Ex-Post Project Evaluation 2013:
PACKAGE II-3
(Cameroon, Ethiopia)

August 2014

JAPAN INTERNATIONAL COOPERATION AGENCY

KRI INTERNATIONAL CORP.

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Preface

Ex-post evaluation of ODA projects has been in place since 1975 and since then the coverage of evaluation has expanded. Japan's ODA charter revised in 2003 shows Japan's commitment to ODA evaluation, clearly stating under the section "Enhancement of Evaluation" that in order to measure, analyze and objectively evaluate the outcome of ODA, third-party evaluations conducted by experts will be enhanced.

This volume shows the results of the ex-post evaluation of ODA Loan projects that were mainly completed in fiscal year 2010, and Technical Cooperation projects and Grant Aid projects, most of which project cost exceeds 1 billion JPY, that were mainly completed in fiscal year 2009. The ex-post evaluation was entrusted to external evaluators to ensure objective analysis of the projects' effects and to draw lessons and recommendations to be utilized in similar projects.

The lessons and recommendations drawn from these evaluations will be shared with JICA's stakeholders in order to improve the quality of ODA projects.

Lastly, deep appreciation is given to those who have cooperated and supported the creation of this volume of evaluations.

August 2013

Toshitsugu Uesawa
Vice President
Japan International Cooperation Agency (JICA)

Disclaimer

This volume of evaluations, the English translation of the original Japanese version, shows the result of objective ex-post evaluations made by external evaluators. The views and recommendations herein do not necessarily reflect the official views and opinions of JICA. JICA is not responsible for the accuracy of English translation, and the Japanese version shall prevail in the event of any inconsistency with the English version.

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Republic of Cameroon

Ex-Post Evaluation of Japanese Grant Aid Project

"Project for the Construction of Primary Schools (Phase IV)"

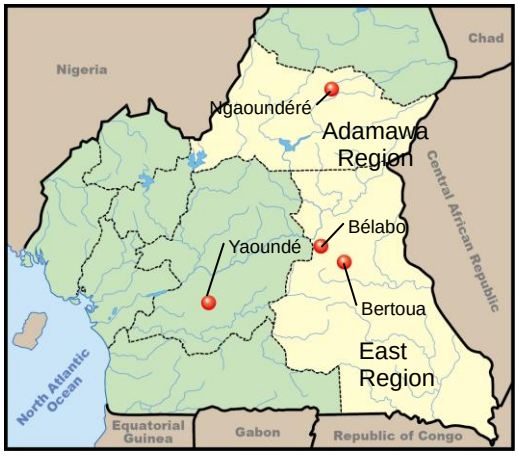
External Evaluator: Hiroshi Okukawa, KRI International Corporation

0. Summary

This project was carried out to improve the learning environment through the construction of school infrastructure and the provision of educational furniture and equipment in the East and Adamawa regions belonging to the "Education Priority Zones" where pupils were obliged to study in a poor environment owing to the lack of school facilities to accommodate rapidly increasing number of pupils after the introduction of free primary education policy. As a result of the ex-post evaluation, the relevance of the project is evaluated to be high because it is significantly pertinent to the development policy of Cameroon aiming to achieve universal primary education by 2015, the development needs to improve the poor learning environment, and the Japanese aid strategy for Cameroon. Its effectiveness and impact is also high as approximately sixteen thousand children have been newly provided with adequate learning environment and the clean and safe school facilities have influenced the minds of students' parents who are now sending their children to school more enthusiastically. Meanwhile, the efficiency of the project is fair because the "soft component" was prolonged and the project period slightly exceeded the plan although the project cost was within the plan. As far as the sustainability of the project effects is concerned, no serious problems are pointed out considering the fact that simple, solid, and durable school buildings were constructed and that careful daily cleaning is given to them. However, while financing for ordinary maintenance of the facilities is heavily relying on the membership fees of the Parent-Teacher Association, there is a tendency of decrease in the number of its members and the collected fees. Therefore, taking it as a slight problem, the project sustainability is considered fair.

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

1. Project Description



Project Locations

School Buildings Constructed in the Project

1.1 Background

The Government of Cameroon aimed to realize universal primary education as a top priority in the Poverty Reduction Strategy Paper (PRSP) adopted in 2003. In the Education Sector Strategy Document revised in April 2006, it established principal goals of reducing geographical disparities and improving the quality of education and has been striving for 100% completion rate in primary education and class size of 50 pupils by 2015. To achieve the goals, the Ministry of Basic Education (MINEDUB) estimated the need for the construction of 23,000 classrooms and the training and employment of 37,000 teachers by 2015 and therefore, has been building classrooms and training teachers with the assistance of donors and other development partners. Japan assisted the projects for the construction of primary schools through three phases including nine stages from 1997 to 2007 and constructed 1,199 classrooms in 91 sites in 18 cities of seven regions.

However, the rapid increase in the number of pupils after the introduction of the free primary education policy in 2000 exceeds the capacity of the established school facilities. For example, in 2008, against the target of constructing 2,249 new classrooms in primary schools, only 1,456 were actually constructed, so that the learning environment in a large number of schools remained unfavorable such as double shift education, overcrowded classrooms, and utilization of overage facilities. The Adamawa and East regions targeted by the project were the third and fourth most overcrowded in classrooms out of all the ten regions in Cameroon and suffering from severe lack of classrooms. Furthermore, at the school sites for which the assistance had been requested, the percentage of solid classrooms with sufficient light and size (against the standard of the MINEDUB[1]) was less than 30%.

To improve the circumstances, the Government of Cameroon requested the Japanese government for a grant aid project for the construction of facilities (including reconstruction and additional construction at existing school sites) and the provision of educational equipment and materials in three regions, namely Adamawa, East, and Northwest. Responding to the request, the Japan International Corporation Agency (JICA) carried out a preliminary study in July 2007 onwards and a basic design study in July 2008 onwards. On the basis of the results of these studies, this project assisted the construction of classrooms at the targeted ten sites in Adamawa and East regions.

1.2 Project Outline

The objective of this project is to improve the learning environment by constructing school infrastructure and providing educational furniture and equipment at ten primary school sites in Adamawa and East regions.

Grant Limit / Actual Grant Amount	1,098 million yen / 866 million yen

[1] Standard of the Ministry of Basic Education: larger than 9 m x 7 m = 63 m^2 on the inside

Exchange of Notes Date/ Grant Agreement Date	March 2009 / March 2009
Implementing Agency	Responsible Organization: Ministry of Basic Education Implementing Organization: Division of Planning, Projects, and Cooperation, MINEDUB
Project Completion Date	April 2011
Main Contractor	Dai Nippon Construction
Main Consultant(s)	Matsuda Consultants International Co., Ltd./ Atelier d'Architecture et d'Urbanisme Co., Ltd. (JV)
Basic Design	July 2008–March 2009
Detailed Design	April 2009–August 2009
Related Projects	"Project for the Construction of Primary Schools" (FY1997-1999)[2] "Project for the Construction of Primary Schools (Phase II)" (FY2001-2003) "Project for the Construction of Primary Schools (Phase III)" (FY2005-2007) "Project for the Construction of Primary Schools (Phase V)" (FY2011)

2. Outline of the Evaluation Study

2.1 External Evaluator

Hiroshi Okukawa, KRI International Corp.

2.2 Duration of Evaluation Study

The present ex-post evaluation study was carried out as follows[3]:

Duration of the Study: September 2013–August 2014

Duration of the Field Study: November 24, 2013–December 9, 2013

March 2, 2014–March 9, 2014

[2] Japanese fiscal year (FY) starts in April and ends in March of the subsequent year.

[3] Under the ex-post evaluation, a beneficiary survey was conducted to evaluate the effects of the project. 265 informants participated in the survey, including 32 head teachers, 101 teachers, 83 pupils, 41 parents, and 8 school council members. As research techniques, questionnaire, interview, and focus group discussion were utilized. Ten school sites were targeted in the project and each of them has more than one head teacher who manages an institution called "school group". In fact, if a school group receives more than 1,000 pupils, it is divided into two groups for the sake of efficient school management. The ten targeted school sites have 34 school groups in total, out of which 32 are using the classrooms constructed in the project. Therefore, the beneficiary survey was carried out with the people connected to those 32 school groups.

3. Results of the Evaluation (Overall Rating: B[4])

3.1 Relevance (Rating: ③[5])

3.1.1 Relevance to the Development Plan of Cameroon

At the time of the basic design study, educational development was given importance in PRSP adopted in April 2003 under the section of "Strengthening Human Resources and the Social Sector" which was one of the priority strategies for poverty reduction. The provision of basic education for the entire nation by 2015 was therefore aimed in accordance with the Millennium Development Goals (MDGs). The Education Sector Strategy Document 2006 also aimed to achieve the universal primary education by 2015 and set forth the objectives including (1) reduction of disparities and achievement of 100% enrollment and completion rates, (2) improvement of efficiency and quality of educational services, (3) establishment of effective partnership with different social actors, and (4) improvement of the governance of the education system. The Action Plan to materialize the Education Sector Strategy included the construction of 3,000 new classrooms and the rehabilitation of 1,300 existing classrooms every year from 2007 to 2009.

The ex-post evaluation searched Cameroonian development policies and education strategies established after the project implementation to confirm the relevance of the project at the time of the evaluation. The Cameroon Vision 2035, the national development strategy established in 2009, aims for Cameroon to become an emerging country by 2035 and stresses the importance of education for human resource development to foster the country's economic development. It points out, therefore, the necessity of education infrastructure to accommodate the growing population. PRSP 2003 was revised and the Growth and Employment Strategy Paper (GESP) 2010-2015 was set forth in 2009. In accordance with the Cameroon Vision 2035, GESP acknowledges the importance of "education" in the framework of the human resource development as a growth strategy and strives for universal primary education by 2015 as Education Sector Strategy 2006 does. Furthermore, the Education Sector Strategy Document 2006 was revised and the Education and Training Sector Strategy Document 2013-2020 was published in August 2013. The latter keeps the reduction of disparities and improvement of access in primary education as a principal objective and plans to construct 1,500 classrooms every year from 2014 to 2016.

Moreover, the significance of Japanese assistance in the entire national plans for primary education development was explored though an interview with MINEDUB because the construction of primary schools has been financed not only by the Japanese Official Development Assistance (ODA) but also by a variety of sources including the Cameroonian government's public investment, assistance of French government, Heavily Indebted Poor Countries Fund, and others. The director of the Division of Planning, Projects, and Cooperation (DPPC) appreciated the great contribution of the Japanese grant aid projects for school construction which led to the increase of Cameroonian pupils. As quantitative evidence to support it, the Preparatory Survey Report on the Project for the Construction

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

of Primary Schools (Phase V) in Cameroon shows that 132 classrooms constructed through the Japanese grant project in 2010/11 occupy 100% of the donor funded classrooms and 11% of the total 1,194 classrooms constructed throughout the country (including those financed by pooled funds) in the same period. It also tells that the 721 classrooms assisted by the Japanese grant projects in 2004/05-2010/11 occupy 44% of 1,621 donor-funded classrooms and 8% of the total 9,534 classrooms constructed in Cameroon in the same period. Therefore, it can be concluded that Japan's grant aid has contributed considerably toward materializing the Cameroonian development policy by taking a large part, as assistance from a single nation, in the primary school construction in the country.

Consequently, the relevance of this project to the development plan of Cameroon is high.

3.1.2 Relevance to the Development Needs of Cameroon

The targeted regions of Adamawa and East, belonging to the Zone of Education Priority (ZEP)[6] together with the North and Far North regions, produce lower achievement in educational indicators such as class size[7], student-teacher ratio, gender disparity in enrollment, and others. At the time of the basic design survey, the class size of the target schools was between 70 and 123 pupils, which far exceeded the national target of 50 and caused remarkable overcrowdedness. Furthermore, there were a large number of damaged school buildings or temporary ones owing to natural disasters and aging, out of which some had even risks of collapsing. Hence, the conditions of school facilities were very poor. In addition to the security problem, lack of desks and chairs forced many children to sit on the unsanitary floor during lessons, which was considered as a cause of children's infection. Lack of surrounding walls allowed general public to enter the school land and walk around the classrooms even during lessons. It sometimes disturbed the concentration of pupils and teachers. Therefore, there was a great need to construct or reconstruct classrooms to improve the learning environment of the pupils who were forced to learn under unfavorable conditions.

