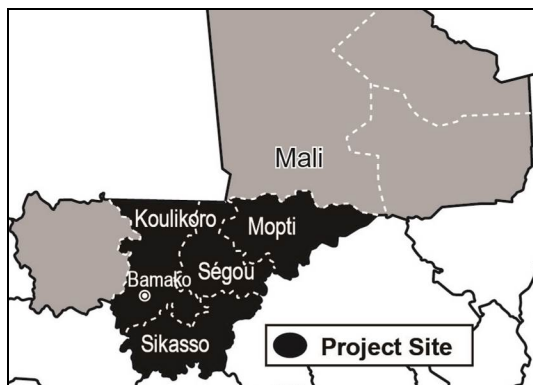
External Evaluator: Miho Kawahatsu, OPMAC Corporation

0. Summary

The objective of this project was to mitigate overcrowding in classrooms, to assure better access to, and to improve the quality of, the sanitary learning environment in primary education in 4 targeted regions (Koulikoro, Ségou, Sikasso, Mopti) in Mali, by the construction of facilities, the procurement of classroom furniture and the strengthening of school management organizations for targeted primary schools, thereby contributing to improvement of access to, and educational environment in primary education in Mali. The relevance of this project is high as it is relevant to the Mali’s policies of emphasizing better access to primary education and development needs of improving the enrollment rates by construction of elementary schools in targeted 4 regions Mali both at the time of planning and the ex-post evaluation. Also, it is relevant to the ODA policy of Japan at the time of planning. On the other hand, although the project period was within the plan, changes in the specifications of construction materials meant that the project cost was more than the plan. Therefore, the efficiency of the project is fair. With regard to effectiveness, we have confirmed that the total number of pupils has increased, and at the same time, overcrowding has been mitigated to some extent. With regard to improvement of the teaching and learning environment, among other things, the upgrading of school facilities is highly appreciated by pupils’ parents as well as other people in the community of the target region of Koulikoro. Furthermore, as for school management, it is deemed that transparency in accounting and cleaning duties has notably improved. Motivated by the good reputation, the number of parents who hope to send their children and the number of children who hope to go to these schools have increased. This may have synergized with reducing the disincentives of girls’ education and also in enlightening the community about the importance of primary education. Furthermore, with regard to impact, a promotion of public morality among pupils has been manifested in their voluntary cleaning activities. Thus, the effectiveness and impact of this project are high. Regarding sustainability, the communities have organized themselves to carry out the operation and management activities. There is no problem in the technical aspects and the community have carried out simple repairs and cleaning on a daily basis. With regard to the financial aspect, although the cost of operation and maintenance has risen as a result of the project, it was confirmed that, as the community are willing to accept the cost burden, along with principle of benefit has been gradually shared among them. Therefore, the sustainability of the project is high.

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

1. Project Description



Project locations



School building “Baguineda-A” in Koulikoro

1.1 Background

In its Poverty Reduction Strategy Paper adopted in 2002 (Cadre Stratégique pour la Croissance et la Réduction de la Pauvreté: CSCRP), the government of Mali emphasized that education is one of the most prioritized sectors for development. As such, the goal of a gross enrollment rate in primary education of 95% by 2010 was set. In Mali, primary education consists of a total of 9 years of compulsory schooling combining a first cycle of 6 years with a second cycle of 3 years. As a result of the government’s endeavors for improvements in the school environment of primary education, the total enrollment rate of the first cycle had increased to 74% in 2004. However, the enrollment rates have shown glaring gender and regional gaps. A major cause of the low enrollment rate is deemed to be the poor condition of school facilities and equipment. Although the share of the education budget in the state budget is relatively high in Mali, most of the funding has been disbursed for operating costs and little has been spent on the improvement of facilities and equipment. Thus, there has been an absolute shortage of classrooms leaving many schools no choice but to limit the admission of children. Moreover, existing school facilities and equipment, particularly in rural areas, have a safety issue as, not having been improved, they are mostly poor-quality and decrepit. Thus, access to primary education in rural areas has been a serious problem.

On the other hand, decentralization of the delivery of public services was put into effect by law in 2002, and since then state policy has facilitated the process of decentralization. In the education sector, jurisdictional power has been transferred to each local commune¹. Specifically in this context, each school management committee² (Comité de Gestion Scolaire: CGS) must run local primary schools and play a responsible role in terms of the operation and maintenance.

¹ The smallest public administrative unit.

² Based on the Education Act and Law for the establishment of CGS in 2004 aligned with an overall decentralization policy, the establishment of CGS has been government-mandated as “all educational institutions should establish CGSs (3-year term) and this should be steered by the participation of educators, parents and other concerned parties.”

It has been necessary that school management systems are strengthened to be responsible even for funding it by integrating local community into the activities.

As outlined above, the government of Mali has put priority on the increase of enrollment rate in the first cycle of primary education in rural areas. Having duly selected target communes in the light of scarcity of classrooms and urgency by area, the government of Mali sent a request to the government of Japan for grant aid for the construction of school facilities and the provision of school furniture, as well as for consulting support for the reinforcement of CGS. In response to this request, the project was implemented in 29 communes in the target 4 regions.

1.2 Project Outline

The objective of this project was to mitigate overcrowding in classrooms, to assure better access to, and to improve the quality of, the sanitary learning environment in primary education in 4 targeted regions (Koulikoro, Ségou, Sikasso, Mopti) in Mali, by the construction of facilities, the procurement of classroom furniture and the strengthening of school management organizations for targeted primary schools, thereby contributing to improvement of access to, and educational environment in primary education in Mali

<Grant Aid Project>

E/N Grant Limit / Actual Grant Amount	809 million yen (I/II), 983 million yen (II/II) / 808 million yen (I/II), 980 million yen (II/II)
Exchange of Notes Date	June, 2006 (I/II) June, 2007 (II/II)
Implementing Agency	Ministry of National Education ³ , Department of Planning and Statistics (Ministère de l'Education Nationale, cellule de planification et de Statistique)
Project Completion Date	February, 2008 (I/II) December 2008 (II/II)
Main Contractor	Toda Corporation
Main Consultant	Fukunaga Architects-Engineers
Basic Design	January, 2006
Related Projects	[Technical Corporation] - Project for Support to School Management Committees, Phase I (2008-2011) - Project to Support for School Management Committees, Phase II (2011-2015)

³ After project completion and before the ex-post evaluation, the name of the Implementing agency was changed several times. At the time of the ex-post evaluation, the name was the same as at the time of project planning.

	<p>[Grant Aid]</p> <ul style="list-style-type: none"> - Project for Construction of Elementary Schools, Phase I (1998) - Project for Construction of Elementary Schools, Phase II, 1/3, 2/3 (2002), 3/3 (2004) - Project for Construction of Elementary Schools, Phase IV (2011)
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2. Outline of the Evaluation Study

2.1 External Evaluator

Miho Kawahatsu, OPMAC Corporation

2.2 Duration of Evaluation Study

Duration of the Study: October, 2015 – November, 2016

Duration⁴ of the Field Study: 14 March, 2016 - 18 March, 2016

2.3 Constraints during the Evaluation Study

With regard to the field study of this ex-post evaluation, in response to a terrorist attack on November 2015, a JICA's official ban on travel to Mali was imposed and the external evaluator was unable to visit. Therefore, a local Malian consultant was commissioned to undertake the tasks of interviews with the Implementation agency and collecting information through the field survey. Also, it was decided to take a safety control measure of JICA that the field study would be carried out only in Koulikoro among the 4 regions, due to security concerns in rural regions following the coup d'état in 2012. Under the stewardship of the external evaluator, each analysis of locally collected information and data was discussed and the background detail examined in face-to-face team meetings held in neighboring Senegal. It should be noted however, that data for individual target schools could not be obtained from the Implementing agency and evaluation on effectiveness had to be made using estimated figures calculated from aggregate data reported by education support service centers at district level (Centre d'Animation Pédagogique: CAP⁵). Also, the Implementing agency pointed out that since the coup d'état in 2012, the reliability of method of data collection as well as data credibility have been questionable. Thus, for sake of data consistency, data after 2011 was excluded.

It should also be noted that as this project was completed in 2008, the ex-post evaluation should have been conducted in 2011. It was postponed because of security concerns.

⁴ As stated in 2.3 Constraints during the evaluation study: the evaluator could not make the planned visit during the period; the duration of the field survey of this evaluation study was set to be the period of the field survey conducted in target areas in region of Koulikoro by a local Malian consultant.

⁵ CAP at the district level is under the jurisdiction of central government, and also under the direct supervision of Academy of Education (Académie d'Enseignement: AE, it is located in nine regions and Bamako): regional agency of central government. The main responsibility of CAP is to conduct surveillance of communes under its charge, to provide technical assistance on education such as training, and to exercise supervision.

