Republic of Benin

Ex-Post Evaluation of Japanese Grant Aid Project

"The Project for Construction of Primary Schools in the Republic of Benin (Phase IV)"

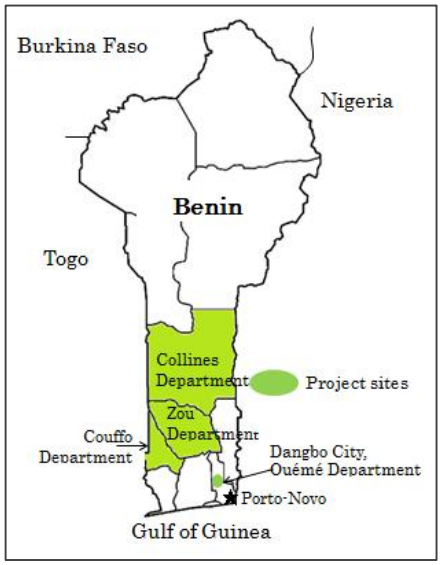
External Evaluator: Hisae Takahashi, Ernst & Young Sustainability Co., Ltd.

0. Summary

In order to improve the educational environment in target schools in Benin, this project constructed classrooms and toilet booths, procured school furniture, and established adequate systems for the management, operation, and maintenance of schools and school facilities. Benin has been working to improve access to primary education. However, the rapid increase in the number of students led to a shortage of classrooms. Moreover, many classes had to be held in poor-quality classrooms, leading to a serious deterioration in the educational environment in the country. The implementation of this project has therefore been highly relevant to Benin's national policy, their needs, as well as Japan's aid policy toward Benin. Although the project cost was as planned, the project period exceeded the plan due to the longer period required for the material procurement and cash flow of the contractors, as this was the very first Grant Aid for Community Empowerment Project implemented in the country. Therefore, the efficiency of the project is rated as fair. Furthermore, the construction of school facilities and procurement of desks and chairs helped increase enrollment numbers and decrease the number of students per classroom, and also improved both the education and hygiene environments. They also significantly helped reduce the financial burden and work hours required for the Operation and Maintenance (O&M) of facilities. It was also acknowledged that the training conducted under this project improved the understanding of the concept and importance of O&M for school facilities among the people engaged in the O&M of schools. Improved enrollment numbers and completion rates for girls were also confirmed as impacts, as well as an increased motivation to study. The effectiveness and impact of the project are therefore rated as high. As for the institutional aspect on O&M, issues have been observed in lack of teachers and staff of Inspector Office (Circonscription Scolaire: CS), and in understanding of reporting procedure regarding O&M of school facilities. From a technical viewpoint, the effective use of O&M manuals for related facilities and understanding of the O&M costs are expected in the future. Therefore, the sustainability of the project effect is fair.

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

1. Project Description



Project Locations

Classroom Built under This Project
(Sodohome primary school, Zou department)

1.1 Background

The Republic of Benin (Benin) identified the education sector as a necessary sector for improving the basic social life of the country and was working to improve the enrollment rate and quality of education. At the project planning stage, Benin introduced a "10 year Development Plan for education sector" (PDDSE: 2006-2015) in cooperation with the major donors and allocated 23% of the national budget for the education sector. The Government of Japan provided three phases of grant aid (construction of classrooms of primary schools, etc.) and contributed to measures to improve access to education. In fact, the gross enrollment rate of primary education in Benin increased drastically to 99% in 2004.

On the other hand, the sharp increase in the number of students caused a shortage in the number of classrooms and overcrowding, and many schools had to give classes in poor-quality classrooms built of sun-dried bricks or wood. This deterioration of the educational environment led to decreases in the quality of education and affected the enrollment rate, and the Government of Benin lacked funds to construct sufficient school facilities. Under these circumstances, the Government of Benin requested the Government of Japan to provide grant aid to rebuild primary school classrooms. The Government of Japan implemented this project using Grant Aid for Community Empowerment[1] (hereafter referred to as "Community Grant Aid") based on the result of an earlier study conducted to investigate the feasibility of having local contractors construct primary schools with low-cost designs according to the local

[1] Grant Aid for Community Empowerment is a grant aid program established in fiscal 2006 to support comprehensive capacity development of communities facing threats to human life and safe living such as poverty, hunger, and disease. To reduce costs, the program is implemented using local contractors, equipment, and materials based on local specifications and designs.

specifications, in response to requests from the Government of Benin, the general demand for classrooms and education policy guidance in Benin.

1.2 Project Outline

The objective of this project was to improve the educational environment in target schools in Benin by constructing school facilities such as classrooms, offices for school heads, and toilet booths, providing school furniture and a soft component for school management, the operation and maintenance of school facilities, and school health, and to thereby improve enrollment rates in the target area (Couffo department, Zou department, Collines department, and Dangbo city in Ouémé department).

Grant Limit / Actual Grant Amount	1,030 million yen / 1,030 million yen
Exchange of Notes Date	December, 2007
Implementing Agency	Ministry of Preschool and Primary Education (Ministère de l'Enseignement Maternel et Primaire) (MEMP)
Project Completion Date	June, 2011
Main Contractor(s)	15 construction companies, 8 furniture companies
Main Consultant(s)	Procurement Agent: Japan International Cooperation System (JICS) Facility Construction: Ecoplan Sarl Soft Component: (Management) JICS, (Operation) World Education
Basic Design	September, 2007
Detailed Design	July, 2008
Related Projects	"Project for Primary School Construction" Phase I - Phase III and Phase V: Construction of classrooms and the incidental facilities, and material procurement" Phase I (1996) Mono Department, Atlantique Department Phase II (1997-1999) Borgou Department, Atakora Department, Zou Department and Ouémé Department Phase III (2003-2005) All Departments in Benin Phase V (2012-2015) Atakora Department and Donga Department

2. Outline of the Evaluation Study

2.1 External Evaluator

Hisae Takahashi, Ernst & Young Sustainability Co., Ltd.