In the basic design study, it was agreed to select ten project sites which needed 12 classrooms or more according to the calculation of the required number of classrooms based on the actual number of pupils and standard class size (60 pupils/class in double shift) from 31 candidate sites where no obstacles to the construction works were observed with regard to the road access to the site for materials and equipment, legal right for land use, natural shape of the land, etc. The selected target sites had then 134 classrooms of which 108 were judged necessary to be reconstructed because they were heavily damaged, built on a weak structure, or lacking in size or brightness. Out of the 134 classrooms, 18 were considered as continuously usable if the Cameroonian side made a rehabilitation work, and only 8 were judged to have adequate conditions for use without additional work. It was decided to build 18 or 12 classrooms (three or two classrooms for each of the six school years) at a site in consideration of the average size of primary schools at the target areas and the capability to appoint

[6] The government gives priority of budget allocation for educational development in ZEP to accelerate the improvement of education in areas considered less favorable than that of the other areas.

[7] Quotient of the division of the number of all pupils by the number of all classes in a school: There are many schools adopting double shift education in which one class uses a classroom in the morning and another class uses the same classroom in the afternoon. Therefore, class size is used here as a more significant indicator than the pupil-classroom ratio.

new teachers. In the ex-post evaluation, the criteria for selecting the target schools and those for deciding the number of classrooms to be constructed have been examined and judged to be practically reasonable.

Meanwhile, since the objective of the project is to improve learning environment and overcrowdedness in the classroom was acknowledged as a problem, chronological change in class size was also examined in the ex-post evaluation. Consequently, a limited degree of improvement was observed comparing with the figures before the project implementation (see details in Section 3.2). During the basic design study, considering the population growth of school-aged children and the promotion of school enrollment encouraged by the construction of new school buildings through the Japanese grant aid, a good probability of the increase of pupils at the targeted schools was recognized among the stakeholders[8]. However, they did not expect that the increased demand for school enrollment could be entirely fulfilled by the implementation of this project. As a matter of fact, during the ex-post evaluation, interviewees in all the sites wished the construction of more classrooms, which shows that the need for enrollment was larger than what could be achieved by the project.

Thus, this project is relevant to the Cameroonian development needs for the improvement of the learning environment in terms of security, hygiene, and physical appropriateness concerning brightness, room size, etc., although the increasing demand for school enrollment, as another development need, could not be completely satisfied.

3.1.3 Relevance to Japan's ODA Policy

The development assistance of Japan for Cameroon deals mainly with the basic human needs including agriculture, education, and water supply and particularly, the assistance for the education sector constitutes its central part. To be more concrete, assistance for the improvement of access to primary education has been consistently provided by the first stage of the Project for the Construction of Primary Schools in 1997 through the recent Phase III of the project. Moreover, the Yokohama Action Plan developed in the Fourth Tokyo International Conference on African Development (TICAD IV) in May 2008 committed to "support construction and rehabilitation of school buildings and related infrastructure" of basic education toward the achievement of MDGs. Accordingly, Japan expressed a commitment to assist in the construction of 1,000 primary and lower secondary schools. ODA Country Data Book 2008 also states clearly that the assistance for primary education is given top priority in Cameroon.

In light of the above, this project has been highly relevant to the Cameroonian development plan,

[8] The average population growth rate of the primary school aged children (6-11 years old) in 1993-2012 was 2.37% (calculated on the basis of World Bank's Databank). The average growth rates of children enrolled in primary education at the target areas in 2009-2012 were 6.18% at Ngaoundéré I and II Wards in Adamawa and 2.61% in Bertoua I and II Wards and Belabo (calculated on the basis of the questionnaire answers).
Head teachers, teachers, and parents mentioned in the interviews that the construction of new school buildings encouraged local residents to send their children to the schools assisted by the project (there is no school district system in Cameroon) and therefore, the number of pupils were rapidly increasing there while that of other neighboring schools were decreasing. The same phenomenon was already reported by the ex-post evaluation of the first phase in 2005 and known by both Japanese and Cameroonian stakeholders.

development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Effectiveness[9] (Rating: ③)

3.2.1 Quantitative Effects (Operation and Effect Indicators)

The baseline values (at the time of the basic design study in 2008), target values (at the completion of the project in 2011), and attained values (at the project completion in 2011, and at the time of the ex-post evaluation in 2013) of the indicators set in the basic design study are presented in Table 1.

Table 1. Baseline, Target, and Attained Values concerning the Quantitative Effects of the Project

Indicator	Baseline (2008)	Target (2011)	Attained (2011)	Attained (2013)
Number of solid classrooms with adequate learning environment at the project sites	8	140	140	188
Number of pupils newly provided with adequate learning environment	N/A	15,840	15,996	16,537

Source: Beneficiary survey and observation during the site visit.

The target value of 140 classrooms was calculated according to the project plans as addition of 100 reconstructed and 32 newly constructed classrooms to the eight existing ones. The target value of 15,840 pupils was the product of multiplication of 60 pupils by 132 classrooms by two shifts, under the expectation that each of the 132 constructed classrooms would receive 60 pupils (MINEDUB's standard class size in ZEP) twice a day in the morning and in the afternoon for the double shift education.

According to the result of the questionnaire survey with the Japanese Grant Project Implementation Unit of MINEDUB and the project sites with regard to the attained values of indicators at the project completion and at the time of the ex-post evaluation, it is confirmed that the two indicators have all achieved the targets since 132 classrooms were constructed as planned. The reason for the increase in the "number of solid classrooms with adequate learning environment" after the project completion is that 51 classrooms have been rehabilitated with the assistance of the World Bank and a non-governmental organization (NGO); 51 classrooms include three rooms that were judged to have adequate learning environment in the basic design study. Therefore, 188 classrooms (140 + 51 – 3) are considered as solid with adequate learning environment at the time of the ex-post evaluation. The attained values of the "number of pupils newly provided with adequate learning environment" are calculated as the number of pupils learning in the 132 classrooms constructed in the project in the same manner that the basic design study set the target. Meanwhile, 46 inadequate classrooms are still being used including six classrooms that have not yet been rehabilitated because of the budget constraints out of 18 classrooms considered as necessary to be, and 40 classrooms out of 108 that were supposed to be demolished after the project (i.e., to be replaced by new ones). The

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

reason for the continuous use of the classrooms that were supposed to be replaced is that the increase of enrollment demands as described in the section for Relevance makes the schools unable to receive children without those inadequate rooms.

In addition to the indicators set in the basic design study, "class size" was considered as a supplementary indicator and its attained values at the project completion (2011) and at the time of the ex-post evaluation (2013) were examined. In fact, the description of the project background shows that resolving the overcrowdedness of pupils in the classrooms was recognized to be pertinent to the "improvement of the learning environment" which is the project objective. Consequently, it has been confirmed that the class size tends to decrease slightly. Meanwhile, when the ex-post evaluation was carried out, overcrowdedness in the classroom was continuing in some schools including four school groups (Sabongari 1A and 2B, and Quartier ENIA 1A and 2A) with the average class size of over 100; there was even a class with 208 enrolled pupils.

Table 2. Average Class Size in the Project Sites

Supplementary Indicator	Baseline (2008)	Attained (2011)	Attained (2013)
Class Size	95.2	91.2	82.7

Source: Beneficiary survey
Note: (Class Size) = (Entire population of pupils) / (Entire number of classes)
The given figures represent the average value of all the classes in the project target sites computed as follows:
24,276 pupils / 255 classes in 2008; 27,353 pupils / 300 classes in 2011;
25,645 pupils / 310 classes in 2013

Through the questionnaire survey as well as interviews with stakeholders and observations during the site visit, the evaluator explored the number of classrooms, head teacher's offices, storerooms, and toilet facilities, and the utilization of the educational furniture and equipment installed there (see Table 3). It was confirmed that the classrooms and head teacher's offices were entirely utilized. It was also reported that over 90% of the installed furniture, including desks, chairs, bulletin boards, and shelves, was properly used. As an exception, a limited number of the provided blackboard erasers (18%) were used continuously; it was pointed out that only a piece of sponge had been provided as an eraser and was damaged in a short time. Some other equipment, such as rulers, were also seen broken, which was however, considered as inevitable loss due to ordinary utilization. There were also two school sites where the use of toilet facilities was suspended because of the lack of water supply.

Table 3. Number of Facilities and Equipment Installed and Utilized (At the time of the ex-post evaluation)

Facilities/Equipment	Number of Installed	Number of Utilized*	Ratio
Classroom	**132**	**132**	**100%**
Student desk and bench	3,960	3,927	99%
Teacher desk	132	131	99%
Teacher chair	132	131	99%
Ruler	132	109	83%
Set square (45°)	132	121	92%
Set square (60°)	132	113	86%

Protractor	132	121	92%
Compasses	132	125	95%
T-square	132	96	70%
Blackboard eraser	264	47	18%
World map	26	25	96%
Map of Africa	26	24	96%
Map of Cameroon	52	42	81%
Language board	26	(43*)	-
Science board	26	(243*)	-
Globe	26	26	100%
Head Teacher's Office/Storeroom	**26**	**26**	**100%**
Desk for head teacher	26	50	96%
Meeting table	26		
Chair for head teacher	26	26	100%
Visitor's chair	78	215	92%
Meeting chair	156		
Bulletin board	26	24	92%
Shelf	26	26	100%
Toilet facilities	**10**	**8**	**80%**

Source: Beneficiary survey

Note: A "storeroom" annexed to the head teacher's office is hardly considered as it is although teaching-learning materials are stored there. It appears to be viewed as an anteroom of the office rather than a storeroom. Therefore, the equipment is used without distinction between tables and chairs belonging to the head teacher's office and those of the storage. Therefore, the number of the equipment has been also counted collectively.
A language board and a science board involve a set of several teaching materials. When the respondent to the questionnaire wrote the answers, there was confusion as to how to count the number of materials. Therefore, the collected data cannot be considered as reliable.

3.2.2 Qualitative Effects

The qualitative effect expected in the basic design study was "strengthened system for management and maintenance of the schools infrastructure through the implementation of the soft component[10]." Through the beneficiary survey in the ex-post evaluation, it was confirmed that head teachers, teachers, pupils, parent-teacher association (PTA) members, and school council members are collectively managing and maintaining the school facilities and equipment under the supervision of the MINEDUB and its local delegations and that their awareness of the importance to keep the facilities in good conditions had been developed. Daily maintenance such as cleaning and sweeping is carried out by pupils in shifts under the supervision of teachers (see Figure 1) and a more intensive cleaning is done weekly in every school. Thus, the provided facilities and equipment are generally well maintained. Moreover, the focus group discussions (FGDs) showed that a certain degree of cooperation between school and PTA has been established, while different schools have

Figure 1. Daily Cleaning by Students

[10] According to *Rapport de l'étude de concept de base pour le Projet de construction d'écoles primaires (Phase IV) en République du Cameroun*, p.78:
"Soft component" involves technical cooperation activities including provision of training and development of manuals concerning management and maintenance of school infrastructure that are carried out in parallel with the construction of school buildings and the installation of educational equipment.

different degrees, and PTA membership fees are the major source of funds for repairs when the necessity arises. Some evidences of the sustained results of the training in the soft component was also observed such as identical PTA membership fees within a city and one unified PTA in a site with more than one school groups. Meanwhile, the guides and manuals developed through the soft component are utilized at a limited level (detailed in Section 3.4.1). Therefore, it is difficult to generally assess the extent to which the soft component has enhanced the management and maintenance system for school infrastructure.

In addition, the extensive improvement of "security" and "cleanliness" of the school is a qualitative effect of the project that was pointed out in all schools. Before the project implementation, there were pupils sitting on the floor due to lack of chairs and their clean cloths before coming to school became dirty with mud and dust when they go back home. While such unsanitary environment may have caused infectious diseases before, mortared floors and appropriate desks and benches have been provided and a hygienic learning environment has been created. Furthermore, the walls surrounding the school premises constructed by the Government of Cameroon are playing a role to prevent strangers from trespassing and pupils from leaving school without permission.

3.3 Impact

3.3.1 Intended Impacts

The project impact (indirect effects) expected through the basic design study involves the following three points:

- The construction of a head teacher's office and a storeroom that can be also used as a teachers' room will enable to maintain educational materials and administrative documents in an adequate manner, which will improve the management capacity of the school.
- The construction of hygienic toilet facilities separated for boys and girls will contribute to the preservation of hygiene and health of students and the creation of a favorable environment for girls will improve the enrollment of girls in education.
- The provision of basic educational materials and the construction of adequate school infrastructure will enable effective classroom management and provision of education of higher quality.

The following is the result of the ex-post evaluation with regard to the intended impacts. Firstly, it was confirmed through the observation and the FGD during site visits that the educational materials including those provided in the project were kept in the storeroom attached to the head teacher's office[11], properly maintained mostly by the head teacher and effectively utilized in class. Secondly, the improvement of hygienic conditions as a result of the construction of toilet facilities and that of girls' school enrollment was explored through the beneficiary survey and the answers to the questionnaire are presented in Table 4. According to their answers, it is obvious that the construction of toilet

[11] A large number of teachers claimed that a cabinet installed in each classroom would have much higher usability than the integrated storage in the headmaster's office because they can easily store and manage the teaching materials and cleaning tools for daily use. It is a suggestion worth considering for future project design.