3. Results of the Evaluation (Overall Rating: A⁶)

3.1 Relevance (Rating: ③⁷)

3.1.1 Relevance to the Development Plan of Mali

The overall development policies of Mali are contained in its Growth and Poverty Reduction Strategy Paper (Cadre Stratégique pour la Croissance et la Réduction de la Pauvreté: CSCRP), and the importance of education had been consistently addressed, in the CSCRP (2002-2006) and the CSCRP (2007-2011). Furthermore, the current CSCRP (2012-2017) which was also in effect at the time of the ex-post evaluation also emphasizes the upgrade of the delivery of public service in education reflecting the national development plan. It can therefore be said that, the necessity of the improvement of education has continued to be addressed. Besides this, in the Action Plan for the Emergency Priorities of the Government (Plan d'Actions Prioritaires d'Urgence du Gouvernement 2013-2014: PAPU) which was adopted after the coup d'état in 2012, there was further prioritization of the reconstruction of the education sector including the construction of educational facilities.

With further regard to specific policy on the education sector, a Ten-Year Education Development Programme (Programme Décennal de Développement de l'Éducation 2000-2010: PRODEC) had the target of constructing 18,000 classrooms in a decade in order to achieve a 95% gross enrolment rate in primary education by 2010. Also, the Education Sector Investment Programmes (Programmes d'Investissement Sectoriel de l'Éducation: PISE) were formulated as consecutive multi-year plans. In PISE I (2001-2005) which was implemented before the project planning, the primary aim was the furtherance of the institutionalization of school management through the establishment of the CGS, the decentralization of educational public administration, and better access to education. After project completion, while PISE II (2006-2009) was underway, access to primary education continued to be an important challenging issue. While the priority of PISE III (2010-2013⁸) gradually shifted from quantity to quality, access to primary education remained a high priority objective, with the highlighted improvement of the completion rate⁹.

Stricken by the coup d'état of 2012 as well as natural disasters such as floods triggered by abnormal climate, the fragile education sector, particularly in rural areas, has been in crisis¹⁰. Emergency measures were therefore adopted in the transitional program until the

⁶ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁷ ③: High, ②: Fair, ①: Low

⁸ The period of PISE III was extended for a year until 2013 because of a political crisis sparked by the coup d'état of 2012.

⁹ Japan International Cooperation Agency, *Study Report on the Basic Education Sector by Country, Mali* (in Japanese), August 2012. p9. http://open_jicareport.jica.go.jp/pdf/12083283.pdf

¹⁰ It was reported that more than 125,000 school children in the north have moved to neighboring countries or to southern Mali and that nearly 44% of the internally displaced children dropped out of school. Although the project did not target any northern regions, people in the north may have migrated to adjacent Mopti and Ségou and these target regions may have been adversely affected.

formulation of the as-yet-unreleased PRODEC II, all of which has aimed at the recovery¹¹ of the education sector since 2014.

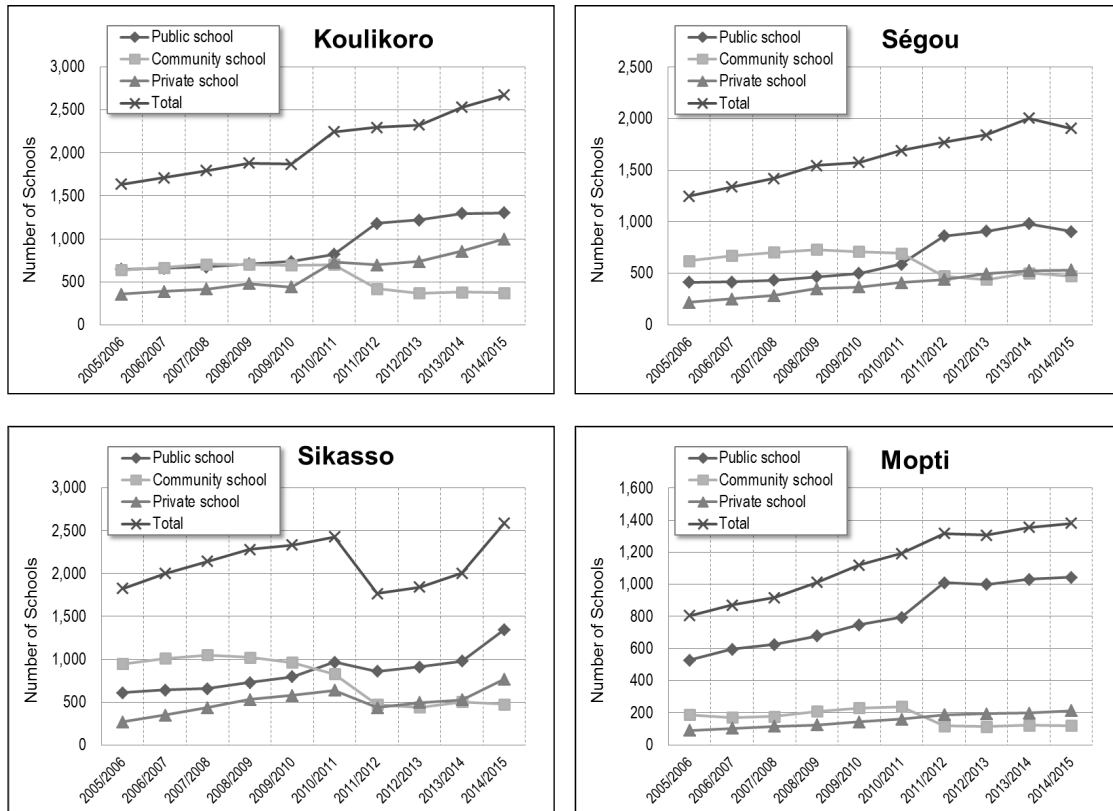
In light of the above, this project, which aimed at the expansion and improvement of primary education facilities, was highly relevant to Mali's development policy and education policy at the time of project planning and the ex-post evaluation.

3.1.2 Relevance to the Development Needs of Mali

Data obtained from the Implementing agency for the 4 target regions during the period of 2005 to 2015, showed a common trend where, although the number of public and private schools doubled, the number of community schools¹² was on average down by half. This reflects government policy on the conversion to public schools. It also implies that over the decade importance has been consistently attached to the policy of strengthening the supply of public schools.

¹¹ During the recovery period after the coup, in order to achieve the Education For All (EFA) goals, policy direction began to change for the reinforcement of the systems for policy implementation such as decentralization along with the strengthening of school management. Priority was also given to training, recruitment and the support of teacher salaries, and better communication and dialogue between all stakeholders was promoted. (Ministère de l'Éducation Nationale, *Rapport d'évaluation Nationale de l'Éducation Pour Tous (EPT) 2015, Payes: Mali*, Novembre 2014, pp4-5).

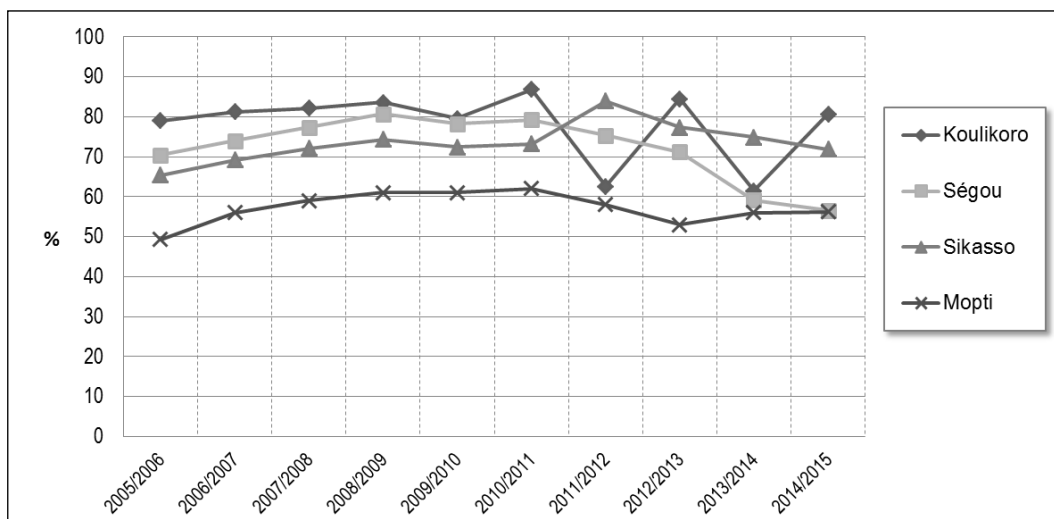
¹² According to the Basic Design Report, where there was no public school in the neighborhood, a "community school" was built by donors or the community as necessary. There were many community schools in the past as the government encouraged their establishment. However, there was no governmental compensation for expenses incurred even in poor rural areas and community had to hire all teachers. More to the point, there were also some cases where the government transferred publicly recruited teachers to community schools. If those community schools then met a certain standard, they were permitted to become public schools.