2.2 Duration of Evaluation Study

Duration of the Study: October, 2014 – September, 2015

Duration of the Field Study: January 11 – January 30, 2015 and April 5 – April 10, 2015

2.3 Constraints during the Evaluation Study

- The project site covers a wide geographic area of three departments and one city. The 51 target schools are scattered across this area. To understand the whole context of the situation and perform the evaluation efficiently, the External Evaluator conducted site visits mainly at the Couffo and Zou departments, where 80% of the target schools were located. The site visits in the other departments were carried out mainly by local consultants.
- Although attempts were made to collect the basic data on the target schools necessary for an analysis of effectiveness (capacity of students in solid classrooms, total number of students, number of students per classroom), no reliable data could be obtained from the Implementing Agency during the planning stages or at the ex-post evaluation. The analysis for this ex-post evaluation was therefore carried out using data for the target departments/city. Qualitative information obtained through the interview survey conducted during the site visits and beneficiary survey was used as complementary information.

3. Results of the Evaluation (Overall Rating: B[2])

3.1 Relevance (Rating: ③[3])

3.1.1 Relevance to the Development Plan of Benin

Benin's development policy at the planning stage, the "Growth Strategy for Poverty Reduction" (Stratégie de Réduction de la Pauvreté) (SCRP)(2006), aimed at poverty reduction and defined the following as priority sectors that contribute to poverty reduction: education, basic healthcare, social-infrastructure improvement, rural development, economic revitalization, administrative reform and decentralization, social security, and the maintenance of public order. Within the education sector, the policy declared that primary education was the highest-priority category and emphasized that the most important issue was to provide all students of school age with access to educational opportunities. "The third Growth Strategy for Poverty Reduction (SCRP) (2011-2015), the development policy in place during the ex-post evaluation, identified "continuous acceleration of growth and economic reform," "basic infrastructure development including the sanitary sector," "reinforcement of human resources," "enhanced quality of governance," and "equal and sustainable growth" as essential frameworks and recognized the education sector as an important sector for the "reinforcement of human resources."

[2] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory
[3] ③: High, ② Fair, ① Low

The “10 year Development Plan for education sector” (PDDSE: 2006-2015), a plan formulated with a basic framework reflecting policy guidance for the education sector such as SCRP, prescribed a basic policy of improving the quality of education and promoting education for all students up to the sixth grade of primary school. “Free preschool and primary education” (2006) had also been implemented in Benin. These sector plans were still underway at the time of the ex-post evaluation.

As such, the implementation of this project and the project’s aims of increasing enrollment in the target area through the construction of school facilities to improve the educational environment were highly relevant to the country’s development plan and education sector plan both at the planning stage and during the ex-post evaluation.

3.1.2 Relevance to the Development Needs of Benin

In the planning stage, the net enrollment rate of primary education in Benin increased to 94% (2005) through the efforts of the Government of Benin to improve the enrollment rate and quality of education. However, a rapid increase in the number of students led to a shortage of classrooms and serious overcrowding. This deterioration of the educational environment decreased the quality of education and affected the enrollment rate. Under this circumstance, PDDSE declared that it would be necessary to construct 25,000 classrooms over the 10-year period leading up to 2015. The national budget, however, was insufficient to fund the construction of the target number of school facilities. Support from the Government of Japan and other donors was therefore requested.

As a result of the implementation of free primary education and measures to reduce the gender and regional gaps, the net enrollment rate in primary education had increased to 98% as of the ex-post evaluation. On the other hand, 13,720 out of the 25,000 classrooms required under the PDDSE had been constructed by 2013; that is, there was still a shortage of 11,280 classrooms (see Table 1). There was therefore a strong and persistent need to construct classrooms and supply them with accompanying furniture at the time of the ex-post evaluation.

The target area of this project was selected by the Implementing Agency based on the enrollment rate and shortage of classrooms. During the selection process, priority was given to the departments and cities that still had significant shortages of classrooms in the area where Phases I to III of the Project for Primary School Construction had been implemented in the past. This was in line with local needs and therefore rated as relevant.

Table 1　Number of Classrooms Constructed After 2007 in Benin

(Unit: Number of classrooms)

Year	2007	2008	2009	2010	2011	2012	2013	Total
Number of classrooms	1,565	1,144	1,359	2,212	3,648	915	2,877	13,720

Source：Documents provided by MEMP

3.1.3 Relevance to Japan's ODA Policy

In order to assist Benin's efforts to reduce poverty during the planning stage, Japan set the basic human needs as priority sectors. Specifically, these were sectors that contributed to improved living conditions for community residents, including the education, water supply, sanitation, health, and medical care sectors.[4] This project implemented the construction of school facilities and provided technical assistance (soft component) for O&M, school health, and the improvement of hygiene conditions. This project was therefore consistent with Japan's aid policy toward Benin, which designates the education sector as a priority sector.

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

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

【Japanese Portion】

This project constructed solid classrooms, offices for school heads, and toilet booths built of concrete block at 51 schools in three departments and one city. As shown in table 2, the number of target schools increased by six, hence the actual number was 106% compared to the plan. This increase was funded with remaining budget as a result of tender, so the change was both efficient and effective. The additional target schools were selected by the Implementing Agency based on basic data from the targeted city and three departments regarding access to primary education, including enrollment rates, and classroom sufficiency rates. The judgment was therefore in accordance with the local needs. As for the school furniture, the procurement was conducted for newly constructed classrooms as planned as shown in table 3. Furthermore, the soft component provided in this project for the school officials, parents associations, community leaders (training for school management, O&M of school facilities, and improvement of school health and hygiene conditions) was conducted as planned.