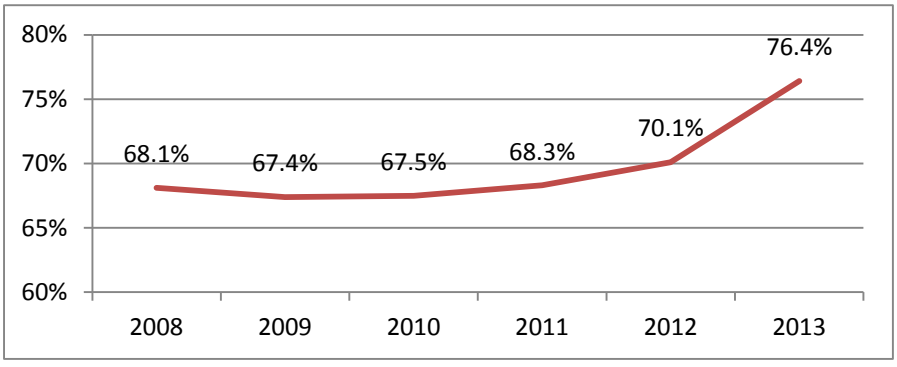
facilities has contributed to the improvement of hygienic conditions. As far as the influence of the construction of clean toilets reserved for women on the girls' access to education is concerned, more than 70% of the respondents answered that it had been "much" or "slightly" improved although less people answered "much improved" than those who did so to the question about the improvement of hygienic conditions. In fact, while the construction of toilet facilities was merely one of the various factors influencing the girls' school enrollment, the boy-girl ratio of the pupils improved from 1:0.92 in 2009/10 to 1:0.98 in 2013/14 (average value in 32 school groups in the project sites).

Table 4. Answers to the Questions on the Impact of Toilet Facilities Construction

Impact	Hygiene Conditions		Girls' Access	
	No. of Response	Percentage	No. of Response	Percentage
Much Improved	25	78%	18	56%
Somehow Improved	1	3%	5	16%
No Change	0	0%	1	3%
Adverse Impact	0	0%	0	0%
Others	0	0%	2	6%
No Answer	6	19%	6	19%

Source: Beneficiary survey

With regard to the improvement of education quality by the use of the provided facilities and equipment, it was considered whether the project effects brought about a change in the pupils' learning achievement through collecting the target schools' results in the Primary Education Certificate (CEP[12]) examinations for reference purposes. Consequently, the increasing tendency was observed as represented in Figure 2. Taking into account a variety of factors influencing the improvement of learning achievement, a deliberate decision should be made to say that the improvement of test results is an impact of the project. Meanwhile, one can reasonably conclude that a certain degree of positive impact has been given on the education quality because it is convincing to explain that a better learning environment has increased the participants' concentration on the lessons and brought about higher learning achievement.



Source: Beneficiary survey

Figure 2. Project Target School's Results in CEP Examination

Moreover, through FGD, several head teachers and teachers pointed out that the improved

[12] Certificat d'Etudes Primaires

learning environment caused the decrease of pupils' repetition and dropout. To confirm their statements, results of the questionnaire survey were analyzed and the average values of repetition rates and dropout rates for the 32 target schools for 2009/10 before the project completion and those for 2012/13 just before the ex-post evaluation were compared as provided in Table 5. While no apparent improvement in the repetition rate can be identified, decrease in dropout rate can be seen comparing the values before and after the project. However, as it was done with the CEP examination results, the decrease in dropout rates should also be treated for reference purposes only because the learning environment improvement by the project cannot be its sole reason.

Table 5. Chronological Comparison of Repetition and Dropout Rates

(Unit: %)

	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6
Repetition Rate						
2012/13	15.1	12.2	16.2	16.7	14.5	13.2
2009/10	13.5	12.3	15.2	14.6	14.2	19.5
Dropout Rate						
2012/13	4.9	4.4	4.3	4.9	4.4	4.2
2009/10	7.0	7.2	5.9	5.0	7.3	8.2

Note: Average values (arithmetic mean) of repetition rates and dropout rates of the target school groups according to the data collected through questionnaire survey.
Repetition rate: Proportion of pupils from a cohort enrolled in a given grade at a given school year who repeat in the same grade in the following school year
Dropout rate: Proportion of pupils from a cohort enrolled in a given grade at a given school year who are no longer enrolled in the following school year

3.3.2 Other Impacts

Impacts on the Natural Environment

Any negative impacts on the natural environment owing to the construction work have not been identified.

Land Acquisition and Resettlement

In one site, it was reported by the head teacher during an interview that there was a neighboring house using a school external wall as part of its own and the boundary problem with that neighbor was in dispute (Quartier ENIA Primary School). At the time of the ex-post evaluation, while the issue did not adversely affect the education in a direct manner, they were waiting for a judicial decision about the boundary.

Unintended Positive/Negative Impact

Parents' increased motivation to send their children to school and pupils' increased motivation to come to school were observed as a result of the construction of "clean and safe" school buildings. Accordingly, the number of children who wish to go to the project target schools has increased and the actual number of pupils has also become larger; in the ten target sites, there were altogether 24,276 pupils in 2007/08 (basic design study) and 26,732 in 2013/14 (ex-post evaluation). In a certain number of schools, some issues were also pointed out such as decreased number of pupils in neighboring

schools, refusal of enrollment because of excess over the school capacity, and continuous overcrowdedness in classrooms. Meanwhile, it was also reported that in accordance with the competition principle, some of the neighboring schools with a decreased number of pupils were making efforts to provide better education to gain more pupils. These impacts have been produced because of high appreciation for the schools provided with Japan's grant aid which are neighboring other schools in the same highly populated town where a child has access to more than one school as no school designated areas bind him/her. Therefore, despite a certain number of issues including the decrease of pupils in neighboring schools, the current situation is generally considered as a positive impact of the project.

As mentioned earlier, as a result of the project implementation, the number of solid classrooms with adequate learning environment has exceeded the target of 140 and approximately 16,000 pupils have been newly provided with adequate learning environment. Furthermore, the provided school facilities and equipment are well maintained and utilized. Hygiene and security have improved in comparison with the conditions before the project and the improved conditions have consequently motivated pupils and their parents on schooling. Although there are some issues caused by the concentration of admitting applicants to the project target schools, several neighboring schools strive to improve their education to resolve the problem. In light of the above, this project has largely achieved its objectives. Therefore, its effectiveness and impact is high.

3.4 Efficiency (Rating: ②)

3.4.1 Project Outputs

At the ten project sites in the two regions, facilities, educational furniture, and educational equipment have been provided according to the plans developed in the basic design study (see Tables 6, 7 and 8).

Table 6. Number of Facilities Provided in the Project

	Adamawa	East	Total
No. of Sites	5	5	10
Classroom	66	66	132
Head Teacher's Office	14	12	26
Storeroom	14	12	26
Toilet	5	5	10

Source: Questionnaire survey with MINEDUB

Table 7. Number of Educational Furniture Provided in the Project

Room	Item	Number per Room	Total Number
Classroom	Student desk and bench	30	3,960
	Teacher desk	1	132
	Teacher chair	1	132
Head Teacher's Office	Desk	1	26
	Chair	1	26
	Visitor's chair	3	78
	Bulletin board	1	26

	Shelf	1	26
Storeroom	Table	1	26
	Chair	6	156

Source: Questionnaire survey with MINEDUB

Table 8. Number of Educational Equipment Provided in the Project

Item	Number		Total
Ruler	1	/ classroom	132
Set square (45°)	1	/ classroom	132
Set square (60°)	1	/ classroom	132
Protractor	1	/ classroom	132
Compasses	1	/ classroom	132
T-square	1	/ classroom	132
Blackboard eraser	2	/ classroom	264
World map	1	/ school group	26
Map of Africa	1	/ school group	26
Map of Cameroon	2	/ school group	52
Language board	1	/ school group	26
Science board	1	/ school group	26
Globe	1	/ school group	26

Source: Questionnaire survey with MINEDUB

With regard to modifications during the detailed design study from the plans in the basic design study, there were some changes in locations of classroom buildings and toilet facilities in the primary schools of Bamyanga, Sabongari, Belabo, Quartier ENIA, Tigaza, and Tademe, which were all for the sake of facilitating the use of the facilities in response to the request of the schools. As far as a modification during the construction work after the detailed design study is concerned, the base material of the blackboard was changed from mortar to plywood. It was in accordance with the change of the MINEDUB's standard specifications for a blackboard from mortar to plywood for the sake of improved learning environment and efficient classroom management. The effects produced by the modification of the blackboard specifications were explored through an interview with the construction management (CM) consultant and the observations and interviews during the site visit. According to the CM consultant, the change into plywood is considered as quality improvement because there is a high risk of uneven surface if mortar is used. However, in FGD during the site visit, most of the schools complained that the plywood blackboards were too slippery to write on with a chalk and requiring more frequent repainting than before. This issue will be discussed further in the section of "Sustainability" in this report.

In parallel with the construction of infrastructures and the provision of equipment, soft component was carried out from April 16, 2009 to April 25, 2011 and its output was produced as follows:

<Guides and Manuals>

- Guide to School Management and Maintenance (Booklet)
- Guide to School Management and Maintenance (Video)
- Guide to School Management and Maintenance (Cartoon)
- Manual on the Maintenance of School Infrastructure

- Manual on Material and Financial Accountability
- Model Account Book for Public Primary School
- Manual on the Inspection of School Facilities
- Check Sheet for the Inspection of School Facilities

Table 9. Current Status of Documents Produced in the Soft Component

(Number of Schools)

	Use Daily	Rarely Use	Lost	Not Received	No Answer
Guide (booklet)	9	8	0	4	11
Guide (video)	6	11	0	6	9
Guide (cartoon)	7	13	0	12	0
Maintenance Manual	10	2	0	9	11
Account Manual	5	4	0	11	12
Model Account Book	1	3	0	13	15
Inspection Manual	1	1	0	13	17
Inspection Sheet	2	1	0	12	17

Source: Beneficiary survey

<Training Programs>

First Training: February-March 2010

Second Training: November-December 2010

Table 10. Number of Participants in the Training Programs Organized in the Soft Component

Government Official	Head Teacher	Teacher	Commune Head	Parent	Student	Total
23	28	327	17	689	367	1,451

Source: JICA's document

Comparing the plans in the basic design study and the actual output of the soft component, the "Manual on Material and Financial Accountability" and "Model Account Book for Public Primary School" were developed additionally to the initial plans. One originally scheduled training program was divided into two according to the PTA's annual activity cycle for the sake of greater effectiveness of the training. Meanwhile, only a few hours could be allotted to the training at each of the venues. Table 10 shows the total number of participants in the two training programs. As presented in Table 9, it should be remarked that the manuals were utilized in a considerably low level; although the "Manual on the Maintenance of School Infrastructure" is used most frequently among them, yet only about 30% of the head teachers answered that it was "used daily". Moreover, not a small number of head teachers were ignorant about the distribution of the materials and answered that they had "not received" the manuals. Among those who did not answer the question about the current state of the manuals, many were actually not aware of them. Participants in FGD pointed out that one of the reasons why they did not know about the distribution of the materials was that many former head teachers had not handed them over to their successors. Therefore, because of the low level of awareness of the guides and manuals among head teachers and classroom teachers, profound discussions could not be conducted in the ex-post evaluation as to reasons for limited utilization, need for improvement, and others. As a

document provided by JICA points out insufficient duration for soft component and need for continuous training, it is suggested, as a background of the poor awareness, that two training programs for a few hours were not sufficient to ensure the sustainable utilization of the developed guides and manuals.

3.4.2 Project Inputs

3.4.2.1 Project Cost

While the amount of the grant limit for this project according to the Exchange of Notes (E/N) was 1,098 million yen, the actual grant amount was 866 million yen. Referring to a document provided by JICA, it is confirmed that the project cost estimated in the detailed design study had decreased from 1,098 million yen on E/N to 1,035 million yen because of the drastic appreciation of the yen against the euro[13] that occurred during the global recession after the Lehman Shock in September 2008. Because the actual grant amount was even less than the latter, the CM consultant was asked whether the quality of the construction had been secured. Consequently, it was confirmed that the lowered cost was due to the contractor's efforts and there was no problem in the quality of their work. Therefore, it is concluded that the project cost is lower than planned.

Additionally, the Basic Design Study Report confirms the efforts for cost reduction put forth by devising the construction design as follows:

- Size of the classroom is the same as that in Phase III which is smaller than that in Phases I and II[14].
- Instead of the multipurpose room that was not frequently utilized, a storeroom annexed to the head teacher's office which can be also used as an anteroom for teachers' meeting is provided.
- Floor area of the toilet facilities is reduced.