Source: Compiled by data obtained from the Implementing agency based on *Annuaire Statistique de 2005-2006 à 2014-2015 de la Cellule de Planification et de Statistique du Secteur Education (CPS-SE) du Mali*

Figure 1: The Number of Elementary Schools by Type in 4 Target Regions (2005-2015)

Trends of the gross enrollment rates of primary education over the decade show a difference by region. The rates of Koulikoro fluctuated at the relatively high level of around 80% and showed a slightly increasing trend. The rates of Ségou showed an aggravating trend. The rates of Sikasso did show an improvement but on average throughout the decade, remained almost at the same level. The rates of Mopti remained at the relatively low level of 60%. In any case, none of the 4 target regions had achieved the gross enrollment rate in primary education of 95% by 2010, the national goal set by PRODEC. Meanwhile, the average rate of increase in the population of children aged 7 to 12 in these regions was 4-6%, and consistently continued to increase. In addition, the gender gap in enrollment rate remained at more than 10 % except in Mopti.



Source: Compiled by data obtained from the Implementing agency based on *Annuaire Statistique de 2005-2006 à 2014-2015 de la Cellule de Planification et de Statistique du Secteur Education (CPS-SE) du Mali*

Figure 2: The Gross Enrollment Rates of 4 Target Regions

According to responses from the Implementing agency, Ministry of National Education, target schools were selected in communes where there had been a serious problem in access to primary education at the time of project planning. It was reported, that in regions of Koulikoro and Mopti in particular, there were many children out of school not only because there were few schools but also because of hardships due to the long commute to school from home. There were still serious needs in these regions at the time of the ex-post evaluation.

Therefore, from the time of the project planning to the time of the ex-post evaluation, the project was consistently relevant to the development needs for the construction of elementary schools and the improvement of the gross enrollment rates of the 4 targeted regions in Mali.

3.1.3 Relevance to Japan's ODA Policy

In efforts of Education for All (EFA) and the Millennium Development Goals, both of which were adopted in 2000, the Government of Japan announced the "Basic Education for Growth Initiative (BEGIN)" at the Kananaskis G8 Summit in 2002. This was a commitment to support for basic education in developing countries. Japan's assistance policy for the development of the education sector in Africa in particular was clearly demonstrated through proactive endorsements for the improvement of access to basic education in the Tokyo International Conference on Africa Development (TICAD) series.

According to the Japanese Ministry of Foreign Affairs ODA Country Data Book (2006), the basic policy of ODA toward Mali was to positively consider implementation of Grant Aid and Technical Cooperation Projects in the basic human needs and basic infrastructure

sectors in order to support democratization and economic reform. The basic education sector was set as a priority area for cooperation.

The project was therefore relevant to Japan's ODA policy.

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

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

Details of the planned and actual outputs of the project are shown in Table 1 below.

Table 1: Comparison of Planned and Actual Output of the Project

① Construction of school facilities

	Target regions	Schools		Classrooms		School buildings		School toilets (gender-segregated)	
		planned	actual	planned	actual	planned	actual	planned	actual
I/II	Koulikoro	20	19	81	78	25	26	25	26
	Ségou	13	13	60	60	20	20	20	20
	Subtotal	33	32	141	138	47	46	47	46
II/II	Ségou	13	12	57	54	19	18	19	18
	Sikasso	8	8	39	39	13	13	13	13
	Mopti	14	13	68	60	22	20	22	20
	Subtotal	35	33	162	153	54	51	54	51
Grand total		68	65 (3▼)	303	291 (12▼)	101	97 (4▼)	101	97 (4▼)

Source: Reference document provided by JICA and the Basic Design Report.

② Procurement of school furniture

	Target regions	desk/chair sets, pupils		desk/chair sets, teachers		desk/chair sets, principals		chairs for principals' offices		lockers	
		planned	actual	planned	actual	planned	actual	planned	Actual	planned	actual
I/II	Koulikoro	1944	1872	81	78	12	12	24	24	93	90
	Ségou	1440	1440	60	60	5	5	10	10	65	65
	Subtotal	3384	3312	141	138	17	17	34	34	158	155
II/II	Ségou	1368	1296	57	54	5	5	10	9	62	59
	Sikasso	936	936	39	39	6	6	12	12	45	45
	Mopti	1584	1440	66	60	8	7	16	15	74	67
	Subtotal	3888	3672	162	153	19	18	38	36	181	171
Grand total		7272	6984	303	291	36	35	72	70	339	326

Source: Reference document provided by JICA and the Basic Design Report

③ The number of selected target schools for the soft component¹³

	Koulikoro	Ségou	Sikasso	Mopti	Total
I/II	5	4	0	0	9
II/II	0	2	2	3	7
Total	5	6	2	3	16

Source: Reference document provided by JICA and the Basic Design Report

Note: the soft-component was implemented as planned.

The outputs of the soft-component, the support of CGS, were intended to be the following;

- Concretization of the roles and responsibilities of the CGS
- Clarification of the roles of each member
- Formulation of “school management plans”
 - Drafting of activity plans
 - Applying and concluding agreements with Communes
 - Introducing equipment ledgers
 - Introducing accounting ledgers

A revision of the original scope meant the cancelling of three schools, one school for the I/II and 2 schools for the II/II;

Cancellation for the I/II (effective as of October 24, 2006)

New classrooms for one target school in Koulikoro were constructed by a local commune before project implementation.

Cancellation for the II/II (effective as of October 26, 2007)

Three new classrooms at one target school in Ségou were constructed by a local commune, so that there was no need to implement the project.

At one target school in Mopti, due to a heavy rain that continued for months, an arterial roadway was deluged, and the site was inaccessible from the outside.

In addition, there were following modifications;

There were 22 changes in the construction areas of project sites for the I/II scope and five changes in the construction areas for the II/II scope. Also, in response to a decrease in the domestic supply in Mali due to a decline in construction demand, the specification for roof substrate member was changed for the sake of easier domestic procurement. Bearing in mind the necessary strength of building materials for the given construction period in terms of local procurement, it can be judged that this change was appropriate. There were changes in the specification of fittings along with a Malian request that the design be changed from

¹³ All the schools were selected on the basis of one-school-per-commune. The criteria used were as follows: (1) scale of school (more than the average number of pupils in each and every grade), (2) physical access (in order to carry out monitoring and follow-up), (3) existing facilities that should be continued to be used, (4) past record of management activities of CGS.

single swing doors and windows to double swing doors and windows.

With regard to the outputs that were to be undertaken by Malian side, a Senegalese subcontractor responsible for local construction of the project recollected that the community themselves voluntarily participated in the removal of decrepit school buildings and in fence installation. Thus, it was confirmed that the tasks of the Malian side allocated at the time of project planning, such as the removal of decrepit school buildings and fence installation, were mostly carried out as planned.



Gender-segregated school toilets
at “Sho” in Koulikoro



Inside of a classroom
at “Bouadougou” in Koulikoro

3.2.2 Project Inputs

3.2.2.1 Project Cost

As stated above, by mutual consent with the Government of Mali, three schools out of the original plan of 68 target schools were cancelled. In the case of two of these schools, local communes built the same number of classrooms that were planned by the project. Also, considering the urgency for school enrollment of children living in the communes, the change was appropriate, adverse effects of the exclusion of the three schools being thus kept at a minimum. Nevertheless, it should be borne in mind that there was a difference in approach of construction between the local commune and the project. The project had the comprehensive approach of project design to improve primary education, in terms of the method of construction, the specification of construction materials, gender-segregated toilets, school furniture specification, and the support of the CGS. Therefore, even though the same number of classrooms was constructed, issues such as effectiveness and sustainability derived from the different approach would be different. Therefore the three schools were excluded from the scope of the project in the ex-post evaluation study.

Furthermore, according to documents for the project planning such as the Basic Design Report, it was calculated that the cancellation of the three schools (four classroom

buildings) reduced the total project cost by about 58 million yen. Thus, deducting that amount from the E/N grant limit of 1,792 million yen, the planned project cost can be revised to 1,734 million yen.

As the actual cost borne by the Japanese side was 1,788 million yen, it exceeded the planned project cost (103%). This was mainly because of the change to the accessible specification of the roof substrate member in response to a decrease in domestic supply in Mali due to a decline in construction demand.

As there was no record of the disbursement of the 20 million yen of the Malian financial burden agreed on at the time of the project planning, it was difficult to confirm the total actual cost and a comparison against the total planned cost was not possible.

3.2.2.2 Project Period

The planned project period was a total 30 months at the time of planning throughout I/II and II/II, after the time of the E/N. The project was implemented from June 2006, the time of the E/N, until December 2008. Thus the actual total project period was 30 months as planned.