[4] Official Development Assistance (ODA) Data Book by country 2007

Table 2　Planned and Actual Output (Facilities)

Department/City	Items	Planned	Actual	Difference
Couffo department	Number of target school	17	17	As planned
	Classrooms	92	92	
	Office of school head	17	17	
	Toilet／Toilet booths	12／48	12／48	
Zou department	Number of target school	19	19	
	Classrooms	93	93	
	Office of school head	11	11	
	Toilet／Toilet booths	16／64	16／64	
Collines department Dangbo City, Ouémé department	**Number of target school**	**9**	**15**	**6 schools more than planned**
	Classrooms	**46**	**64**	**18classrooms more than planned**
	Office of school head	9	9	As planned
	Toilet／Toilet booths	7／28	9／36	2toiltes・8toilet booths more than planned

Source：Documents provided by JICA

Table 3　Planned and Actual Output per School (School furniture)

	Name of furniture	Planned	Actual
Classroom	Desk and chair for students	25 set	As planned (the total number was increased because an increased number of classrooms were constructed)
	Desk and chair for teachers	1set	
	Blackboard (fixed)	1for front and 1 for back of the classroom	
	Blackboard (mobile)	1	
	Build-in cabinet	1	
Office of school head	Desk and chair for school head	1set	
	Chair for meeting	4	
Storage room (in school head's Office)	Build-in cabinet	1set	

Source：Documents provided by JICA

【Benin Portion】

The Benin Portion, including the cost for implementation of the soft component and removal of vacated buildings in the areas where classrooms were constructed, was carried out as planned (see Table 4).

Table 4　Major Output (Benin Portion)

Output	Planned	Actual
Implementation of soft component	1set (4,000CFA)	As planned
Removal of existed building	1set (114,000CFA)	

Source：Documents provided by JICA

3.2.2 Project Inputs

3.2.2.1 Project Cost

The actual project cost covered by the Japanese side was as planned, at 1,030 million yen, the exact amount from the Exchange of Notes (100% of the plan). The total planned project cost, including the 28 million yen Benin portion, was 1,058 million yen. It turned out to be difficult, however, to compare this planned total with the actual total, because Benin's expenditure records could not be obtained. However, given the fact that Benin's component was implemented as planned without any problem, it was recognized that an amount equivalent to the planned cost was disbursed (see 3.2.1 "Output").

3.2.2.2 Project Period

The project took a period of 36.8 months from April 10, 2008 to June 9, 2011. This was longer than the 28-month period planned for all phases of the project, including the detailed design stage and tender period (131% of the plan). This extension in the project period was mainly caused by "delays in material procurement," "delays in construction due to deteriorated cash flow of the contractors," and "work delays during the rainy season":

- Delays in material procurement

  This project proactively used local materials in accordance with the intent of the Community Grant Aid. After the project started, the timber planned for the roofs could not be procured as scheduled due to reduced amounts available in the domestic market. Although alternative timber was procured, this change resulted in a three-to-four-month delay. In the "Project for Primary School Construction (Phase V)," subsequent project implemented with Community Grant Aid, the project decided to use steel material for roofing based on the experience from this project.

- Delays in construction due to deteriorated cash flow of the contractors

  In accordance with the intent of the Community Grant Aid, many local contractors were hired to construct the classrooms. Many of these local contractors were small-scale entrepreneurs, who faced cash-flow problems for paying wages due to poor finance capacities. The delays in wage payment by the contractors to their workers delayed the construction. The relatively ambiguous selection criteria for local contractors at the planning stage were a major factor underlying this issue. The project implementers attempted to alleviate this issue during the project by changing[5] the payment condition for contractors and taking various other steps. In the "Project for Primary School Construction (Phase V)," meanwhile, the project expanded the sizes of the lots and

[5] Six payments during the construction period were initially planned. Yet there were many cases where delays in payments to subcontractors and workers led to suspension of work. The frequency of payment to contractors was therefore increased to prevent cash-flow problems from delaying the project. (Based on the interview survey with the procurement agent of this project)

considered financial capacity as a criterion for local contractor selection based on the experiences from this project.

- Work delays during the rainy season
  Work delays in the rainy season prolonged the project period because the impacts of the rainy season had not been fully reflected in the work schedule. In the "Project for Primary School Construction (Phase V)", a longer construction period was scheduled to include the rainy season.

As mentioned above, the most of the delays were attributed to the fact that the project was the first Community Grant Aid project in the country. The scheme encouraged the use of local contractors and materials based on local specifications and designs in order to reduce the cost and improve efficiency. The local contractors involved in construction and procurement in this project were therefore often small and faced difficulties with financial capacity and cash flow. The scattering of target schools over this wide area posed considerable challenges to the technical manager and local consultant who supervised the project construction, both of whom were based in the capital city[6]. As above, the experience in this project provided valuable guidance for the implementation of the "Project for Primary School Construction (Phase V)".

As above, although the project cost was as planned, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.3 Effectiveness[7] (Rating: ③)

At the planning stage, no operation and effect indicators were defined clearly except the two output indicators: "capacity of students in solid classrooms" and "number of toilet booths." These indicators shown at the planning stage were recognized as outputs of the project, while the basic operation and effect indicators for the construction and renovation of school facilities ("total number of students" and "number of students per classroom") were used for the analysis. The information and results obtained through the interview survey and the beneficiary survey[8] were also used for the analysis, since the basic data on the target schools could not be obtained for the reasons described in "Constraints during the Evaluation Study."

[6] Under this project, the procurement agent assigned the Japanese technical manager, and the detailed design and the construction works were supervised by the local consultant.
[7] Sub-rating for Effectiveness is to be put with consideration of Impact.
[8] Beneficiary surveys were conducted at the target schools in Couffo Department (5 schools), Zou Department (6 schools), Collines Department (2 schools), and Dangbo City in Ouémé Department (2 schools) via interview survey using questionnaires with a total of 223 concerned parties (school heads/teachers (38), parents associations/community members (35), students (150)).

3.3.1 Quantitative Effects

3.3.1.1 Number of Students Newly Enrolled

The Implementing Agency was requested to provide reliable data on the number of students newly enrolled after the project, but this data which only covered the target schools was not organized, thus could not be obtained at the ex-post evaluation. However, according to the interview survey with the Implementing Agency, CS, target schools, and parents associations, many schools had to give classes to students of several different grades together or classes outdoors under trees, due to the lack of classrooms before the solid classrooms were built by this project. The number of classrooms constructed at the target schools under this project was sufficient to accommodate one classroom for each grade of students, so it was concluded that the number of students had increased. Furthermore, as mentioned above, the project constructed 249 classrooms at 51 schools. Given that one classroom has the capacity to accommodate 50 students, the new classrooms allowed the target schools to accept 12,450 new student enrollments. Because it was also confirmed that the constructed classrooms were utilized effectively at the ex-post evaluation, the project was recognized to have contributed to an increase in the number of accepted students.