The principal measures taken by the Cameroonian side included (1) leveling of construction sites, (2) removal of existing constructions, (3) preparation of tentative classrooms, (4) provision of water supply in the project sites, (5) construction of external walls, (6) planting trees on the slopes, (7) rehabilitation of existing classrooms, (8) allocation of counterpart budget for the soft component, and (9) payment of bank commissions, which were estimated to cost approximately 121 million yen in total. Those were virtually all carried out as planned according to the interviews with the CM consultant and the implementing agency of the Cameroonian government.

However, it is revealed that only Belabo Primary School has functioning waterworks out of the ten project sites while a JICA document reports that all the eight sites had been supplied with public water as scheduled. The others are all facing a problem of water shortage because of the lack of public water supply owing to damaged pipes, unpaid bills, water theft, etc. (see Table 11). Those schools rely

[13] The exchange rate for 1 euro was 163.84 yen at the time of the basic design study (August 2008), and 137.80 yen at the time of the detailed design study (July 2009) according to a JICA document.

[14] Internal size of the classroom was 9.3 m x 7.2 m in Phases I and II and 9 m x 7 m in Phases III and IV.

on well water from inside or outside the school premises but cannot obtain sufficient water. Furthermore, it is also known that 46 classrooms that existed before the project are continuously used without rehabilitation despite the fact that six of them were judged necessary to be repaired in the basic design study and 40 were supposed to be demolished after the project completion. Incidentally, it was confirmed through the site visits that the external walls had been completed in all sites at the time of the ex-post evaluation while the construction of the wall gate and plastering and painting of the walls had not been finished at Burkina Faso Primary School when the warranty inspection was carried out.

Table 11. State of Water Supply in Each School

Region	School Site	State of Water Supply	Public Water Supply Planned
Adamawa	Bamyanga	It is connected to the public water supply but cut off occurs frequently. Since July 2013, a neighboring household has been stealing water by connecting their tap to the school's pipe without permission. Police is investigating it.	✓
	Burkina Faso	It used PVC pipes which became damaged one year after the installation and is out of order. A functioning borehole is available in the school premises.	
	Gada-Mabanga	No public water is supplied. It relies on a well built with the assistance of the Government of Turkey.	
	Sabongari	The installed waterworks were destroyed through vandalism at the end of 2011/12 and are out of order since then.	✓
	Mabanga	The water pipes have been damaged and out of order since June 2011.	✓
East	Belabo	It is connected to the public water supply that is functioning without problems.	✓
	Bertoua	It has not been connected to the public water supply. Water for cleaning the school infrastructure is bought with PTA's fund.	✓
	Quartier ENIA	It is connected to the public water supply but cut off occurs frequently throughout the area.	✓
	Tigaza	Because of the low quality of the water pipes, they are damaged and out of order. Water supply was sometimes stopped because of unpaid bills.	✓
	Yadame	Water supply is not available since 2011 because the water meter is broken.	✓

Source: Beneficiary survey

3.4.2.2 Project Period

The basic design study made a project plan to last 23 months including the detailed design study but the actual implementation period exceeded 24 months. From the consulting contract on April 16, 2009 to the completion of the construction on November 10, 2011, it took 18.8 months and was even shorter than 20 months according to the plan of operation for the project. However, since the soft component scheduled for 20 months was actually carried out for 24.3 months (April 16, 2009 – April 25, 2011), the entire duration of the project is counted to be 24.3 months. According to the interview with CM consultant, the reasons for the prolonged implementation include a longer editing period of the Guide to School Management and Maintenance (Video) by inserting the scenes of the completion ceremony carried out on February 19 and 25, 2011, and a longer proofreading period for the products in response to the requests from Cameroonian partners. Therefore, the entire project period was longer than planned (106% of the plan).

As described above, the project produced the planned outputs including the provision of facilities, educational furniture, and educational equipment as well as the implementation of the soft component. With regard to the project inputs, while the actual grant amount was 866 million yen and much less than the grant limit of 1,098 million, the project period was 24.3 months and longer than the planned 23 months because of the prolonged implementation of the soft component. Although the project cost was within the plan, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.5 Sustainability (Rating: ②)

3.5.1 Institutional Aspects of Operation and Maintenance

Under the supervision of MINEDUB and its delegated educational administrations in each locality, school council[15] consisting of representatives of school, pupil's parents and community, PTA, and head teachers collectively manage and maintain the infrastructure and equipment of a primary school.

At the central level, the "Japanese Grant Project Execution Unit" consisting of six officers and four supporting staff (total ten staff members) is established under DPPC of MINEDUB. The unit carries out the measures to be taken by the Cameroonian side as counterpart organization in the grant projects for school construction and it also assists the maintenance of the school facilities previously provided though the grant projects. Local administrative organizations include Regional Delegation of Basic Education, Divisional Delegation of Basic Education, and Sub-divisional Inspectorate of Basic Education at the levels of region, division, and sub-division, respectively. Their status is "delegation" of MINEDUB so that they are primarily information transmitters to the central authorities which make important decisions. Therefore, once a school needs large-scale rehabilitation of its infrastructure which it cannot handle by itself, a request should be sent from the head teacher, sub-division, division, region to MINEDUB which makes decision on the budget allocation to each individual case.

By law[16], commune has the responsibility of management and maintenance of primary schools. However, commune's current involvement in school management is limited to the distribution of minimum packages (sets of indispensable materials for school management[17]) to schools at the beginning of every school year, using the budget allotted by MINEDUB. Although a school council is expected to play a role of mobilizing various local stakeholders in school management including maintenance of facilities, the institutional arrangement introduced by the government has not been fully understood at the school level so that the school councils are functioning only in a limited degree[18]. Accordingly, PTA and head teachers are the principal players and the minor repairs are

[15] According to the Decree No. 2001/041 of 19 February 2001 concerning Organization of Public Schools and Attributions of the Responsible in School Administration, a school council consists of six ex-officio members (head teacher; president, secretary and treasurer of PTA; representative of commune; and local representative of the Ministry of Finance) and 12 elected members (representatives of teachers, pupils, pupil's parents, local organizations, traditional authorities, etc.)

[16] Law No. 2004/018 of 22 July 2004 Providing the Regulations Applicable to Communes

[17] A minimum package contains chalks, blackboard paint, first aid kit, accounting forms, notebooks, office supplies, basic learning materials, etc. By the influence of the local election in September 2013, the distribution of packages had considerable delay.

[18] Cameroonian government started a pilot project to promote school councils in Yaoundé and Douala from 2014/15 according to the interview with the Japan Grant Project Execution Unit (instruction for promotion by inspectors, etc.)

funded by the PTA's budget. Meanwhile, the number of parents participating in PTA tends to decrease[19]. This is because a number of parents want to evade the payment of the membership fee after hearing that "primary education is free."

3.5.2 Technical Aspects of Operation and Maintenance

According to the Basic Design Study Report, this project is to "provide basic facilities and equipment for primary schools based on the plans to construct simple and solid infrastructure according to the local standards for methods and specifics so that special techniques and skills are not required for their operation and maintenance." At the time of the ex-post evaluation, the observations during the site visits did not reveal any severe damage that might require assistance from the government and the FGD did not point out any technical difficulties concerning the operation and maintenance. Provided that the infrastructure incurs severe damage requiring large-scale rehabilitation, it is inferred that local construction companies are technically eligible to deal with it under the supervision of the officers in charge of infrastructure in the Regional Delegation of Basic Education because the construction is in accordance with the local standards for methods and specifics.

As a relatively slight problem concerning technical matters, through FGD during the site visits, teachers in eight sites out of the ten pointed out that the blackboards provided in the project were so slippery that they wrote with difficulty. Some of them claimed that more frequent repainting was required. It was implied in FGD that the current practice of repainting would be technically inappropriate in terms of selection of material and method. It was also mentioned that the slipperiness depends on the quality of used chalks. The "Manual on the Maintenance of School Infrastructure" only indicates the need to repaint a blackboard annually with slate paint and does not specify the materials and methods to be used in detail. Therefore, it is concluded that the problem can hardly be resolved at the school level (see Figure 3).

Figure 3. Blackboard regarded as slippery

3.5.3 Financial Aspects of Operation and Maintenance

The Japanese Grant Project Execution Unit of DPPC in MNEDUB assists in the maintenance of the schools previously constructed under Phases I through III of the Project for the Construction of Primary Schools using a part of the "counterpart budget for the grant projects" such as bearing costs for repainting walls. Likewise, it can make financial contribution toward ensuring sustainability of the schools built in this project. As a matter of fact, the counterpart budget was used to install power supply and lighting equipment after project completion (in the head teacher's offices, classrooms, and

[19] All the parents of pupils are eligible to join PTA. Meanwhile, as their decision should be made on a voluntary basis, the participation rate was from 10% to 50% at the time of the ex-post evaluation.

corridors in the East Region; in the head teacher's offices and corridors in Adamawa Region). Table 12 shows the counterpart budgets (investment budget) in the last five years. Meanwhile, because a counterpart budget is prepared mainly for fulfilling the responsibilities of the recipient government in a grant project, the Cameroonian government may not be able to secure the budget if subsequent phases of the Project for the Construction of Primary Schools are not funded by Japan. Presently, necessity of large rehabilitations requiring funds from the central ministry is not expected since the school buildings constructed in the project are solid enough. Meanwhile, assuming that government funds are needed in the future, it is uncertain whether or not a counterpart budget will be secured then. If no counterpart budget is allotted, the schools constructed in this project will be treated in the same manner as the other public schools and a request for the funds to carry out important rehabilitation will be individually discussed at the central authorities.

Table 12. Counterpart Budget of the Japan Grant Project Execution Unit (Investment Budget)

Year	Amount (FCFA)	Equivalence in Japanese Yen
2013	475,284,520	100,285,034
2012	517,500,000	109,192,500
2011	186,500,000	39,351,500
2010	520,000,000	109,720,000
2009	535,463,157	112,982,726

Source: Japan Grant Project Execution Unit of DPPC in MINEDUB

Note: Equivalent values in Japanese yen are all calculated according to the JICA's exchange rate for December 2013: 1FCFA = 0.211 yen.

Meanwhile, the amount of the school management fund provided by MINEDUB on the basis of the number of pupils is so limited[20] that it is virtually used up to purchase materials and does not remain for the maintenance of facilities. The collected amount of the PTA membership fee that is used for daily maintenance of facilities tends to decrease. Background of this phenomenon includes MINEDUB's ban on the collection of membership fees at the start of a new school year in order to avoid parents' misunderstanding that the payment of a PTA membership fee is a condition of enrollment. Not a small number of parents ignore the necessity of PTA membership fee because they have heard that primary education is free. At all ten project sites, it was pointed out that the collection of membership fee was becoming harder and harder. There were even three sites where the number of parents who paid was only 10%-19% of pupils. The amount of the annual membership fee per pupil is 1,500-3,500 FCFA (317-739 yen)[21] and a majority of school sites collect around one million FCFA (approximately 210,000 yen) in total. The costs covered by PTA fund include those for repair of broken doors and locks, repainting of blackboards and walls, and employment of guards and janitors. As far as repair and repainting are concerned, no cases in which the lack of budget caused severe problems could be identified. With regard to the guards and janitors, one government employee is appointed in each school site, but if more than one is needed, they are paid with the PTA fund.

[20] According to interviews during the site visits, the amount of school management fund per pupil is 225 FCFA in Bertoua City and 753 FCFA in Ngaoundéré.

[21] In all the schools assisted through this project in East Region, the PTA membership fee is unified to be 3,500 FCFA. The exchange rate is 1 FCFA = 0.211 yen (JICA's rate in December 2013).

Meanwhile, it was observed that the lack of budget has caused delay in payment in some schools and shortage of necessary staff in others, which requires due measures to be taken.

Not only maintenance of facilities but also employment of teachers is partially funded by PTA. In principle, teachers are employed by MINEDUB with its budget but in case of shortage, complementary ones are employed by PTA with a small amount of allowance. MINEDUB has a policy to reduce the proportion of teachers employed by PTA but it remains at around 15% without any significant decrease. Since the entire budget of PTA tends to decrease, employment of teachers becomes a burden and even some schools have delays in payment.

In consideration of these circumstances, because the collected PTA fund is decreasing while it actually bears a great deal of costs for school operation and maintenance, it is necessary to reduce the dependence on PTA fund through the government's appointment of increased number of teachers and staff and its distribution of an increased amount of school management fund. In addition, financial restructuring is required at the school level, too.

3.5.4 Current Status of Operation and Maintenance

It was confirmed that head teachers, class teachers, and pupils had the strong will to keep using cleanly the school infrastructure provided in this project. For instance, in addition to the pupils' everyday cleaning in shifts, a thorough cleaning is carried out at the end of every week by all the pupils. Therefore, the facilities and equipment are generally maintained in good conditions.