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

3.3 Effectiveness¹⁴ (Rating: ③)

3.3.1 Quantitative Effects (Operation Indicator)

At the time of project planning, the pupil intake at the target schools¹⁵ and the number of pupils who had to study in makeshift and/or decrepit classrooms were identified as operation indicators and the target values were originally set as below. However, as the original scope was revised from 68 schools to 65 schools, the baseline values and target values were also reset as below.

¹⁴ Sub-rating for Effectiveness is to be put with consideration of Impact.

¹⁵ According to the Basic Design Report, while the target value of the pupil intake was calculated based on the ideal government standard benchmark of 50 pupils per classroom, the baseline value was the actual total number of pupils enrolled in the target schools. As the Government of Mali attaches paramount importance to the enrollment rate of primary education in rural areas (improving access), whether or not there is an increase of the number of pupils enrolled in the target year against the target value should be taken into consideration. As far as the government standard is concerned, although the standard of 50 pupils per classroom is considered adequate, the maximum number of pupils per classroom is 72.

Table 2: Comparison of the Target and the Actual of the Operation Indicators

	Baseline	Target	Actual ^(#5)		
	2005 ^(#1)	2009	2008	2009	2010
	Year of project planning	1 year after Completion	Project Completion year	1 year after Completion	2 years after Completion
① pupil intake at the 65 target schools	23,135 ^(#2) (23,946)	25,750 ^(#3)	(34,854)	(33,981)	(33,398)
② number of pupils who had to study in makeshift /decrepit classrooms	6,100 ^(#4)	0	0	0	0

Source: Estimated from CAP data obtained from the Implementing agency

Note *1: With regard to the original baseline value (of 2003) set against the target value at the time of project planning, data for 2003 was unavailable as there was no number of pupils specified for 9 schools out of the target 65 schools. Thus, it was considered appropriate to adopt data in 2005 as the baseline value.

Note *2: As the original target of 68 schools and 303 classrooms at the time of project planning was reduced to 65 schools and 291 classrooms, the baseline value of the pupil intake was accordingly revised to 23,135 pupils. The deducted amount for the cancellation of the three schools based on the corresponding data was recorded in the Basic Design Report

Note *3: As stated above, the actual number of target schools was reduced from the original plan and the target value of the pupil intake is revised by applying the original calculation method described in the Basic Design Report. As 515 classrooms were actually constructed by the project and then this is multiplied by the government standard of 50 pupils per classroom, the target value of pupil intake is 25,750 pupils.

Note *4: The number of makeshift or decrepit classrooms to be replaced is calculated by a subtraction of the number of classrooms which continue to be in use from the total number of classrooms of all target schools. As the number of target schools was reduced, the baseline number is 6,100 pupils: 122 (the number of classrooms to be replaced) multiplied by 50 pupils.

Note *5: All actual figures shown in parenthesis are estimated figures from aggregated CAP data that corresponds to each target school.

With respect to the actual data of the operation indicators, it was impossible to obtain individual figures for pupil intake at all the target schools. As an alternative, it was decided that an estimation of data for all the target schools would be made based on accessible census data from the Ministry of National Education¹⁶. A series of estimated figures was calculated using the average number of pupils of several communes aggregated by the corresponding CAP. Furthermore, multiplying each average number of pupils per classroom by the actual number of classrooms at the target schools from the project completion year to the target year gave 34,854 pupils in the project completion year and 33,981 pupils in the year after completion. This notably exceeds the given target value. Also, regarding the number of pupils who had to study in makeshift or decrepit classrooms, all the classrooms identified in 2005 were duly replaced by the project; thus it can be concluded that the original target was achieved.

¹⁶ Extract all the CAP data for the average number of pupils per classroom corresponding to the 65 target schools throughout the target period. And then obtain the estimated number of pupils in the 65 target schools by year, by multiplying the respective CAP data by each of the actual number of classrooms of the target schools before and after project. The method to be adopted was verified as the estimated number by the CAP in 2005 was 23,946 pupils which can be considered an approximation of the actual number of 23,135 pupils at the time of project planning.

3.3.2 Quantitative Effects (Effect Indicator)

The three indicators ①,②,③ in Table 3 were set as effective indicators to measure the effectiveness of the project and the target values for each were given. As below, by the same token as for the operation indicators, the baseline and target values were reset for the ex-post evaluation.

Table 3: Comparison of the Target and the Actual of the Effect Indicators

	Baseline	Target	Actual ^{(*)4}		
	2005 ^{(*)2}	2009	2008	2009	2010
	Year of project planning	1 year after Completion	Project Completion year	1 year after Completion	2 years after Completion
①Number of schools (combined classes)	31	0	--	--	--
②Number of pupils at 49 schools with an overcrowding issue ^{(*)1}	77.3 ^{(*)3} (69.1)	53.5 30.9%▼ (66.2) (4.1%▼)	(67.6)	(66.2)	(64.9)
③Number of schools (two shift system)	7	decrease	--	--	--

Source: Estimated from CAP data obtained from the Implementing agency

Note *1: Although there was no detailed explanation of the “overcrowding issue” in the Basic Design Report, we defined it as a condition where the number of pupils per classroom is more than 50. Bearing in mind the cancellation of three schools, we extracted 49 schools in this category from the comprehensive data list in the Basic Design Report. Thus, 77.3, the average number of pupils per classroom of the 49 schools was set as the revised baseline value.

Note *2: Although the ex-ante evaluation sheet of the Basic Design Report shows that the baseline value used the data for 2003/2004, according to the actual data list of the Report, some schools which had been counted in the baseline value did not even exist at the time. It was found that the data at the time of project planning in fact was for 2005 and the baseline year was therefore redefined as the year of project planning, 2005.

Note*3: According to the “method of calculation of the required number of classrooms” described in the Basic Design Report that was adopted to take into consideration the actual number of pupils in 2005, as specifications for classrooms and school furniture of the target schools were uniformly fixed, if the 50 pupils per classroom as a constant was used to calculate the required number of classrooms, regardless of the actual number of pupils in each school, the construction work would have been disproportionately concentrated on those schools with an overcrowding issue. Thus, in order to give an average, an acceptable number of 72 pupils per classroom was used to determine the final number of classrooms for certain target schools. This was applied to 81 classrooms. Therefore, taking into consideration 81 classrooms, the target value (the average number of pupils per classroom) of all 515 classrooms (the total actual number of classrooms in the target schools) is revised as 53.5.

Note*4: All actual figures shown in parenthesis are estimated figures by aggregated CAP data that corresponds to each target school.

With regard to the actual data of effective indicators, by the same token as for the operation indicators, it was impossible to obtain numbers of pupils for individual target schools. We therefore calculated estimated figures using the average number of pupils of each of several communes aggregated by the corresponding CAP. However, this implies that because the average is for all schools under the jurisdiction of each CAP, the data is not limited to that from the target schools. It is most probable that the number calculated using CAP data does not give an accurate picture of the situation as is shown in Table 3. As an alternative, therefore, it was decided that the rate of change would be used instead in order that the degree and direction of change towards resolution of the overcrowding issue might be perceived. Judging from the estimated actual number, overcrowding was only slightly

improved, and there was a failure to achieve more than a 30% improvement of the target value. This suggests that the target schools put an absolute priority on increase of pupil intake. Consequently, the problem of overcrowding has not been resolved and the government goal of 50 pupils per classroom has not been achieved.

On the other hand, the relative degree of contribution by the project with a comparison of the estimated numbers was examined with the assumption that project implementation had not taken place and that the target schools had admitted the same estimated number of pupils as a result of priority on the need for enrollment. As shown in Table 4 below, without project implementation, the result would have been 107 pupils per classroom, a worsening of 55.1%, had the 65 target schools accepted the same estimated number of pupils. Even though the increase of pupils and resolution of overcrowding can be considered mutual exclusive consequences, both were met half way by the project. Thus it can be said that the project was effective in mitigating overcrowding against the actual enrollment need of the target schools.