In the results of the beneficiary survey as well, all of the school heads and teachers who responded to the question about the increase in number of accepted students after the project implementation responded that the number of students at their schools indeed increased[9].

3.3.1.2 Number of Students per Classroom

By the construction of new classrooms, the number of students per classroom dropped from an average of 69 at the planning stage to 48 in the project completion year, as shown in table 5. Later it increased slightly to 51 with the increase in enrollment, according to the result of the ex-post evaluation (see Table 5). However, considering that the number dropped compared to the number at the planning stage, the project can be judged as having contributed to the alleviation of classroom congestion in target schools to some degree. Moreover, the project could meet the national standard of 50 students per classroom, according to the Implementing Agency. In fact, it was confirmed that more than 51 students were studying in classrooms at some of the schools visited due to the increasing numbers of students. However, some of the primary schools in remote areas with fewer students were included in the calculation of the average. Thus, the average number of students per classroom is counted as 51.

[9] Regarding the acceptable number of students, 82% of the respondents answered “significantly increased” and 18% answered “increased.”

Table 5 Number of Students per Classroom

	Baseline	Target	Actual	Actual
	2007		2011	2014
	Baseline Year		Project Completion Year	3 Years After Completion (Ex-post evaluation)
Number of students in one classroom				
Couffo Department	83	None	57	55
Zou Department	64		44	48
Collines Department	69		51	54
Ouémé Department /Dangbo City	60		39	45
Average	69		48	51

Source：Documents provided by the Implementing Agency

3.3.2 Qualitative Effects

3.3.2.1 Improvement of Learning and Teaching Environments

The construction of solid classrooms and the procurement of school furniture helped improve the learning and teaching environments for students and teachers. According to the interview surveys with teachers, staff, parents associations, and community leaders, almost all of the schools had given classes in simple wooden classrooms or outdoors under trees before the construction of solid classrooms under the project. The classes were affected by the weather and could not be held on rainy or extremely hot days. In addition, many students had to use unstable desks and chairs in their classes, or had to sit on stones or the ground without adequate desks or chairs. After the project, it was heard that the classes could be held in good environments because the classrooms constructed by the project enabled them to hold classes without impacts from the weather. The classrooms received good sunlight, had good air flow even on hot days, and had new school furniture.

In the results of the beneficiary survey as well, all of the students, parents associations, school heads, and teachers who responded mentioned that the conditions were improved compared with before the project implementation, and that they were satisfied with the current learning and teaching environment. The same respondents also explained that learning and teaching in the new, clean, and comfortable classrooms with new desks and chairs helped to significantly improve the educational environment.

3.3.2.2 Improvement of Hygiene Conditions

The construction of toilets and classrooms and the implementation of the program to improve school health and hygiene (soft component) at the target schools contributed to improve hygiene conditions at the primary schools, as below:

- Effect of the construction of toilets

From the results of the interview survey at the primary schools, the construction of toilets was found to have effects such as the following: “The number of boys who relieve themselves on the school grounds or in the bushes around the school dropped, and the bad smell decreased” and “Fewer students have diarrhea.” In the results of the beneficiary survey as well, all respondents (only at the schools where toilets were constructed) said that the construction of toilets had improved the hygienic environment.

・ Effect of the construction of the classrooms

At the planning stage, an improved hygienic environment at the school was expected as an effect of the construction of toilets. In fact, the results of the interview survey showed that the construction of classrooms helped improve the hygienic environment, in addition to the construction of toilets. Prior to the implementation of this project, the simple classrooms did not have concrete floors, which caused hygienic problems such as “soil dust in the classroom,” “got injured in the foot,” and “feet got dirty with mud.” The school buildings with concrete floors constructed by the project significantly improved the classroom environment.

・ Effect of the program for the improvement of school health and hygiene condition

As for the soft component of this project, an awareness-raising campaign was conducted for teachers, parents associations, and community leaders in order to implement the health and sanitary activities in the schools. Regular health and sanitary improvement activities were implemented at almost all of the schools visited at the ex-post evaluation. The activities included “encouraging hand-washing before eating and after using the toilet,” “teaching the proper use of toilets,” “instruction on the routine cleaning of classrooms and toilets,” and “giving hygiene advice to people selling food and snacks on the school compound.” In the rural area in the country, the appropriate use of toilets and correct hand-washing practices before and after meals were not commonly taught in the home. There was therefore a high possibility that toilets were used improperly without health and sanitary instructions at the schools even after the toilets were constructed. According to the interview survey with the Implementing Agency and school staff, the effects of the implementation of the soft component of this project as well as the activities conducted in cooperation with the Implementing Agency, Ministry of Health, NGO, and United Nations Children’s Fund (UNICEF) were considered to have contributed to the continuous implementation of these activities.

3.3.2.3 Capacity Building of Organization in Charge of School Management and O&M

As part of the soft component, this project established the committee of school maintenance (CME) at the target schools with an expectation of establishing an O&M system for maintaining facilities and school furniture in the long-term, activating school

health activities, and building a sense of ownership in the communities surrounding the schools.

Although CMEs were functioning as organizations at fewer than half of the schools visited at the ex-post evaluation, both schools and parents associations understood the importance of O&M of the school facilities from their experience in the project, and almost all of the schools implemented regular O&M with cooperation from the parents associations. For example, the cleaning of high ceilings, a necessary O&M task for the solid classrooms, was implemented regularly, while tasks that had previously been common in Benin such as the annual rebuilding[10] of classrooms or frequent repairs of broken fixtures, etc. became unnecessary. There were also systems established to clean sediment in the rainy season, to take care of the flowerbeds, and to receive cooperation from surrounding communities when issues occurred at many of the schools. Thus, though CME did not continue their functions in the form of the committee at target schools, the school staff and parents associations came to commonly recognize the importance of O&M of the solid classrooms, a task not experienced prior to the project, and were incentivized to establish a cooperation system through the effects of this project. The low number of schools with functioning CMEs was attributed to failure of the schools and parents associations to recognize that the new organizations were created.