Meanwhile, there are several problems common to all schools. Door handles and locks of classrooms are so vulnerable that a large number of them are either left broken or replaced (Figure 4). The installed door handles lack durability that frequent use of the movable parts cannot be sustained. Since pupils' frequent use of the door handles is inevitable according to the nature of the school, it is a concern that the handles have to be repeatedly damaged and replaced.

Figure 4. Vulnerable Door Handle

Moreover, many expressed their concern about preservation of the cleanliness of the toilets because it requires a lot of water which is in fact insufficiently supplied. At the time of the ex-post evaluation, there was even a school that had suspended the use of the toilets provided in this project because hygienic use of the toilets could not be guaranteed for lack of water (Yademe Primary School). The most frequent reason for insufficient supply of water involves the breakdown of equipment such as water pipes and meters. Besides, suspension and unavailability of public water supply cause the insufficiency.

Distortion of wooden doors and shelves was frequently reported most probably because of the use of insufficiently dried timbers. There were even doors which could not be opened and closed easily. Since insufficient drying of timbers involves an issue of quality control in the construction work, more intensive control was required.

In light of the above, some problems have been observed in terms of institutional, technical, and financial aspects as well as current status of the operation and maintenance as to this project. Therefore, sustainability of the project effect is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was carried out to improve the learning environment through the construction of school infrastructure and the provision of educational furniture and equipment in the East and Adamawa regions belonging to the "Education Priority Zones" where pupils were obliged to study in a poor environment owing to the lack of school facilities to accommodate rapidly increasing number of pupils after the introduction of free primary education policy. As a result of the ex-post evaluation, the relevance of the project is evaluated to be high because it is significantly pertinent to the development policy of Cameroon aiming to achieve universal primary education by 2015, the development needs to improve the poor learning environment, and the Japanese aid strategy for Cameroon. Its effectiveness and impact is also high as approximately sixteen thousand children have been newly provided with adequate learning environment and the clean and safe school facilities have influenced the minds of students' parents who are now sending their children to school more enthusiastically. Meanwhile, the efficiency of the project is fair because the "soft component" was prolonged and the project period slightly exceeded the plan although the project cost was within the plan. As far as the sustainability of the project effects is concerned, no serious problems are pointed out considering the fact that simple, solid, and durable school buildings were constructed and that careful daily cleaning is given to them. However, while financing for ordinary maintenance of the facilities is heavily relying on the membership fees of the Parent-Teacher Association, there is a tendency of decrease in the number of its members and the collected fees. Therefore, taking it as a slight problem, the project sustainability is considered fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

- As it is frequently pointed out that the blackboard made of plywood is too slippery to write on with a chalk, the Japan Grant Project Execution Unit of MINEDUB is recommended to give the project target schools advice on the necessary solution after assigning its technical staff or commissioning external technicians to carry out technical investigation on the painting material and method for surface and on how to use and clean it. Information on the paint appropriate for repainting the blackboard has already been obtained from the CM consultant and conveyed to the unit by the evaluator so that it is required to confirm whether the same sort of paint is used or not. Furthermore, the unit should consider the necessity to inquire of paint manufacturers what measures must be taken in using, cleaning, and repainting the blackboard properly and instruct

the schools, accordingly.

- As many schools are facing the difficulty to secure enough water, the Japan Grant Project Execution Unit of MINEDUB is recommended to investigate the circumstances of those schools and give advice on the solutions. For instance, while the unit maintains that water bills are supposed to be paid by the State, there are schools that do not know it and find it hard to secure the cost for water according to the beneficiary survey in the ex-post evaluation. Therefore, informing the schools on it would be a first step toward the solution. Moreover, a number of broken PVC pipes connected to the main pipe for public water supply were observed and frequent suspension of water supply was pointed out as a matter of the entire area. Therefore, it is preferable that the unit take the initiative in discussing with the project target schools as to what measures should be taken, such as request to the communal authorities to bear the cost for replacing water pipes or, more radically, for digging a well.
- As the number of parents who pay the PTA membership fee is decreasing, with regard to the management and maintenance of primary schools, more important roles should be taken by the commune according to the law and by the school council that is supposed to involve various stakeholders in the locality. Therefore, MINEDUB is recommended to take measures to promote the participation of communes and school councils into the school management and maintenance, aiming to build a sustainable mechanism without depending entirely on PTA fund.

4.2.2 Recommendations to JICA

Not applicable.

4.3 Lessons Learned

- **Target setting in a project for school construction aiming at the improvement of the learning environment**

  The objective of this project is to improve the learning environment and its effect indicators include the “number of solid classrooms with adequate learning environment” and the “number of pupils newly provided with adequate learning environment”. Meanwhile, an “adequate learning environment” was not clearly defined and it appears to be assumed that a classroom constructed according to well elaborated plans should automatically have an adequate learning environment. While it was understood in the ex-post evaluation that cleanliness and security of the school buildings contributed significantly to the creation of an “adequate learning environment”, those attributions had not been set as effect indicators. If lack of hygiene and insecurity had been viewed as major problems to confront in the project, the project design would be plainer because the achievement of its objective could be measured by the level of problem solution. Therefore, it is considered important to set quantitative or qualitative indicators measuring the achievement of a school construction project for the improvement of the learning environment by clarifying how the construction of schools can improve the learning environment on the basis of a thorough problem analysis at the project planning stage.

- **Necessity to estimate demand for enrollment in a school construction project for the improvement of the learning environment**

  Not only in a project aiming at the improvement of access to education such as increased enrollment rate, but also in a school construction project for the improvement of the learning environment, it is important to develop a project plan including the number of classrooms to be assisted after estimating carefully the number of pupils and that of school-aged children in the future. This project was carried out in urban areas with large population where more than one school neighbor each other without designated school zones. Therefore, alleviation of overcrowdedness in classrooms could not be expected through the project implementation while the class size is one of the components forming the learning environment. Consequently, this project did not employ an effect indicator related to the alleviation of overcrowdedness (reduction of class size) unlike the preceding Phases I through III of the project. And the scale of assistance (i.e., number of classrooms to be assisted) was calculated on the basis of the number of pupils existing at the time of the basic design study without estimating the demand for enrollment at project completion. Consequently, because of the increased number of pupils, there remain overcrowded classes and several old school buildings supposed to be demolished are still used in the project target schools. Therefore, even though the main purpose of the project is not alleviation of overcrowdedness, it is suggested that estimation of the future demand for enrollment should be done as far as possible and reflected in the project plans. For this project, too, it would have been better to consider the extent to which this grant project of Japan could meet the future demand after estimating it by taking into account the population growth rate and the experienced influx of pupils from neighboring schools in the previous phases. Because class size is generally an important indicator to measure the learning environment, assuming that a school construction project causes a considerable increase of pupils and that of class size, the project might be evaluated to have given a negative impact on the learning environment. Thus, it should be avoided to calculate the number of classrooms to assist exclusively depending on the number of pupils at the time of the basic design study.

- **Possible synergy effect between a school construction grant project and a technical assistance project for school management in case of the need to improve the mechanism of school management and maintenance**

  While the limitation is recognized in raising funds for school maintenance that depends on PTA as it has been done thus far, the establishment of school council is institutionalized by the Cameroonian government to manage and maintain a school with the assistance of various local stakeholders. However, it seems not to be currently functioning ideally. Under these circumstances, the soft component of this project did not only convey the techniques for the maintenance of facilities but also developed manuals and provided training with the ambitious aims of clarifying the distributed roles of PTA, commune, and school council and making these organizations more active. However, its results have not been fully established yet because of the limitations of the “soft component of a grant project” on time and scale; only two training

programs for a few hours were carried out. According to that experience, if the necessity arises for the assistance in institutional reform for several years, such as activation of malfunctioning school councils in this project, it is impossible for a soft component with limitation on time and scale to accomplish sufficient technical transfer. In that case, utilizing the result of the soft component effectively, there would be possibility to enhance the sustainability of the project effects by continuing technical transfer after the completion of the grant project through another cooperation scheme such as technical assistance project for instance.

The Federal Democratic Republic of Ethiopia

Ex-Post Evaluation of Japanese Grant Aid Project
"The Project for Construction of Primary Schools in Oromia Region"

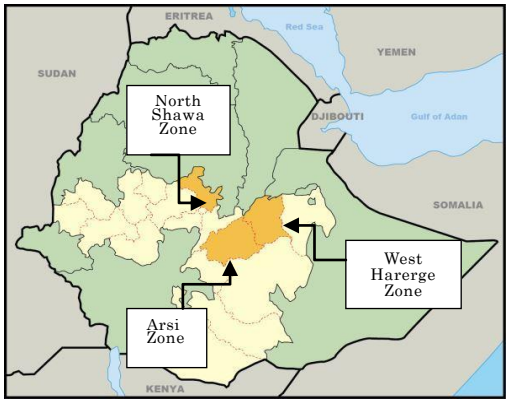
External Evaluator: Yuko Ogino, KRI International Corp.

0. Summary

The Project was implemented to improve access to primary education through expanding and newly constructing primary school facilities in the Oromia Region. As a result of the ex-post evaluation, the Project was relevant to Ethiopia's development plan and needs in terms of primary school construction as well as Japan's ODA policy for Ethiopia, but the Project design was not appropriate in terms of target school selection, etc. Therefore, its relevance is fair. In terms of the fundamental indicator to judge the effectiveness (increase in number of registered students), the achievement was substantially lower than the target. The expected impacts are also limited as against the planned impacts, although some effects in association with the improved learning environment are observed to a certain degree. Therefore, the Project has achieved its objectives to a limited extent, and its effectiveness and impact is low. The project costs were as planned but exceeded the plan in view of the reduction in outputs, and the project period significantly exceeded the plan. Therefore, the efficiency of the Project is low. Regarding the operation and maintenance of the Project, problems have been observed particularly in terms of the financial aspect for repair of the facilities and equipment. However, since the sites are operating as primary schools with the necessary institutional arrangements, sustainability is confirmed to a certain degree. In conclusion, the sustainability of the project effectiveness is fair.

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

1. Project Description



Project Locations

School buildings constructed in the Project

1.1 Background

In placing importance on the role of education in poverty reduction, the Government of Ethiopia launched the first and second Education Sector Development Programs (ESDP 1997-2001 & ESDP-II 2002-2004). As a result of the Programs, the Gross Enrollment Ratio (GER) remarkably improved from 34.7% (1997) to 79.2% (2005). However, such a rapid increase of GER surpassed the intake capacity of the school facilities and brought various problems such as a sharp rise in the number of students per section, and a severe shortage of classrooms and textbooks in rural areas, etc. which resulted in deterioration of educational quality. In order to address such issues, the Government of Ethiopia launched the ESDP-III (2005-2009) with a focus on quality improvement, and implemented the Program including construction and expansion of primary schools. In spite of such efforts, it was not possible to meet the targets for school facility construction in a situation where finance was mostly dependent on community support due to a shortage of governmental budget.

In addressing such problems, the Government of Ethiopia prepared "The Project for Construction of Primary Schools in Oromia Region", and requested the Government of Japan to financially assist in constructing school facilities and procuring educational equipment. In response to the request, the Japan International Cooperation Agency (JICA) conducted a Preliminary Study from July 2006 and subsequent Outline Design Study from April 2007. The Project was implemented based on the results of the Studies.

1.2 Project Outline

The objective of the Project is to improve access to primary education through expanding and newly constructing primary school facilities at 57 existing and new target sites in 3 zones (North Shawa, West Harerge and Arsi) in the Oromia Region.

Grant Limit / Actual Grant Amount	1,041 million yen / 1,041million yen
Exchange of Notes Date (/Grant Agreement Date)	December 2007/NA
Implementing Agency	Oromia Education Bureau (OEB)
Project Completion Date	November 2010
Main Contractor(s)	Procurement Management Agent: Japan International Cooperation System (JICS)
Main Consultant(s)	Local consulting firm
Outline Design	April – October 2007
Detailed Design	March – June 2008
Related Projects	• Technical Cooperation Project: Community-Based Basic Education Improvement Project (ManaBU

	Project) (November 2003 – November 2007) • Development Study: Increasing Access to Quality Basic Education through Developing School Mapping and Strengthening Micro-Planning (SMAPP) (April 2005 – September 2007), and others.

2. Outline of the Evaluation Study

2.1 External Evaluator

Yuko OGINO, KRI International Corp.

2.2 Duration of Evaluation Study

Duration of the Study: September 2013 – August 2014

Duration of the Field Study: 3 – 18 December 2013 and 16 – 23 March 2014

2.3 Constraints during the Evaluation Study

The Project was actually implemented at a total of 38 school sites in 2 zones. The evaluation team visited 20 schools selected out of 38 schools in 2 zones because the sites are widely distributed in different places without easy access. All 38 schools and 20 Woreda Education Offices (WEO) were covered by questionnaire survey[1]. The 20 schools visited were selected based on the criteria of location (by zone) and school type in order to reach more than half of the number in each category so that the evaluation results could be substantiated by a reasonable amount of evidence[2].