Table 4: Case Comparison of the Target, the Actual, and the Counterfactual of Overcrowding

	Baseline	Target	Actual		
	2005	2009	2008	2009	2010
	Year of project planning	1 year after Completion	Project Completion year	1 year after Completion	2 years after Completion
Project Target	77.3	53.4 (30.9% ▼)	--	--	--
Project Implemented (Actual)	69.1	66.2 (4.1% ▼)	67.6	66.2	64.9
No Project (Counterfactual)	69.1	107.2 (55.1% ▲)	109.5	107.2	105.1

Source: Estimated from CAP data obtained from the Implementing agency

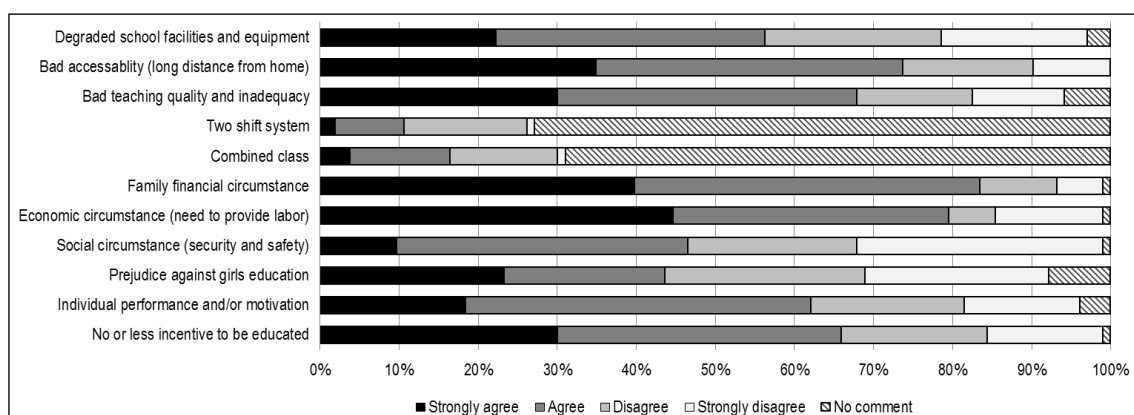
Although we confirmed that none of the 16 target schools in Koulikoro currently adopt either the two shift system¹⁷ or combined classes¹⁸, as we could not obtain data of any other of the individual target schools, it was judged that the setting of the “Number of pupils at 49 schools with an overcrowding issue” in Table 3 was appropriate as a sole criterion among the effective indicators. For the record, however, in the beneficiary survey¹⁹ conducted in 16

¹⁷ Different from full-time school, the system divides the school session into 2 blocks scheduled per day, in the morning and the afternoon. Two groups of pupils share the same school facilities at different times. This is a measure taken to deal with an increasing number of pupils.

¹⁸ The combined classes are the organization of the pupils of two or more different grades into one classroom. This is a popular measure taken in sparsely populated areas where the enrollment rate and population of pupils are relatively low.

¹⁹ According to the selection criteria at the time of project planning, with regard to access to primary education, it was assumed that all the target schools faced a similar situation. As such, in light of the current security concerns, the results of an on-site survey of local community conducted in relatively safe Koulikoro are considered to represent the project on the whole in the ex-post evaluation. Regarding the sampling of respondents prior to the survey, we could not obtain a list of residents in the target areas in Koulikoro but, through the Ministry of National Education, the survey was announced to 16 communes and schools. It was then conducted with both local communities, mainly parents and school officials, who accepted the invitation to be surveyed. As a result, there was a total of 103

target schools in Koulikoro, an inquiry was made about major disincentives causing incompleteness or dropping-out of school. As shown in Figure 3, these were perceived to be firstly “financial circumstances of the family” and “economic circumstances (need to provide labor)” and secondly “bad accessibility (long distance from home)” and “bad teaching quality and inadequacy”. With regard to prejudice against girls’ education, opinions were divided almost fifty-fifty. Regarding the two shift system and combined classes in this regard, 70% of respondents gave no comment while around 15% disagreed that they are obstructive. Furthermore, all respondents who disagreed that the two shift system is obstructive were from the areas of the 4 schools where the two shift system and combined classes were being operated at the time of project planning.



Source: Beneficiary survey

Figure 3: Reasons for Incompletion or Dropping-out of School

3.3.3 Qualitative Effects

The following qualitative effects were expected from the project at the time of project planning.

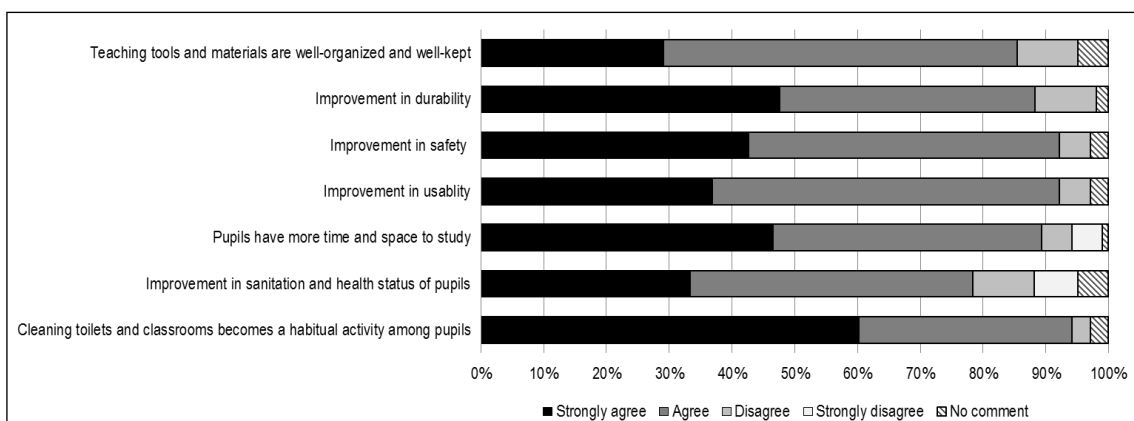
- (1) The school administrative facilities provided by the project to facilitate management of schools by principals, and meetings of teaching staff. Also, teaching tools and materials can be properly kept.
- (2) Pupils can study in a sanitary environment
- (3) Direct benefits of the soft-component
 - 1) Formulation of a comprehensive “School Management Plan” for school management as well as the operation and maintenance of school facilities and equipment.

respondents, of which 16 were principals, 38 teachers and 49 parents of pupil(s) or parents of graduate(s). Also they were 50 CGS members and 53 non-CGS members, 24 female and 79 male. The main contents of the survey were as follows; (1) changes in both quality and quantity of the educational environment, (2) improvements in access to education as well as issues and problems, (3) use of the manuals by the project, issues and problems in school management (including relations with the community), (4) the impact of gender-segregation of toilets to girls’ education, issues and problems, (5) the impact of the project.

- 2) Formulation of a detailed “Activity Plan” aligned with the “School Management Plan.”
- 3) Documentation of important pending issues and corresponding budget amounts in order that schools (CGS) can send official funding requests to the commune.
- 4) Introduction of equipment and accounting ledgers to bring transparency in revenue and expenditure in the use of funds.

According to the results of the beneficiary survey shown in Figure 4, with regard to (1), “teaching tools and materials are well-organized and well-kept”, about 85% of respondents said that they “agree” or “strongly agree.” As for (2), “improvements in the sanitation and health situation of pupils” and “pupils have more time and space to study”, some respondents strongly disagreed, indicating that some schools may still be suffering from overcrowding and face the need for more classrooms. However, it was confirmed that the percentage of favorable opinions reached around 80%. On the other hand, at time of project planning, although it was assumed that the building of school toilets would be essential in contributing to the making of a sanitary environment, according to the results of the beneficiary survey that show a majority of respondents agreed most on “improvements in safety” and “improvements in usability.” This suggests that people in local communities highly evaluated general improvements in the environment through the upgrades of school facilities when comparing them to the makeshift and decrepit classrooms that existed before the project.

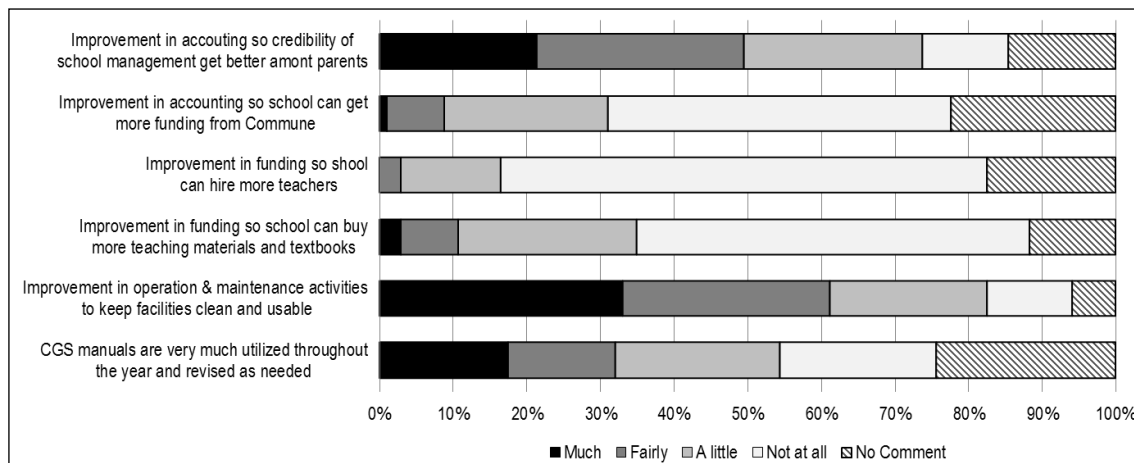
Incidentally, as the largest percentage of “strongly agree” was in relation to “cleaning toilets and classrooms becomes a habitual activity among pupils” (as a part of fostering a sense of public duty), this has to be evaluated as an unintended positive impact.