3.4 Impacts

3.4.1 Intended Impacts

The following impacts were expected at the time of planning as an indirect effect of this project implementation:

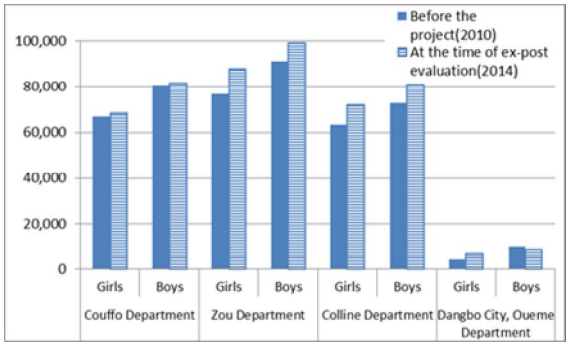
- An increase in the enrollment number of girl students was expected due to the improvement of the hygiene environment of the primary school by the construction of classrooms and toilet booths. By reducing the financial or non-financial burden of parents and communities for repairs to the simple school building - thereby improving their economic condition - it was expected to alleviate household work which was one of the reasons inhibiting girls from continuing school, and therefore increase the continuous enrollment rate of girls.
- The cost for the repair and maintenance of facilities was expected to be reduced by the construction of classroom wings designed with improved durability and strength.

The following were confirmed through the ex-post evaluation:

[10] It is considered necessary to rebuild school buildings annually or once every few years because simple school buildings built with straw or sun-dried brick, the common building materials in the country, are damaged easily.

3.4.1.1 Increase in the Enrollment Number and Completion Rate of Girls

As shown in Figure 1, the primary school enrollment numbers increased at the time of the ex-post evaluation compared with before the project implementation in all target departments and city. It also indicated that the rate of increase in the enrollment number of girls was higher than that of boys. In the results of the beneficiary survey as well, all responses from school heads, teachers, and parents associations cited that the number of girl students increased compared with before the project implementation. It was also confirmed that the completion rate of girl students at the time of the ex-post evaluation improved in the target departments and city as indicated in Figure 2. Although the completion rate of girl students was still lower than that of boy students, the rate of increase in the completion rate of girl students was higher than that of boy students. According to an interview survey conducted with the Implementing Agency and school staff, the construction of solid classrooms and toilets and provision of school furniture by the project improved the educational and hygiene environments, which allows parents to send girls to school without worries. In addition, girls developed a motivation to study and attend schools with clean classrooms, which is believed to have contributed to the improvement of the enrollment number and completion rate of girls.



Source: Documents provided by the Implementing Agency

Figure 1. The Number of Enrolled Students at Primary Schools in Target Departments/City

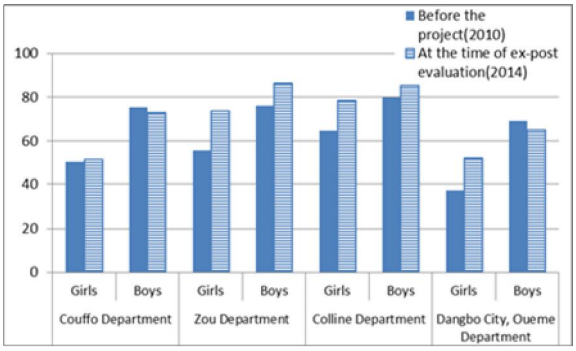


Figure 2. The Completion Rate of Primary Schools in Target Departments/City

On the other hand, many opinions were heard that free primary education policy and awareness raising activities for improving girls' enrollment conducted by the Implementing Agency also played a significant role in improving the enrollment number and completion rate of girls. Therefore, in terms of the increase in the enrollment number and completion rate of girls, the impact was considered to be brought about not only by the project but as a synergistic effect with other activities implemented by the Government of Benin and the Implementing Agency. As for the impact and effect of the project on the "alleviation of household work while reducing financial burden of parents for O&M," which was expected

at the time of planning, could not be confirmed through the interview survey, and thus considered to be limited.

3.4.1.2 Reduction of O&M Cost

According to the interview survey at the schools visited, the financial burden of parents associations for repairs to classrooms was significantly reduced at almost all schools after the construction of solid classrooms. For example, at a school which was using simple classrooms as shown below, parents association collected and donated roughly 100,000 – 120,000 West African CFA franc[11] (CFA) (approximately 20,000 – 25,000 Japanese yen) per year for classroom repair costs because it was necessary to rebuild or repair classrooms every year before the project implementation. In addition to financial burdens, about 30 people at one time participated in repair and rebuilding work, which was carried out about three times a year. After the construction of solid classrooms by the project, it was confirmed that financial burdens were virtually eliminated and repair work was significantly reduced.

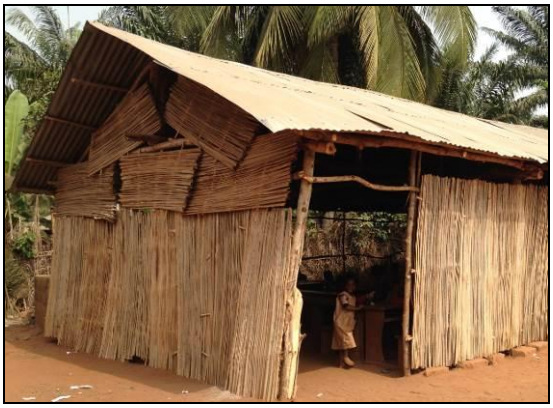


Photo (Left) Simple classroom

Photo (Right) Solid classrooms constructed by the project

(Dangbo-Home Primary School, Dangbo City, Ouémé Department)

3.4.2 Other Impacts, Unintended Positive/Negative Impact

3.4.2.1 Impacts on the Natural Environment

It was confirmed that there was no negative environmental impact during or after project implementation according to the results of the interview surveys with school staff, CS, the Implementing Agency and site visits to the target schools.