[1] Data/information was collected through 1) a questionnaire survey of all the school sites and WEOs, and 2) interviews and Focus Group Discussions (FGDs) at directly visited sites. The questionnaire survey was conducted to cover all 38 schools and 20 WEOs, and the questionnaire responses were collected from 36 target schools out of 38 (95% collection rate) and from all 20 WEOs (100% collection rate). Interviews and FGDs were conducted in 20 schools (more than half of the total 38 schools) covering a total of 204 persons (23 Director/Vice-Director, 55 teachers, 97 students, 29 Parent-Teacher Association (PTA)/Village Education Management Committee members) by available sampling, and analysis was performed in due consideration of the representation bias of a few opinions.

[2] The table below shows the distribution of directly visited schools which were selected in consideration of school type (Type 1: 1st cycle schools with Grades 1 to 4 upgraded by increasing classrooms to complete schools with Grades 1 to 8, Type 2: Existing complete schools having shortage of classroom to be expanded, Type 3: New complete schools constructed in non-school areas). Out of 38 schools, a total of 20 schools were visited, shown in ( ).

Distribution List of Directly Visited Schools: by Zone and by Type

Zone	Type 1 (Upgraded)	Type 2 (Expanded)	Type 3 (Newly constructed)	Total
North Shawa	11 (6)	8 (4)	6 (3)	25 (13)
West Harerge	5 (3)	6 (3)	2 (1)	13 (7)
Total	16 (9)	14 (7)	8 (4)	38 (20)

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

3.1 Relevance (Rating: ②[4])

3.1.1 Relevance to the Development Plan of Ethiopia

The Project is highly relevant to the development plan of Ethiopia. At the time of the Outline Design Study, the Plan for Accelerated and Sustained Development to End Poverty (PASDEP: 2005-2009) was then the 5-year national development plan, and it set human resources development as one of the priority sectors and stated the importance of improvement of educational access and quality. Oromia Region's ESDP-III (2005-2011) which was prepared based on the ESDP-III national educational development plan also addressed the strong need for construction and expansion of schools for improved access and quality of primary education. At the time of the ex-post evaluation, the subsequent national and education plans include improvement of educational access and quality as a target. "To expand and ensure the quality of education and achieve the Millennium Development Goals (MDGs) in the social sector" is one of the main objectives of the 5-year national development plan, namely the Growth and Transformation Plan (GTP: 2010-2014), regarding the education sector. The federal ESDP-IV (2010-2014) sets the targets for achieving improvement of educational quality and equity access; Oromia Region's ESDP-IV also promotes school construction activities, such as increasing the number of complete schools, reconstructing severely damaged school facilities made of wood and mud, and so forth, by setting targets to meet the objective of providing access to quality education to all primary school age children by 2015.

3.1.2 Relevance to the Development Needs of the Oromia Region

The Project is consistent with the development needs of the Oromia Region since the need for school construction has been continuously high from the time of the Outline Design Study to the date of the ex-post evaluation. The trends in school age population, enrollment, number of schools constructed, etc. were examined first. Referring to the data from 2005/06, the Outline Design Study confirmed that the Pupil Section Ratio (PSR) was as high as 73 due to the chronic shortage of classrooms caused by the rapid increase in enrollment in the Oromia Region. The Government of Ethiopia promoted school construction activities based on a low-cost school construction policy[5], leading to great

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

[4] ③: High, ② Fair, ① Low

[5] According to the Preliminary Study Report (JICA, 2006), MOE has two standard designs for primary schools: Standard (wood and mud) and High Standard (reinforced concrete structure and hollow concrete blocks). Since 2003, the Ethiopian government has encouraged school construction following the Standard design in order to meet the huge construction needs with limited government budget. Most of the schools

improvement in the PSR to 58.9 as of 2012/13, but still not achieving the target standard (50 in ESDP-III) (See Table 1). The low-cost schools are usually made of wood and mud, and therefore, the quality of construction and specifications are low and their life-span is short. As a result, many school facilities are deteriorated and dilapidated. Since the poor quality of the school facilities and equipment has a negative impact on enrolment and learning quality, a continuous need for constructing durable and safe school facilities of high-standard design is confirmed at the times of Outline Design Study and the ex-post evaluation. In addition, the system of primary education in Ethiopia is 8 years, comprising the 1st cycle (Grades 1 to 4) and the 2nd cycle (Grades 5 to 8). Accordingly, the 1st cycle schools need to be upgraded to complete schools from Grade 1 to Grade 8. However, due to governmental budget limitations for primary school construction and limited support from donors[6], most of the school construction activities are still covered by community support. In conclusion, school construction needs in the Region are constantly high.

Table 1 Educational Statistics: Oromia Region

	School Age Population (7-14)	Enrollment	GER (%)		No. of schools	PSR
			1st Cycle (G1-4)	2nd Cycle (G5-8)		
2005/06	5,379,879	4,832,554	113.3	60.3	7,488	73.0
2007/08	6,063,901	5,541,919	121.1	57.4	9,325	65.4
2011/12	6,826,211	6,281,674	120.6	59.3	11,729	57.4
2012/13	7,036,942	6,414,327	121.4	56.5	12,060	58.9

Source: MOE, Education Statistics Annual Abstract (respective years)
Note: School Age Population and Gross Enrollment Ratio (GER) include Regular, Evening and Alternative Basic Education except for 2005/06 (Regular and Evening only). Pupil Section Ratio (PSR) is for Regular only.

3.1.3 Appropriateness of Project Design

In reviewing the design of the Project during the ex-post evaluation, the following 3 points, 1) Finalization of target schools, 2) Project effects and indicators and 3) Project components and size, are identified as factors that have negatively influenced the effectiveness of the Project. (See 3.2 Effectiveness for details)

1) Finalization of target schools

It was revealed that selection of the target schools was not appropriately finalized due to problems in the selection process. First, the request from Ethiopia consisted of 3 types of schools (1. 1st cycle schools to be upgraded to complete schools, 2. Existing complete

were constructed with community participation and support, and not many schools were constructed with the government budget. The High Standard design is also limited to the cases of foreign assistance and NGOs.

[6] According to OEB, the only donor assistance was currently from Korea in the construction of 4 primary schools in Arsi Zone.

schools having shortage of classrooms to be expanded, and 3. New complete schools to be constructed in non-school areas). During the Preliminary Study (July to August 2006), it was agreed to provide assistance for the 3 types as they were in line with the school construction needs of the Region. Next, the selection criteria were agreed during the Outline Design Study, and a provisional list of 57 priority target schools (hereinafter referred to as the "provisional list") was prepared based on the list of 151 requested schools in consideration of safety, construction management efficiency, budget, etc. The list of 57 schools only had provisional status and was to be finalized based on the results of the site survey to be conducted at the Detailed Design stage by studying the number of students and classrooms, status of continuous usability of existing classrooms, etc. However, by examining the data collected through the questionnaire survey from the 38 schools which were the actual construction sites of the Project together with the best available information and data from the relevant stakeholders, consistency between the plan and the actuality in terms of school type was found at only 12 schools in 2007 which is the planning year of the Project as explained in Table 2.

Table 2 Consistency with Type of Target Schools

Planned in the provisional list (2007)			Actual (2007)
Type 1:	1st cycle schools (Grades 1 to 4) to be upgraded to complete schools (Grades 1 to 8)	16 schools	Out of 16 schools, none was a 1st cycle school and 8 were already complete schools
Type 2:	Existing complete schools having shortage of classrooms to be expanded	14 schools	Out of 14 schools, only 8 were complete schools
Type 3:	New complete schools to be constructed in non-school areas	8 schools	Out of 8 schools, only 4 were new and the other 4 were the sites of existing schools
Total: 38 schools			Out of 38 schools, only 12 schools were consistent with the type of target school.

Source: Beneficiary Survey

The first factor that allowed construction at the sites where the school type was different between the plan and the actuality is that the provisional list was not appropriately finalized at the Detailed Design stage. According to the site survey report (June 2008) in the Detailed Design, the grade-related information was obtained and recorded in the report. It was, therefore, already found that there were inconsistencies in terms of school type between the provisional list and the actuality, but construction was implemented mostly as per the provisional list[7]. Moreover, the site survey report did not

[7] According to the site survey report at the Detailed Design stage, 1 site was excluded due to the problem of road access, and two other sites were proposed for substitution to avoid duplication of support from other sources. Of the two sites, in the end one site was not changed and the Project constructed the school

have any information on numbers of students and classrooms, and there was no evidence that any revision was done in consideration of the usability of existing classrooms and estimation of the number of necessary classrooms. In summary, it is understood that the important process of finalizing the target schools was not done appropriately although the detailed reasons for such conduct were not verified in the ex-post evaluation.

In addition, the information contained in the priority target school list prepared during the Outline Design Study was largely different from the actual situation of the schools in terms of school type. This means that the provisional list itself was not accurate. Since the list of 151 requested schools, the basis for planning, was estimated to have been prepared 2 years before the Outline Design Study, perhaps in 2005/06 or even earlier, the information might have been obsolete to use for 2007/08[8] or incorrect[9]. Considering the large gaps between the provisional list and the actuality, even if the provisional list was reviewed at the Detailed Design stage, it was not possible to just replace a few sites but the Project should have been revised more fundamentally. From the above, it is recommended that planning during the Outline Design stage in 2007 should have been more accurately based on the latest information of the school sites obtained though such as site surveys and/or questionnaire surveys utilizing local consultants[10].

2) Project Effects and Indicators

The need for an increase in student numbers, which was set as the effective indicator of the Project, was not sufficiently confirmed during the Outline Design Study. The planned effect was to improve access to primary education, which was translated more concretely into the logic that the number of registered students would be increased through increasing the capacity for enrolling additional children (capacity expansion). However,

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facilities as planned although the reasons were not confirmed in the ex-post evaluation. The other site was substituted but was not the same expansion site (Type 2) and actually a school with Grades 1 & 2 only. At the time of the ex-post evaluation, the school is still a 1st cycle school with Grades 1 to 4. The site survey report at the Detailed Design stage contains information on the grades at each site but not on the number of students.

[8] Some schools which were listed as 1st cycle school were actually complete schools in 2007/08. This shows a rapid improvement of school facilities in the sites, which should be acknowledged as a positive achievement in respect of educational development in the Oromia Region.

[9] The provisional list was prepared during the Outline Design Study based on the requested school list from Ethiopia but not on direct data information collected from the candidate target schools. This was in view of utilizing the outputs of SMAPP. The latest EMIS data (2005/06) was also available but was used just for reference and the Outline Design Study decided that the provisional list was to be finalized based on the site survey results at the Detailed Design stage.

[10] The school calendar in Ethiopia starts in September, and therefore, the Outline Design Study (April to August 2007) was not able to collect 2007/08 school data. However, if a site survey had been conducted at that time to collect data from each site, it would have been possible to prepare the provisional list with more accuracy. As for the site survey at the Detailed Design stage, it was possible to collect accurate 2007/08 school data because the site survey was conducted in June 2008. The site survey report actually contains information on the grades at each site, but no information on the number of students.

as explained later in 3.2 Effectiveness, the number of registered students did not increase as estimated in most of the 38 actual target schools either at the time of project completion or at the time of the ex-post evaluation, including even the newly constructed schools where the team observed that some of the classrooms constructed in the Project were not used for regular classes. According to the Beneficiary Survey, the major reason for this situation was that there had been lots of facility improvement in neighboring schools (new construction, expansion of grades and classrooms)[11]. It can be concluded that the need for an increased number of students at the target sites was lower than planned.

The need for an increased number of students at the existing Type 1 and 2 school sites was not confirmed during the Outline Design Study[12]. It was planned to be done in the site survey at the Detailed Design stage, but in fact no evidence has been found that it was done. As for the new Type 3 school sites, the number of necessary classrooms was confirmed based on the school-age population in the villages during the Outline Design Study, but there were other schools nearby, and construction and expansion of the school facilities was also implemented at such neighboring schools and, therefore, the number of registered students at the project sites did not increase as expected.

In summary, if the Project aimed to increase the number of students, it is recommended that the situation in the neighboring schools should have been studied because rapid school construction and expansion was underway in the Oromia Region at that time. It may have been difficult to obtain timely and accurate information in all cases because construction and expansion was implemented in some schools after the planning of the Project, and in a situation where construction was mostly done through community support. However, it might still have been possible to a certain degree through hearings at WEOs and school sites, and if it had been done, such difficulty would have been well recognized. In cases where the need was not fully confirmed, the Project contents should have been reviewed including whether the Project was required or not.