Source: Beneficiary survey

Figure 4: Improvement of the Educational/Learning Environment after the Project

In the hope of understanding (3) direct benefits of the soft component, as shown below, multiple-choice questions were given to respondents in the beneficiary survey. These were to confirm the nature and the scope of elicited contributions by the establishment of school management systems through the support of CGS with regards to the changes between before and after the project.



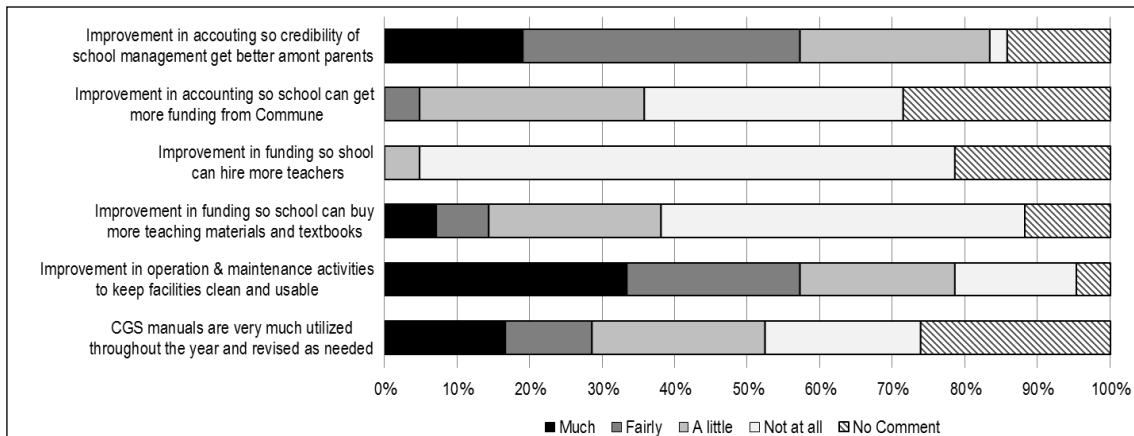
Source: Beneficiary survey

Figure 5: Improvement of School Management System after the Project

In terms of contribution to school management systems by the project, more than 80% positively responded that there had been “improvements in operation and maintenance activities to keep facilities clean and usable.” Regarding improvements in accounting, it was deemed that the trust of people in the local community, including parents, had been gained to a certain extent. Thus, it is considered that, with respect to improvements in operation and maintenance, a certain positive effect has been achieved. Furthermore, the nature and the scope of 1) to 4) above were also examined. As it may be the results of the Japan’s Technical Cooperation Project “Project for Support to School Management Committees, Phase I (2008-2011)” implemented in all elementary schools (about 1,500 schools) in the Koulikoro region, there was no striking difference in the responses between the 5 target schools (42 respondents) that were subject to the soft component as in Figure 6, and the other 11 target schools (61 respondents) as in Figure 7. All seemed to have shared difficulties in getting funding from outside sources such as the government. However, the percentage of positive responses is larger in the other 11 schools when it came to the question of whether or not they can hire more teachers through funding. As some of the respondents²⁰ had lived less than 10 years in the commune and as 4 respondents did not know the situation before the project, it is considered difficult to thoroughly clarify the actual differences. Be that as it may,

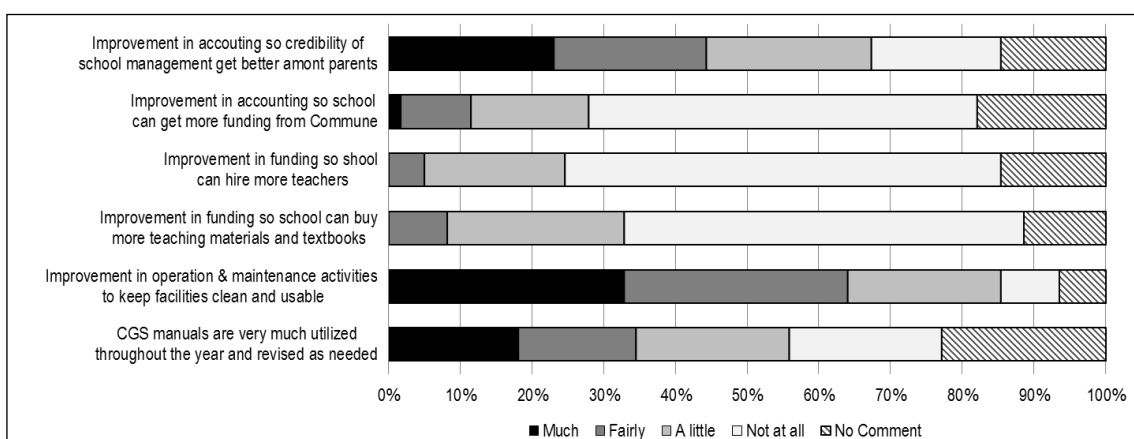
²⁰ Out of 103 respondents, 19 of them had not lived in the community for 10 years. It is most likely that they were not aware of any differences before and after the project.

both sides agreed that operation and management had improved very much. It can be inferred that the results of the survey are reflected as a synergic effect of the Technical Cooperation Project.



Source: Beneficiary survey

Figure 6: Effects of the Soft-component on School Management at 5 Target Schools



Source: Beneficiary survey

Figure 7: Comparison Case: School Management at 11 Target Schools without the Soft-component

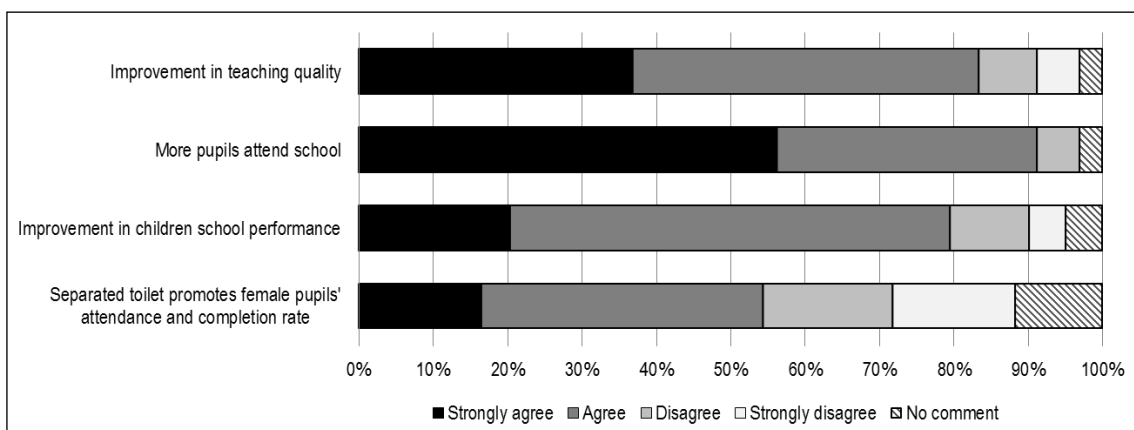
3.4 Impacts

3.4.1 Intended Impacts

The following two impacts were expected from the project at the time of project planning.

- (1) Gender-segregated toilets for both pupils and teachers respectively, thus removing some of the impediments for girls' enrollments
- (2) Operation and maintenance activities having been started by local people in the community, centering on the parents of pupils, awareness of the local community is raised

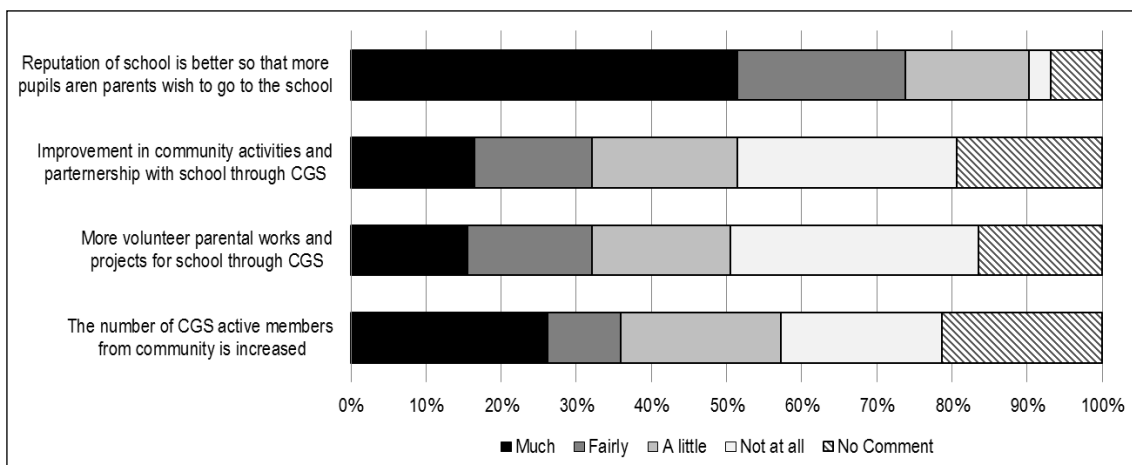
With regard to (1) according to the results of the beneficiary survey shown in Figure 8 there were relatively few opinions given on the idea of separate toilets contributing to an increase in girls' enrollment. There may be other strong inhibiting factors perceived by most of the people connected to a school. According to the response from the Implementing agency, it was suggested that there are other fundamental impediments causing girls to drop-out apart from separate toilets at school, such as the influence of their mothers and the situation of the community. It was also pointed out, however, that as the drop-out rate of girls at the age of first menstruation is high, the use of gender-segregated toilets may be indeed be correlated with the drop-out rate. It may thus be inferred that the installation of gender-segregated toilets may in fact positively affect girls' enrollment, especially for those who are in the upper grades of school.