3.4.2.2 Land Acquisition and Resettlement

The project constructed classroom wings and toilets at the location of existing primary schools, and thus no land acquisitions or resettlement took place as a result of implementing the project, which was confirmed through the interview survey with CS, and school staff of

[11] Cost per three classrooms.

the target schools visited.

3.4.2.3 Other Impacts

(1) Improvement of Learning and Teaching Motivation

Motivation for students to learn and teachers to teach at the target schools increased as a result of improvement of the learning and teaching environment by the construction of classroom and procurement of school furniture. As a result, according to school heads and CS, the passing rate of students for the final unified examination (which is conducted by the Government of Benin) taken by sixth grade students, was raised. Moreover, in the results of beneficiary survey, all students who responded to the survey answered that motivation to learn increased after the project implementation, and also all teachers who responded mentioned that their motivation to teach increased as well.

(2) Capacity Building of Local Contractors

Under the project, many local contractors were involved in the construction of facilities. Included among them were many contractors who had no experience with aid projects financed by foreign countries, and so experiences gained through the project contributed to improving their level of competency. In particular, these competencies include: project management, including “time management” by implementing the project in accordance with the plan and strictly adhering to time schedules; “quality control” by checking quality at each process until the completion of the facility; and “safety control” by mandating helmet use. Many of the local contractors have made use of the experiences and competencies obtained through the implementation of this project even after the project completion, therefore the project contributed to the capacity building of local contractors (see column below).

Column: Capacity building of local contractors through Grant Aid for Community Empowerment

The project using Grant Aid for Community Empowerment (Community Grant Aid) proactively uses local contractors, resource and materials in order to save costs and achieve efficiency. In this project as well, more than 20 local contractors were involved in the construction of classroom buildings and toilets and procurement of school furniture.

As the first project using Community Grant Aid in Benin, many local contractors involved in the project had no experience with a foreign project, and so there were gaps among the technical manager, local consultants in charge of supervision of construction work and local contractors at the beginning of the project. Due to perception gaps in several areas, such as attitude, accuracy, experience, and knowledge toward project operations, conflicts among participants occurred at the beginning of the project. In order to bridge these gaps, regular meetings were held among the technical manager, local consultants, designers, local engineers, and other related parties. At the very beginning, awareness regarding the importance of "Time Management;" starting operations on time, and "Safety Control;" wearing helmets and safety jackets were shared among participants. In addition, the technical manager visited operation sites and conducted quality and technical checks on the buildings under construction in each process.

According to local contractors involved in this project, they did not recognize the importance of starting work on time, wearing safety equipment during work, meeting deadlines. Moreover, it was their first experience to work based on the concept of "Quality Control," such as preparing materials (including concrete) in a set composition, checking the strength of materials to be used, and redoing work when the quality standards were not met in quality checks conducted during the process. Therefore, it was acknowledged that local contractors learned new knowledge and experience regarding "Time Management", "Quality Control", and "Safety Control" through this project. Moreover, many contractors who participated in the project mentioned that new business opportunities were created based on this experience, and, in fact, they are actively engaged in the follow-up project "Project for Primary School Construction (Phase V)."

As a result of the implementation of this project, enrollment numbers increased and the number of students per classroom dropped at the target schools in which solid classrooms, toilets, chairs, and desks were provided. The improvement of the education and teaching environments unaffected by weather and health and sanitary conditions through school healthcare activities was also confirmed. Understanding of the concept and importance of O&M of school facilities gained from school heads, teachers, and parents associations was acknowledged as soft component effect. Furthermore, it was confirmed that the enrollment number and the completion rate of girls increased as a result of a synergistic effect between the project and other activities conducted by the Implementing Agency, and the Government, and the impact on raising students' and teachers' motivation to learn and teach, respectively, was confirmed as well. Based on this, the project has largely achieved its objectives. Therefore

effectiveness and impact of the project are high.

3.5 Sustainability (Rating: ②)

3.5.1 Institutional Aspects of Operation and Maintenance

Each target school would be responsible for O&M of school facilities and furniture constructed and procured by the project. Although CME — established through the soft component of this project — did not exist in many schools, each school had been implementing O&M activities including necessary support for minor repairs and maintenance of school grounds with the parents associations playing a central role as described above[12].

Figure 6 Number of CS Inspection Staff

Department/ City	Commune	Number of Schools	Number of inspection Staff	Required Number of inspections Staff
Ouémé Department /Dangbo City	Dangbo	81	3	5
Cuffo Department	Dogbo	120	3	4
	Aplahoue	184	4	18
	Klouekanmey	100	3	8
	Lalo	120	3	5
Zou Department	Abomey	116	2	5
	Bohicon	104	5	10
	Zogbodome	101	3	5
	Zangnanado	90	3	5
	Agbangnizoun	122	3	4
	Ouinhi	61	3	4
Collines Department	Dassa-Zoume	136	3	5
	Glazoue	135	4	5

Source: Based on the interview survey with CSs

CS, an organization under MEMP, would monitor the O&M conditions of school facilities. CS would check not only school facilities but also whether or not school curriculums and number of classes are implemented in accordance with rules and classes are being conducted that follow appropriate teaching guidelines. Therefore, inspection by CS staff would be conducted in two separate patterns for teaching guidelines and for school facilities, respectively. At the time of the ex-post evaluation, an issue was found in the number of CS staff conducting school inspections because there was insufficient allocation of staff to conduct adequate inspections.

In cases where relatively large-scale facility renovations are required, each school would report to CSs in the region, and then CS would request the commune[13] to organize a support structure, although minor repairs would be handled using school budgets (see "3.5.3 Financial Aspects of Operation and Maintenance" for detailed information) distributed by CS and with support from parents associations. When this reporting line was confirmed with heads of schools visited, some school heads did not clearly understand this official reporting line, therefore concern remains about the O&M structure for large-scale renovations required for facilities and school furniture. As described below ("3.5.4 Current Status of Operation and Maintenance"), at a school which required roof repair, the school could not carry out the repairs even after the rainy season since school head did not know where to report. Regarding

[12] From the interview survey at site visits of each school
[13] Administrative organization corresponding to city under Ministry of Local Municipality and Land

this issue, it is necessary to ensure that each school head is fully informed.