3) Project components and size

The items and size (number) of the Project components of both the facilities and equipment had to be planned by confirming the needs of the respective sites. In the Project, either 4 or 8 classrooms were constructed by type as shown in Table 3. Other standard facilities and furniture items were also uniformly constructed by type and

[11] Rapid facility improvement in neighboring schools should be acknowledged as a positive achievement in respect of educational development in the Oromia Region.

[12] The formula which was proposed by the Outline Design Study to estimate the necessary number of classrooms for the existing school sites (Types 1 and 2) is, however, not consistent with the concept of the increase in the number of students which can be calculated based on the number of constructed classrooms.

provided without confirming the different school needs at each site[13]. (See 3.4.1 Output for details)

Table 3 Planned Project Components for Each Type

School Type	Classrooms	Other facilities		Furniture
Type 1: 1st cycle schools to be upgraded to complete schools	4 classrooms (to provide for additional 4 Grades from 5 to 8)	(common) Pedagogical Center, Library, Latrines	Staffroom, Storeroom	To be provided according to the facility component
Type 2: Existing complete schools having shortage of classrooms to be expanded	8 classrooms (to provide an additional classroom for each Grade in the complete school)			
Type 3: New complete schools to be constructed in non-school areas	8 classrooms (to provide one classroom for each of 8 Grades in the new complete school)		Director's room, Secretary's Room, Staffroom, Storeroom	

Source: JICA Internal Documents

However, the Project components and their size did not meet the actual situation (needs) of each site for the following reasons: There are many discrepancies in the prerequisite school types between the plan and the actuality as explained earlier; the target sites were not selected based on the need for classroom construction that should have been estimated by the number of students and usability of existing classrooms; at sites where there were usable, existing facilities (library, storeroom, pedagogical center), the same facilities were constructed in the Project; at most of the target school sites, the number of students did not increase as expected, etc. (See Table 5 in 3.2.1.2 Operation Indicators for the operation status of the facilities at the 20 directly visited sites.) In addition, the Project was designed based on the assumption that the Full Day School system would be introduced, but it was not realized in any of the valid 36 responses from the target schools at the time of the ex-post evaluation according to the Beneficiary Survey. It could also be understood that the feasibility of introducing the Full Day School system was not as high as expected in the actual local situation where children usually had to assist their families in household matters and work. Considering the low feasibility of such policy implementation, it is pointed out that the project components such as the

[13] During the Outline Design Study, because it was already known that existing facilities such as pedagogical centers, libraries and storerooms were mostly found in the schools, it was planned to decide whether to construct them by examining the site survey results regarding the usability of the pedagogical centers and libraries at the Detailed Design stage, but they were constructed at all the sites without review. Regarding the storerooms, it was reported during the Outline Design Study that they were fully packed, and therefore, the storerooms were included in the initial design.

number of necessary classrooms could have been calculated based on the double-shift system.

3.1.4 Relevance to Japan's ODA Policy

The Project is highly relevant to Japan's ODA Policy. Education has been placed as a priority issue and has been assisted constantly as an integral part of Japan's assistance to Ethiopia. In the 2007 ODA Data by Country for Ethiopia, education is clearly mentioned as a priority sector. It also states that Japan was assisting particularly improvement of access in rural, remote areas as well as improvement of quality through capacity development in local educational administration and school construction by way of community participation in the Oromia Region. It mentions that such outcomes of Japan's assistance in the education sector were expected to expand throughout the Oromia Region.

As described above, the Project was relevant to Ethiopia's development plan and needs in terms of primary school construction as well as Japan's ODA policy for Ethiopia, but the Project design was not appropriate in terms of target school selection, etc. Therefore, its relevance is fair.

3.2 Effectiveness[14] (Rating: ①)

3.2.1 Quantitative Effects

3.2.1.1 Effect Indicators

The achievement of effectiveness in light of the effect indicators is largely lower than the target. The indicator set by the Outline Design Study is "increased capacity for enrolling additional children", which is calculated by the number of classrooms to be constructed multiplied by 50 students (per classroom target of ESDP-III). Taking the genuine purpose of the Project into consideration, the ex-post evaluation adopted the "number of increased registered students" as a primary indicator to assess the effectiveness[15]. The results show in Table 4 that the achievement was considerably lower than the planned target. As against the initial target of an increase of 17,400 students, the achievement is 2,673 in 2011 (15.4% of the target). Likewise, as against the adjusted target of an increase of 12,000 students for the 38 schools actually constructed, the achievement is only 22.3% of the target for 2011. The 2013 data even show that the

[14] Sub-rating for Effectiveness is given in consideration of Impact.

[15] Detailed information on the "increased capacity for enrolling additional children" was not available due to inconsistencies in the questionnaire responses in the ex-post evaluation. However, it is obvious that the targets were not achieved because the number of sites decreased from the initial plan and the number of classrooms also decreased from 348 to 240.

number of students decreased. As for school-specific achievement, only 4 schools in 2011 and 3 schools in 2013[16] achieved the individual school targets. The number of schools which are targeted to be complete schools as of 2013 is only 29 schools.

Table 4 Target and Actual Achievement of Effect Indicators: Increase in Number of Registered Students

Effect Indicators	Target (2011)	Actual 2011	Actual 2013
Original Plan: 57 sites, 348 classrooms	17,400 increase	2,673 increase	830 decrease
Actual: 38 sites, 240 Classrooms	12,000 increase		

Source: Beneficiary Survey (Questionnaire Survey to Schools and WEOs)
Note: In comparison to 2007 (baseline), as the school calendar in Ethiopia starts from September, the target year was set at 2011, the year after the completion of the Project in November 2010. The validity of the above data obtained from the Beneficiary Survey is endorsed by the Education Management Information System (EMIS) section of OEB. The numbers of registered students based on the questionnaire survey are 32,366 (2007/08), 35,039 (2011/12) and 31,536 (2013/14).

The factors that have impacted on the low achievement are as follows:

1) Decrease in output from the originally planned 348 classrooms at 57 sites to the actual 240 classrooms at 38 sites. (This is, however, not the most influencing factor as the achievement against the actual output at 38 sites is also considerably lower than the adjusted target.)[17]
2) During the Outline Design Study, there were some defects in project designs such as selecting the priority target schools and needs assessment in line with the Project objectives. (See 3.1 Relevance for details).
3) The final site selection was not appropriately done at the Detailed Design stage. (See 3.1 Relevance for details)
4) Since the site selection was not appropriately done because of 2) and 3) above, many of sites as planned for the Type 1 schools (1st cycle schools by definition) were already complete primary schools[18], and half of the Type 3 schools (new

[16] While there were 4 schools in 2011, one school was dropped in 2013 because the school site became a "complete school" and achieved the target for student increase; however, due to budget system changes, the community had to bear the teachers' salaries but was not able to recruit teachers due to budget shortages, and the school had to return to being a 1st cycle school. (WH1-7: Ifaa Islaamaa)

[17] The Grant Aid for Community Empowerment scheme aims to provide the amount in the Exchange of Notes (E/N) to the counterpart government, and therefore, it is anticipated that the outputs may be changed after the Detailed Design and actual procurement. However, the ex-post evaluation is conducted based on the initial plan, and therefore, 17,400 increase (50 students x 348 classrooms) in the E/N is used as a fundamental target. For your information, the achievements of the Project are still considerably lower than the targets which are adjusted to the changed number of classrooms.

[18] This shows a rapid improvement of school facilities in the sites, which should be acknowledged as positive achievement in respect of educational development in the Oromia Region.

schools by definition) were not new but existing schools, which all negatively influenced the need to increase the enrolment which was expected if the grades were increased as planned. (There are, however, cases where the achievement was lower than planned even at sites where the grades were increased and new school sites.)

5) The demand to enroll more students at the target schools was not as high as expected because of the construction and expansion of neighboring schools. (Out of 20 directly visited schools, 16 schools answered by providing detailed information that non-achievement was due to construction and expansion of classrooms and grades in their proximity.)
6) One new school has been diverted to the College of Teacher Education (Chiro College of Teacher Education)[19]
7) A school was upgraded once to a complete school after the Project, but later downgraded to a 1st cycle school due to a budget shortage for teacher employment. (There was, however, less than the target increase even during the time of operation as a complete school.)

In all the above, the most serious influencing factor is considered to be number 5[20]. It can be concluded that whether there was a need to increase the enrollment was influenced by not only the situation of the target schools alone, but by the situation of neighboring schools to a large extent.

3.2.1.2 Operation Indicators

The operational status of the facilities constructed by the Project varies by item. As shown in Table 5 on the status of the 20 directly visited schools, classrooms, director's rooms, libraries and latrines are found to be mostly used for the planned purposes. On the other hand, secretary's rooms, staffrooms, storerooms and pedagogical centers are not used as originally planned in many cases and are diverted to use for other purposes than the planned ones.

[19] This site is a new school site. The school was operating as a primary school after construction for some time, but has been converted to a Teacher Training College since 2010. Students attending the school were moved to a guesthouse nearby and studied where there were no basic educational facilities. The number of registered students as of 2013 is 282 for Grades 1 to 4 only. (WH3-1: Humde Gudina) According to OEB, this was to meet an acute need to produce primary school teachers and a temporary arrangement until the construction of the Teacher Training College at a different site was completed, and the students would be able to move back to the original school within this year at the earliest estimate.

[20] Rapid facility improvement in neighboring schools itself should be acknowledged as positive achievement in respect of educational development in the Oromia Region.

Table 5 Operation Indicators: Operational Status of Facility Components

Item	Status of 20 directly visited schools			
	No. constructed	Used as planned		Status of different use from originally planned purposes: The numbers in ( ) indicate the number of cases applicable
		No.	%	
Classroom	124	108	87.1	Other than the 108 classrooms used for regular classes as in the left column, diversion to Teacher Training College (8), diversion to library, tutorials, adult education, pre-primary education, etc. (8)
Director's Room	4	3	75.0	Teacher Training College (1),
Secretary's Room	4	0	0.0	Vice director's room (2), Teacher Training College (1), Storeroom (1) No secretary was appointed at any of the sites where a Secretary's Room was constructed
Staffroom	13	7	53.8	Director's Room (3), Teacher Training College (1), Classroom (1), others (1)
Storeroom	13	5	38.5	Director's Room (5), Teacher Training College (1), Classroom (1), Staffroom (1)
Library	20	16	80.0	Director/Vice Director's room (3), Teacher Training College (1) Out of 20 schools, a high standard library already existed at 3 sites
Pedagogical Center	20	10	50.0	Director's room (1), Teacher Training College (1), Classroom (1), Staffroom (4), Storeroom (1), Vacant (2) Many schools use the existing facilities as a pedagogical center
Latrine (buildings)	44	44	100.0	Diversion observed from student latrines to staff use, the students using old latrines, and student latrines divided into two with half allocated for staff use. Most of the rainwater tanks were damaged and not in a usable condition.

Source: Beneficiary Survey

Similar to the facility components, the operational status of the equipment (furniture) also varies by item. Some items are not used to their full potential. In the schools visited, it was confirmed that while the desks and chairs for the students, as well as the shelves in the Library and Pedagogical Center, were overall in good use, many cases of damage were found. There were schools where desks and chairs allocated for rooms other than classrooms were untidily piled up in the storerooms. In particular, the noticeboards installed in the classrooms and other rooms were found to be not used in most of the schools. The shelves were also not fully used

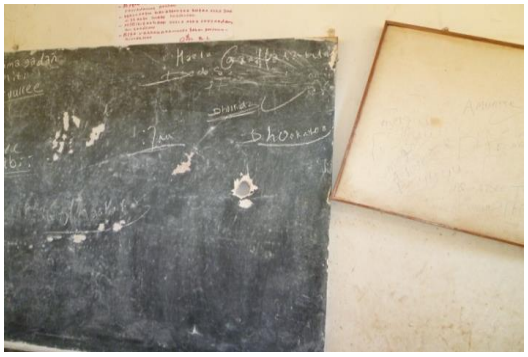

Figure 1 Blackboard with holes and noticeboard (right) not in use

and were mostly vacant except for a few cases. In many schools, there were problems with the surface of the blackboards. In addition, there was one site where many materials for furniture items were left unassembled[21].

As described above, some facility and furniture items provided are not used to their full potential. The reason behind this is as mentioned in 3.1 Relevance that almost all the facilities and furniture were provided uniformly by school type according to the Ethiopian standard design, irrespective of individual school situation in terms of size, status of existing facilities and usability. As a result, there are sites where facilities and furniture were provided that do not meet their respective needs.