Source: Beneficiary survey

Figure 8: Local Perceptions of the Impacts of the Project

With regard to (2), as an impact of the project shown in Figure 9, “the reputation of school has improved so that more pupils wish to attend and more parents wish to send their children to the school”, it was agreed by 90% of respondents. This considerably high number suggests that rather than the awareness of the community being raised by activities of the legally established CGS, it is more likely that an increase in pupils and parents caused the “increase in active CGS members from the community” (which was noted by a little fewer than 60% of respondents). This in turn may have led to the revitalization of local communities. Therefore, it can be said that the increase in pupils and parents thanks to the project may have enlightened the local community to the significance of primary education through CGS activities.



Source: Beneficiary survey

Figure 9: Impacts of the Project on Local Communities

3.4.2 Other Impacts

3.4.2.1 Impacts on the Natural Environment

As the target school facilities of the project were constructed within existing school sites, there was no large-scale land reclamation or modification of the environment. Also, the facilities were designed as flat buildings and therefore no insulation problems or wind hazards were expected. It was confirmed that there was no reports of negative environmental impacts during or after project implementation according to the results of the questionnaire survey with the Implementing agency at the time of the ex-post evaluation.

3.4.2.2 Land Acquisition and Resettlement

The project constructed classrooms and toilets at the location of existing primary schools, and thus no land acquisition or resettlement was expected. According to the questionnaire survey with the Implementing agency, no such events were occurred as a result of implementation of the project.

3.4.2.3 Unintended Positive/Negative Impacts

One of the unintended positive impacts was an increase in the number of teachers. By using CAP data on the average numbers of pupils per teacher, the total estimated number of teachers for the 65 target schools was calculated. Due to the governmental budgetary constraints, in general, it is difficult to increase the number of teachers at public schools and teachers themselves are reluctant to be transferred to rural areas. However as shown in Table 5, there was a swift increase around 150 persons in the year of project completion from a year earlier. At the time of project planning, there had been no target

for the number of teachers and it was confirmed that the number of teachers increased along with the aforementioned increase in pupils. Thus, the number of pupils per teacher was reduced.

Table 5: The Estimated Number of Teachers at 65 Target Schools

	Before the project			After project completion		
	2005	2006	2007	2008	2009	2010
	Year of project planning			Project Completion year	1 year after Completion	2 years after Completion
Average number of pupils per teacher at 65 target schools	64.5	64.1	64.0	61.8	61.2	61.1
Total estimated number of teachers at 65 target schools	371	375	415	563	555	546

Source: Estimated from CAP data obtained from the Implementing agency

Additionally, as mentioned in Figure 4 above regarding “Improvement of the educational/learning environment after the project,” 60% of respondents strongly agreed that “cleaning toilets and classrooms had become a habitual activity among pupils” and taken together with the percentage of responded “agree,” a total of more than 90% responded positively on improvements. This is considered to be an especially notable improvement compared to other items. Those pupils who are using school facilities maintain a hygienic environment by themselves not only helps efficient O&M, but also means the fostering of a sense of public duty as an unintended positive impact of the project.

With regard to the quantitative effect, as the actual number of pupils at the target schools exceeded the target pupil intake of the operation indicator, it can be said that the project contributed in terms of improvement of the enrollment rate. Also, the project contributed to mitigating overcrowding of the effect indicator. With regard to the qualitative effect, as indicated by the beneficiary survey, the expected effects were achieved. Furthermore, it is indicated that impediments on the enrollment of girls may have been reduced. Also, through the increase of pupils, increased participation of parents has led to expanded community involvement. And through CGS activities, awareness among communities that primary education should be highly regarded has been raised. As unintended impacts, an increase of teachers that comes with higher quality of education has been confirmed together with the fostering of a sense of public duty through habitual cleaning activities by pupils.

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

3.5 Sustainability (Rating: ③)

3.5.1 Institutional Aspects of Operation and Maintenance

Both at the time of project planning and ex-post evaluation, the Implementing agency of the project was the Ministry of National Education, Department of Planning and Statistics (Ministère de l'Éducation Nationale, cellule de planification et de Statistique) which was responsible for the construction of educational facilities. The Department of National Basic Education of the Ministry (Direction Nationale de l'Éducation de Base) has taken responsibility for management issues, and the Department of Administration and Finance of the Ministry (Direction Administrative et Financière) has taken responsibility for budgetary issues. The Implementing agency has been in charge of a regional educational agency called the Academy of Education (Académie d'Enseignement: AE). The AE has supervised a number of CAPs at the district level. With regard to the target schools of the project, each CAP is responsible for surveillance of the status of O&M and providing technical assistance if necessary. Furthermore, as communes have been stipulated as proprietors of schools in the public finance structure, disbursement for O&M is in principle to be made through each commune. With regard to daily O&M activities, the actual implementing entities are the CGS established at schools.

3.5.2 Technical Aspects of Operation and Maintenance

At the time of project planning, it was not required that new skills sets be acquired. Ordinary skills for O&M were to be exercised and there was to be a reinforcement of the O&M system. At the 16 target schools in Koulikoro, although the degree of use of the manuals seemed to vary depending upon the principal and CGS of the school, most essential O&M works such as wall painting, minor repairs, sludge disposal, and termite control, was carried out at most schools by the community. Thus no specific problems were identified.

3.5.3 Financial Aspects of Operation and Maintenance

At the time of project planning, although it was assumed that fees collected from parents by parents associations and/or admission fees from pupils would essentially cover the costs of O&M, the rates of fees as well as how they were collected varied depending upon the situation of the school and its management, and it was not carried out in a planned manner. After project completion, it was expected that CGSs would assist in getting financial support and in improving management of accounting, based on the "School Management Plans" formulated in light of the corresponding financial circumstances of each school.

According to the response to the questionnaire from the Implementing agency, although there was no change with respect to the institutional aspect of O&M from the time of the project planning, there was an inevitable reduction in the financial allocation of central government due to fiscal austerity. The urgent issue is therefore how to best strengthen the financial capacity of each commune and CGS. It is also necessary to ensure the cost burden of CGS. In the beneficiary survey of the communities, including parents of pupils at 16 target schools in the Koulikoro region, questions were asked about items of public investment and priorities from the viewpoint of the community in order to ensure improvement of the teaching and learning environment. Answers included “construction of classroom(s),” “construction of teachers room(s),” “construction of toilet(s)/ bathroom(s),” “teaching materials and textbooks,” “improvement in the number and quality of teachers,” “girls’ education,” “reinforcement of CGS,” and “others”. The least prioritized item was the “reinforcement of CGS” while the “construction of classroom(s)” was perceived to be a great necessity requiring investment (the second priority was “improvement in the number and quality of teachers”). This indicates that communities generally assume that while the government and/or donors are in a position to construct classrooms and make improvements in the number and quality of teachers, they are also responsible for the funding of CGS activities. It was planned that O&M would be carried out at the target schools based on the premise that the total admission fees of enrolled pupils would be the main source of funds. However, according to the beneficiary survey 37 respondents said that they had paid additional O&M costs (for example for the purchase of repair parts) and that these costs were not taken from admission fees or parents’ fees. These 37 respondents were from 14 target schools out of 16 and 26 of the respondents were also CGS members. On the other hand, 65 respondents said that they had never paid additional costs²¹ (they only paid the admission fees of 500CFA²²-1,500CFA). Furthermore, to our question of “how schools should be funded for O&M,” the largest number of respondents (37 persons) chose “retainage of admission fees” and the second largest number (33 persons) chose “CGS fundraising activities.” In light of these results, it can be seen that CGS are essentially responsible for financing the additional O&M costs in communities.