According to documents provided by JICA, it was expected that a total of 29 teachers need to be added for new classrooms constructed by the projects at the time of the planning. At the completion of the project, the number of teachers as planned were assigned, however it was identified at school visits that there were schools which did not have a sufficient number of teachers because many schools did not replace retired teachers. At these schools, teacher shortages were handled by having one teacher conduct classes for two classrooms, or giving classes to several groups of students in the same grade at the same school grounds together[14]. Insufficient number of teachers was an issue not only at the target schools but also at the schools all over the country, and the early resolution of this issue is considered difficult. However, it is necessary to understand the current conditions at each target school and allocate additional teachers to primary schools which are lacking an adequate number of teachers, since the Implementing Agency is working on a plan to increase teachers[15].

3.5.2 Technical Aspects of Operation and Maintenance

In this project, measures were taken to reduce costs and technical burden required for O&M by applying design and specification which make it possible to use facilities long-term with easy maintenance. It was confirmed through interview surveys with school staff at the time of post-evaluation that necessary minor maintenance such as repainting black boards and repairing broken keys was implemented by each school. During project implementation, a soft component was implemented mainly for school teachers and staff, and parents associations who play key role in the O&M structure, in which a simple manual was prepared and distributed that described in detail requirements for O&M of solid facilities and minor renovation methods. However, the manuals were not kept in the school but at the homes of members of the parents associations. Thus it is difficult to consider that the manuals were being utilized effectively. According to school teachers and staff, and parents associations, it was confirmed that there have been no damages occurred that were difficult to handle from a technical aspect and non-usage of the manual has not caused any issues. On the other hand, work which would be required after a certain period of time such as painting and cleaning toilet water tanks would be O&M work which each school and parents association had never carried out at the existing facilities. In the manual, the necessary O&M for a solid classroom is described in detail, it is expected that the need for O&M of the facilities would continue to

[14] In Benin, several groups, such as X primary school group A, group B, are giving classes in the same school grounds. Each group has students from first grade to sixth grade, but each group is operated as different organization. However, a cooperative system, such as accommodating teachers in their absence and classrooms are established as described above.

[15] According to the Implementing Agency, the primary schools in Benin were lacking 10,000 teachers in 2014. This is attributed to the tight financial situation and also an increase in the number of students resulting from the free education policy. After 2010, 1,200 teachers were added annually, and a plan to supplement the insufficient number of teachers by 2020 is being undertaken by adding 1,438 teachers in 2014 and 1,875 teachers in 2015.

increase, therefore effective usage in the future is expected.

3.5.3 Financial Aspects of Operation and Maintenance

As for O&M costs for school facilities, minor repair costs including damage to windows and keys is paid by each school's budget allocated by CS as well as through support from parents associations. The budget[16] distributed to each school through CS is 150,000 CFA (30,000 Japanese yen) per classroom annually, and part of this budget is used for necessary repair costs. Although it was stated that this amount was insufficient during interviews at schools, the Implementing Agency maintained that it was enough for paying consumable goods and minor repairs. Some schools which face teacher shortages hire part-time teachers temporally using this budget, and this is reason that is believed to have resulted in the answer "the budget is not enough."

The major financial source of O&M cost for school facilities is benefit provided by the government to communes. Amounts allocated to communes at the time of planning were 6,108 million CFA (2006), and 5,118 million CFA (2013) at the time of the ex-post evaluation (see Table 7). Although the actual spending on O&M for facilities related to this project could not be confirmed, the estimated cost at the time of planning was 18.98 million yen, which accounts for about 0.3-0.4% of the total money allocated to communes, and thus it should not be a big burden. However, it is recommended that each school prepare future O&M plans and understand budgets required, and also share information with CS in order for smooth budget allocation in preparation for necessary O&M in the future, such as painting, and cleaning of toilet water tanks as well as unexpected large-scale damages.

Table 7 Commune Budget in Benin (Education Sector)

(Unit: Millions of CFA)

	At the time of planning (2006)	FY 2010-2012	FY 2013
O&M for classrooms and toiles	18.98	NA	NA
Budget allocated to communes	6,108	12,190	5,118
Ratio of O&M costs to allocated budget	0.3%	0.5%	0.4%

Note: The figure for fiscal years 2010-2012, indicates total budget for three years. The estimated O&M at the time of planning only includes costs for target schools. Because the O&M costs for the target schools only could not be confirmed after the project completion, the ratio of O&M costs to allocated budget was calculated based on the estimated O&M costs at the time of planning.

Source: Documents provided by JICA and "Fonds d'Appui au Développement des Communes", Commission Nationale des Finances Locales," 2013 & 2014.

3.5.4 Current Status of Operation and Maintenance

It was confirmed through site visits that classrooms were cleaned twice a day in the

[16] This budget basically includes consumable goods used in each classroom (chalk, making copies of materials, purchasing books, and miscellaneous costs)

morning and evening, and toilets were cleaned once a day or every two days by students under their teacher's guidance. Since the facilities constructed by this project are solid unlike the simple classrooms which are common to Benin from a long time ago, very good conditions were maintained overall at the schools visited except one school requiring the large-scale renovation. At the school where a problem was detected, the shape of the roof started changing due to a roof leak. According to the school head, the roof leak started in the previous year but it was left without repair for a certain period because it could not be fixed within the school budget and support from the parents association. In addition, school head was unaware of where to report such a damage. The lack of awareness on the reporting procedure as described in "3.5.1 Institutional Aspects of Operation and Maintenance" is regarded to have caused this problem. Furthermore, according to the Implementing Agency, the training of teachers when they get promoted to school heads is not conducted in Benin, and information that should be understood by school heads has not been fully distributed. It was explained that it would be necessary for the Implementing Agency to hold orientation training at the time of the appointment of school heads or the conferences to familiarize school heads with the importance of reporting and its procedures.