We also asked whether respondents would agree to make a personal contribution if a school needed major repairs, e.g. rethatching. 27 completely agreed, 72 agreed, 3 disagreed, and 1 completely disagreed²³. As the voluntary taking on of cost burdens is more or less part

²¹ The 65 respondents include teaching staff as well as community people who are not parents of pupils. Therefore, some of them do not have an obligation to pay admission fee.

²² CFA francs (CFA) have a fixed exchange rate to the EURO. At the time of ex-post evaluation, 1 CFA was equivalent to 0.17 JPY.

²³ In case of disagreement of the cost burden by individual, to the question of how should they get funding; each one of the respondents chose local commune, admission fees or CGS fundraising. Also, there was one “no comment”.

of the prevailing attitude in communities, the assumption of joint ownership of “our school” is substantially high.

As no financial record of the 16 target schools could be obtained, the question was asked as to whether there had been an increase or decrease in O&M costs after the project. Except for 16 who answered “I do not know,” 40 out of 86 respondents responded that the O&M cost was much higher, while only 6 responded that it was much lower. This indicates that in general the O&M cost is perceived to be higher. Even though there is an increase in the cost burden on the community, the positive attitude of mainly CGS members to the cost burden as stated above is noteworthy. Also, as mentioned above, in the qualitative effect with regard in to the improvement of school management after the completion of the project, the result is dovetailed with the observation that the improvement in accounting improved transparency and thus contributed to greater credibility among the local community including parents of pupils.

It is deemed that through the CGS activities, the principle of self-pay burden for the community has gradually become established when it comes to the financial aspects of O&M.

3.5.4 Current Status of Operation and Maintenance

According to the response from the Implementing agency, including those constructed through this project, school facilities constructed with Japan’s assistance are reported to be durable, safe and comfortable, with good ventilation during the hot season. In addition, as for those target schools of the project, it was said that the CGSs contribute notably to O&M, and that parents’ participation is also high. Major items in the annual expenses of O&M carried out by the community are regular painting of walls and repairs to fittings. The other O&M item is assumed to be the disposal of sludge when toilet tanks are cleaned, which is essentially dealt with by volunteers from the community. With regard to the current status of the facilities at the 16 target schools in Koulikoro, a degradation of the window and door fittings caused by much opening/closing is most commonly observed. However, it is also noted that the degree of degradation depends upon the frequency of repairs, which take place at the discretion of each school. Also, some schools have needed termite control, but schools and the community see this as a task which is within their capacity. Thus, O&M activities on a daily basis seem to be in their control.

Furthermore, no serious defects, such as cracked concrete, have been reported, and the repainting of toilet walls and others was carried out voluntarily by the community in their own original way. Also, as mentioned in unintended impact, the cleaning of classrooms and toilets is carried out by pupils on a daily basis. Thus no specific problems with the current status of O&M have been identified.

No major problems have been observed in the institutional, technical and financial aspects of the operation and maintenance system. Therefore, the sustainability of the project effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objective of this project was to mitigate overcrowding in classrooms, to assure better access to, and to improve the quality of, the sanitary learning environment in primary education in 4 targeted regions (Koulikoro, Ségou, Sikasso, Mopti) in Mali, by the construction of facilities, the procurement of classroom furniture and the strengthening of school management organizations for targeted primary schools, thereby contributing to improvement of access to, and educational environment in primary education in Mali. The relevance of this project is high as it is relevant to the Mali's policies of emphasizing better access to primary education and development needs of improving the enrollment rates by construction of elementary schools in targeted 4 regions Mali both at the time of planning and the ex-post evaluation. Also, it is relevant to the ODA policy of Japan at the time of planning. On the other hand, although the project period was within the plan, changes in the specifications of construction materials meant that the project cost was more than the plan. Therefore, the efficiency of the project is fair. With regard to effectiveness, we have confirmed that the total number of pupils has increased, and at the same time, overcrowding has been mitigated to some extent. With regard to improvement of the teaching and learning environment, among other things, the upgrading of school facilities is highly appreciated by pupils' parents as well as other people in the community of the target region of Koulikoro. Furthermore, as for school management, it is deemed that transparency in accounting and cleaning duties has notably improved. Motivated by the good reputation, the number of parents who hope to send their children and the number of children who hope to go to these schools has increased. This may have synergized with reducing the disincentives of girls' education and also in enlightening the community about the importance of primary education. Furthermore, with regard to impact, a promotion of public morality among pupils has been manifested in their voluntary cleaning activities. Thus, the effectiveness and impact of this project are high. Regarding sustainability, the communities have organized themselves to carry out the operation and management activities. There is no problem in the technical aspects and the community have carried out simple repairs and cleaning on a daily basis. With regard to the financial aspect, although the cost of operation and maintenance has risen as a result of the project, it was confirmed that, as the community are willing to accept the cost burden, along with principle of benefit has been gradually shared among them. Therefore, the sustainability of the project is high.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

Reinforcement of the monitoring mechanism

Individual data for the target schools was not provided by the Ministry of National Education for this ex-post evaluation study. In the recovery period after the crisis of 2012, the Implementing agency faced the need to place reliance on local administrative capacity in order to ensure the viability of national education policy. However, even with the transition of executing power to local autonomies, regarding the results of policy execution, central government is entitled to retain power and the role of monitoring and should be provided with accurate information, always provided that they are in the right position for policy making for, and evaluation of, nationwide improvements in primary education. If “decentralization” through the transition of power is in fact mired in the irresponsible disintegration of power, it would be preposterous as essential information signals may not be incorporated into the policy making process. Also on the negative side of decentralization, there is the danger that, through the disintegration of power, the organizational structure may become complex and fall into excessive stratification thus causing a lack of communication, a lack of due fund-management and a confusion of function and responsibility among constituents. This creates not only extra administrative costs but is also harmful to efficient policy implementation which may result in a plunge into widening regional disparity. Therefore, we would urge the earliest possible establishment of a nationwide information collection and monitoring mechanism by the central government. As AE and CAP under the Ministry of Education are the key decentralized arms of the education administration system, through the reinforcement of their technical capacity to provide assistance, they in particular should become active players in the monitoring mechanism. They should swiftly share and analyze data and information on local issues with regard to education. They should then be able to build on effective endeavors of the improvement of education with a realistic target across the country.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

Positive effects of high-quality specifications and construction on the ownership of the community

Although a high level of use by an increased number of pupils and progressive aging the facilities may well be anticipated, the target schools were being maintained in a fairly good condition at the time of ex-post evaluation thanks to proactive participation in O&M by the

community. As for the institutional background, Mali is in the middle of a decentralization process. Although local autonomies face inflated administrative power, difficulties in public finance mean that performance cannot be ensured in practice. Therefore it is indispensable that as users of the schools, communities, centering on the parents of pupils, voluntarily take the burden of a large portion of costs in order to carry out O&M.

In Mali, it is common that school buildings collapse and become non-usable due to the strong desert wind and rainstorm. Taking this harsh environmental issue into consideration, in the construction of the schools of this project, deep piling took place and durable concrete blocks were used. The high standard specification of construction of principals' offices, gender-segregated toilets and storage is well-regarded and appreciated in local communities from the point of view of durability and safety, and although the burden of O&M costs on the community is higher than before, the sense of ownership has been raised to the extent that communities will voluntarily take on the cost burden. An additional advantage might be that these aspects may have facilitated the necessary personnel transfer of teachers in a timely manner.

At the time of project formulation and planning, it is important that specifics should be determined in hope of raising the sense of community ownership in terms of O&M, through a thorough examination of willingness toward the cost burden to be taken by an implementing entity or group that is an operational manager of school facilities in a real sense and specific requirements (including cultural and social factors). This may have a positive effect on the sustainability of a project.

Points to consider regarding the problem of the trade-off of effectiveness indicators

At the time of project planning, while the indicator of an increase in enrollment of children was set, the indicator of a decrease in the number of pupils studying in overcrowded classrooms was also set. As each indicator is mutually exclusive, there is a difficult trade-off. In a country like Mali, where the number of children in primary education who are not in school is in the absolute majority, it is inevitable that the overcrowding issue will be aggravated as numerous children in the community must be admitted to schools with newly constructed classrooms. Thus, the combination of the indicators is not appropriate. Considering the schools' admissions policies, it is unthinkable to assume that they would flatly refuse children on the grounds of the target value of the indicator or the government standard limits per classroom. Therefore, although there may be a plausible rationale behind the setting of an independent indicator, it is important that there should be a careful examination, in light of the critical local factors in a country, of whether indicators are compatible, whether there should be any order of priority among them, and whether there are any specific conditions for them to be compatible, in order to set adequate indicators to measure effectiveness.