As indicated above, some minor problems have been observed in terms of institutional and technical aspects of O&M, and therefore sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

In order to improve the educational environment in target schools in Benin, this project constructed classrooms and toilet booths, procured school furniture, and established adequate systems for the management, operation, and maintenance of schools and school facilities. Benin has been working to improve access to primary education. However, the rapid increase in the number of students led to a shortage of classrooms. Moreover, many classes had to be held in poor-quality classrooms, leading to a serious deterioration in the educational environment in the country. The implementation of this project has therefore been highly relevant to Benin's national policy, their needs, as well as Japan's aid policy toward Benin. Although the project cost was as planned, the project period exceeded the plan due to the longer period required for the material procurement and cash flow of the contractors, as this was the very first Grant Aid for Community Empowerment Project implemented in the country. Therefore, the efficiency of the project is rated as fair. Furthermore, the construction of school facilities and procurement of desks and chairs helped increase enrollment numbers and decrease the number of students per classroom, and also improved both the education and hygiene environments. They also significantly helped reduce the financial burden and work hours required for the O&M of

facilities. It was also acknowledged that the training conducted under this project improved the understanding of the concept and importance of O&M for school facilities among the people engaged in the O&M of schools. Improved enrollment numbers and completion rates for girls were also confirmed as impacts, as well as an increased motivation to study. The effectiveness and impact of the project are therefore rated as high. As for the institutional aspect on O&M, issues have been observed in lack of teachers and staff of CS, and in understanding of reporting procedure regarding O&M of school facilities. From a technical viewpoint, the effective use of O&M manuals for related facilities and understanding of the O&M costs are expected in the future. Therefore, the sustainability of the project effect is fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

・ Securing a sufficient number of CS staff for conducting school inspections

CS which would be responsible to visit schools and check whether or not school facilities are used properly and if there is a need for repairs, does not have enough staff to conduct adequate visits. Therefore, there is a need to increase the number of staff. In order to conduct appropriate monitoring, it is expected that CS would report the required number of staff to the department office of the Implementing Agency accurately, and the Implementing Agency would allocate the necessary number of staff to CS immediately.

・Building awareness of reporting line

At some schools, it was observed that school heads and parents associations did not understand clearly where to request support when damage to buildings and facilities occurs that cannot be handled by schools and parents associations. It is required for the Implementing Agency and CS to inform each school regarding the reporting line and organize the system to make it possible to respond to such damages.

・ Ensuring one teacher one classroom structure

At some target schools visited, schools have not secured a sufficient number of teachers, and conduct classes with students in different grades or other groups of students in a same grade in a same school grounds together. Although the required number of teachers estimated at the time of planning was allocated after the project completion, many schools could not subsequently replace retired teachers, therefore the issue is raised that many schools cannot allocate one teacher for one classroom. It is necessary for each school to report to CS immediately the number of teachers when it is short, and for CS and the Implementing Agency to secure the necessary number of teachers immediately as well.

・Providing guidance about the proper use of O&M manual

At the time of the ex-post evaluation, it was observed that facility O&M manual which was prepared as a soft component of the project was not fully utilized. Several reasons for this issue have been raised; manual was kept at home by members of parents association; manual was not taken over when a leader of parents association changed to another; also the existence of manual was not informed to new school heads when there was a change of school head. It is required that the Implementing Agency inform each school again about the importance of using the manual, and give guidance to each school to take thorough measures when handing over the manual at the time of personnel transfer.

・Follow-up activity in order to secure adequate O&M budget

Each school is handling O&M using their limited allocated budgets. At the time of the ex-post evaluation, there were no serious issues identified since the facilities were relatively new and only minimal repair costs were necessary. However, there is concern for day-to-day O&M costs rising in the future. Also, large-scale renovations are required which cannot be handled within the allocated budget to each school. Therefore, it is necessary for each school and CS to estimate and understand O&M costs required in the future, and report to the MEMP and commune in order to secure the budget.

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

・Adequate explanation for continuous usage of O&M manual

O&M manual was utilized only at some schools to a limited extent. According to the leader of parents association, it was advised at the training that the leader of the parents association should take responsibility of keeping the manual. Following this advice, many leaders of the parents associations have kept the manual at home; however they were not informed sufficiently on how to handover the manual. Therefore, several cases were found in which the manual was kept at the first leader's home after a change of leaders. It is recommended that an explanation be provided on how to handover the manual in detail in order to ensure continuous usage for the implementation of a similar project.

・Selection method and implementation structure for the usage of small local contractors

As a Community Grant Aid project, this project proactively used local contractors and materials. Therefore, many relatively small local contractors were involved in construction

and procurement work. Because small-scale construction and procurement work were implemented across a widespread area, in addition to the existence of contractors who did not have sufficient finances and experience, which caused a significant burden to technical managers and local consultants who supervised construction work in terms of managing technical aspects and supervising the work since they were based in the capital city. This situation also caused a delay in the project's implementation due to delays of the contractor's financing. When using small local contractors in future projects, regarding the selection of local contractors and project management structure, the following should be considered in order to ensure smooth implementation of the project:

(Selection of local contractors)

Although confirmation was carried out by establishing criteria for participation during the selection of local contractors (e.g., actual contract amount in the past year and equipment on hand), the selection was conducted without clear criteria for understanding the capacity of each contractors, including their financial situation. As a result, smooth project implementation was affected due to payment delays. In the future, when small scale contractors are selected for a project, it is necessary to set clear selection criteria and also prepare a schedule and support system (payment method to contractors and technical assistance) as necessary.

(Project management structure)

Although the target schools of this project were spread out in 3 departments and 1 city, local consultants handling project management and supervision of construction were based mainly in the capital and visited target departments as necessary. However, since many contractors who implemented the work are scattered across a wide region, the burden on the responsible persons to handle progress management, quality control, and supervision of construction from the capital city was heavy. As a result, such conditions became one of the reasons of delay. In future projects in which target sites are spread out in regions and many contractors are involved, it is recommended that adequate structures are established, such as allocating technical manager and local consultants by region, in order to provide detailed support by the project manager. Another potential measure is to centralize the target sites as much as possible based on supervising and construction management systems.

(End)