3.2.2 Qualitative Effects

The qualitative effects intended at the time of the Outline Design Study are not clearly demonstrated. The two intended qualitative effects are: 1) the facilities provided in the Project are used and maintained properly through raising awareness of facility maintenance by the Soft Component[22] and preventative-maintenance workshops, and 2) the latrines are used properly and basic hygiene knowledge is acquired in the Soft Component through workshops that teach the use of latrines and basic hygiene knowledge. According to the Beneficiary Survey (36 valid responses), the majority of schools answered that awareness was raised, but only 5 gave affirmative answers (13.9%) in terms of having a maintenance plan which was taught to be prepared by the Soft Component. A total of 29 schools (80.6%) answered in the negative to the question regarding washing hands after using the latrines, which is assumed to be because of no access to water. At the visited schools, most of them answered negatively regarding regular maintenance of the facilities and equipment including the existing items. The actual situation of the school compounds and latrines confirmed that it did not look like regular maintenance and cleaning were carried out except in a few cases.

3.3 Impact

3.3.1 Intended Impacts

The impacts (indirect effects) intended by the Outline Design Study were also found to be limited. The three intended impacts are as follows:

1) Repair and maintenance costs for the existing facilities, other than the facilities that are constructed in the Project, are kept low by preventing major defects and damage through raising awareness of school facility maintenance and the

[21] Blackboards were not installed and shelves were not assembled in the school visited (WH1-2: Luugoo Baccessaa)

[22] Soft Component of the Project refers to technical assistance by means of workshops to facilitate proper use and maintenance of the school facilities including latrines as well as to provide knowledge on hygiene.

importance of daily maintenance (cleaning, preventative maintenance, etc.) by the Soft Component.

2) Sickness among the students decreases through raising basic hygiene awareness by the Soft Component.
3) Community activities gain vigor and income generating activities and donations increase, resulting in an increase in operation and maintenance budgets, as the community has a place to get together by constructing rooms in the Project for directors and staff.

Regarding the first impact, as already mentioned, the ex-post evaluation confirmed that the effects of the Soft Component were not clearly demonstrated and the status of daily maintenance was poor. Therefore, it is hard to judge that there have been any particular impacts on reduction of the costs for facility repairs and maintenance by the Project. As for the second impact, many schools visited mentioned that "sickness has decreased compared to previously when no latrines were available", "sickness has decreased because students study in clean and comfortable classrooms rather than in old ones". The Beneficiary Survey also confirmed such effects in that, out of 36 valid responses, 27 schools (75%) answered in the affirmative regarding a decrease in sickness, and there was an impact in this regard. This effect, however, could be due to the newly constructed facilities rather than raising awareness by the Soft Component. The third impact was not confirmed in most of the schools directly visited, and no comments were heard on increased activities for income generation or donations from the community.

On top of the above, the ex-post evaluation reviewed the following aspects which were also expected to have some impacts.

1) Impact on improving the internal efficiency of education to a certain extent was confirmed. Consistent data for the relevant indicators (promotion, repetition, drop-out rates, etc.) were not obtained through the Beneficiary Survey, but many schools expressed the view that "students do not have to go to distant schools", "students' motivation to go to school and learn is increased because of the pleasant learning environment created by the Project".
2) An increasing trend in girls' enrollment is not necessarily evident when examining the trends in the number of gender-based enrollment data.
3) Improvements are partly confirmed for some indicators for assessing the improvement of the educational environment (reduced congestion, introduction of

Full Day School system, etc.)[23]. According to the directly visited schools, the results are as shown in Table 6. The average Pupil Section Ratio (PSR) in 2013 was still higher than the target of 50, but it improved to a great extent because of the increased number of classrooms. There are some sites, however, where the increase was due to a decrease in the number of students. Introduction of the Full Day School system[24] was not materialized in any of the 36 schools that responded to the questionnaire, which was confirmed similarly in the directly visited schools, and they are operating in shifts[25]. The Project was designed based on the policy of introducing the Full Day School system and the number of classrooms was increased accordingly, but this did not bring about the change in the operational system. According to interviews at OEB and the directly visited schools, the policy of introducing the Full Day School system was there, but in view of the fact that children had to help their families in household matters and work, it would rather have been a constraint to discourage enrollment. As for the Pupil Classroom Ratio (PCR) which is higher than the standard of 50 in many schools, if the classrooms are fully used in double shifts, the PCR can come down to half.

Table 6 Indicators of Improvement of Educational Environment (2013)

	Pupil Section Ratio (PSR)		No. of Full Day Schools	Pupil Classroom Ratio (PCR)	
	Average	No. of schools with PSR of more than 50		Average	No. of schools with PCR of more than 50
North Shawa: 13 schools	55	9	0	90	12
West Harerge: 6 schools	61	4	0	69	5
Total: 19 schools	-	13	0	-	17

Source: Beneficiary Survey

Note: The above table includes 19 school data out of 20 directly visited schools, excluding one site converted to a Teacher Training College.

4) No impact of the off-set system[26] was confirmed by interviews with OEB.

5) Although the Project was designed and implemented by adopting the "Program

[23] Reduction in congestion was not targeted by the Project, and such indicators are not logically consistent with the objective of the Project which is an increase in enrollment. However, it was assumed that there was a possibility of the Project contributing toward such impact, and therefore, additional indicators were examined.

[24] Full Day School operates with 5.25 hours of teaching.

[25] Shift School operates with 4 hours of teaching. This includes not only double shift schools operating both mornings and afternoons, but one shift schools operating either mornings or afternoons.

[26] The off-set system is for adjusting the budget amounts from the central government to the respective regions which receive external assistance from donors to balance the budget allocation to other regions.

Approach" that included a Technical Cooperation Project (Community-Based Basic Education Improvement Project: ManaBU Project) and a Development Study (Increasing Access to Quality Basic Education through Developing School Mapping and Strengthening Micro-Planning: SMAPP), no particular synergy effects were confirmed except for utilizing school maps developed by SMAPP.

6) With regard to the effect on education quality, many schools commented that the motivation of students to go to school and learn increased because of the good learning environment in clean and bright classrooms[27] as well as the construction of libraries and pedagogical centers which also impacted positively on the teacher's teaching practices.

As described above, although the effects of the Soft Component were not clear and other expected impacts were limited, there are positive impacts to a certain degree brought about by improvement of the learning environment through the Project.

3.3.2 Other Impacts

3.3.2.1 Impacts on the natural environment

The ex-post evaluation confirmed that there had been no negative impacts on the natural environment by the Project because none of the schools and WEOs, in out of 36 and 18 valid responses respectively as well as interviews at the directly visited school sites, answered that there were negative impacts on the natural environment due to the Project.

3.3.2.2 Land Acquisition and Resettlement

According to the Beneficiary Survey, all cases of land acquisition and resettlement were compensated by providing alternate houses and land, and therefore, no problems occurred except for 1 site in dispute regarding the borders of the new school compound. The residents involved in the dispute are not occupying the site but are cultivating some land within the school compound, and because of this, the school has not been able to construct the school fence. The site has been under control of the residents since 1991 and they are requesting compensation of alternative land or cash. The problem has been reported to the authorities concerned repeatedly, but there has been no development and the end of the dispute is not in sight at this time. (NS3-3: Qiltu Inka)

3.3.2.3 Unintended Positive/Negative Impacts

No unintended positive/negative impacts are observed.

[27] Due to the lower need for additional enrolment, students who were studying in the old, severely damaged classrooms moved to the newly constructed classrooms. It was confirmed that the classrooms constructed by the Project were used as a replacement for the old classrooms that were demolished, etc.

In terms of the fundamental indicator to judge the effectiveness (increase in number of registered students), the achievement was substantially lower than the target as described above. Likewise, the expected impacts are also limited as against the planned impacts, although some effects in association with the improved learning environment are observed to a certain degree. Therefore, the Project achieved its objectives to a

limited extent, and thus its effectiveness and impact is low.

3.4 Efficiency (Rating: ①)

3.4.1 Project Outputs

3.4.1.1 Comparison between Plan and Actuality[28]

Referring to the documents provided by JICA, the following facilities and equipment were provided by the Project at the 38 actual sites in 2 zones as against the initial plan of 57 sites in 3 zones[29]. The difference between the planned and the actual status is due to the decrease in the number of sites as detailed in Tables 7 and 8.

Table 7 Facility Components Constructed by the Project

		North Shawa		West Harerge		Arsi		Total		
		Plan	Actual	Plan	Actual	Plan	Actual	Plan	Actual	Difference
1. No. of target sites (schools)		25	25	18	13	14	0	57	38	- 19
2. Facility components										
a. Classroom		156	156	108	84	84	Not implemented	348	240	- 108
b. Director's Room		6	6	2	2	1		9	8	- 1
c. Secretary's Room		6	6	2	2	1		9	8	- 1
d. Staffroom		17	17	11	7	8		36	24	- 12
e. Storeroom		17	17	11	7	8		36	24	- 12
f. Library		25	25	18	13	14		57	38	- 19
g.Pedagogical Center		25	25	18	13	14		57	38	- 19
h. Latrine (Booth)	Girls	156	156	108	84	84		348	240	- 108
	Boys	156	156	108	84	84		348	240	- 108
	Staff	46	24	26	8	18		90	32	- 58

Source: JICA Internal Documents

Note: The number of booths in the staff latrines planned at the time of the Outline Design Study is not correct because it mistakenly includes the number for Type 1 schools which should be excluded, and therefore, the number of staff latrine booths in North Shawa should be 24 and not 46.

[28] The Grant Aid for Community Empowerment scheme aims to provide the amount in the Exchange of Notes (E/N) to the counterpart government, and therefore, it is anticipated that the outputs may be changed after the Detailed Design and actual procurement. However, the ex-post evaluation is conducted based on the initial plan.

[29] As mentioned in 3.2.1.2 Operation Indicators, there is one site where furniture materials have been left unassembled. The Construction Management Consultant also mentioned that the furniture materials were not transported and not installed at 2 sites out of 38 schools due to difficulty in road access. Instead, the materials were handed over to the respective WEOs. The names of the sites, however, are not recorded and it was not possible to identify them.

Table 8 Equipment Provided by the Project (Furniture)

Room	Numbers		Item	Number per room	Total		
	Plan	Actual			Plan	Actual	Difference
a. Classroom	348	240	Combined Desk (for 2 pupils)	24	8,352	5,760	- 2,592
			Teacher's Table	1	348	240	- 108
			Teacher's Chair	1	348	240	- 108
			Blackboard	1	348	240	- 108
			Noticeboard	1	348	240	- 108
			Duster	1	348	240	- 108
			Dust Bin	1	348	240	- 108
b. Director's Room	9	8	Office Table	1	9	8	- 1
			Armrest Chair	1	9	8	- 1
			Teacher's Table	1	9	8	- 1
			Teacher's Chair	4	36	32	- 4
			Shelf	1	9	8	- 1
			Cupboard	1	9	8	- 1
c. Secretary Room	9	8	Typist Table	1	9	8	- 1
			Teacher's Chair	4	36	32	- 4
			Padded Chair	1	9	8	- 1
			Filing Cabinet	1	9	8	- 1
d. Staff Room	36	24	Office Table	1	36	24	- 12
			Teacher's Table	4	144	96	- 48
			Staff Chair	25	900	600	- 300
			Noticeboard	4	144	96	- 48
			Filing Cabinet	1	36	24	- 12
			Coat Hanger	3	108	72	- 36
e. Store	36	24	Table Chair	2	72	48	- 24
			Store Shelf	9	324	216	- 108
			Cupboard	1	36	24	- 12
f. Library	57	38	Periodical Stand	1	57	38	- 19
			Library Table	6	342	228	- 114
			Chair	36	2,052	1,368	- 684
			Library Shelf	8	456	304	- 152
			Office Table	1	57	38	- 19
			Armrest Chair	1	57	38	- 19
			Filing Cabinet	1	57	38	- 19
			Cupboard	1	57	38	- 19
			Noticeboard	1	57	38	- 19
g. Pedagogical Center	57	38	Teacher's Table	1	57	38	- 19
			Teacher's Chair	1	57	38	- 19
			Work Bench	5	285	190	- 95
			Stool	50	2,850	1,900	- 950
			Shelf	3	171	114	- 57
			Blackboard	1	57	38	- 19
			Dust Bin	4	228	152	- 76

Source: JICA Internal Documents

Note: 24 combined desks for 2 pupils were provided per classroom, and the total seating capacity was only 48. This is because it was difficult to install 25 combined desks in terms of the furniture installation plan, and 3 pupils actually sit at one combined desk. There was an agreement with the Ethiopian side during the Outline Design Study about the arrangement.

With regards to the educational equipment which was planned to be provided when there was a balance of residual budget during the implementation stage, it has not been provided because there was no budget left, according to the Procurement Management Agency and OEB.

In the Project, workshops were held in the target schools as part of the Soft Component activities. A plan of regular maintenance activities including cleaning was prepared and at least 2 designs of wall paintings with slogans for promoting maintenance, cleaning, proper use of latrines and hygiene were painted on the walls of the school facilities. Through questionnaires and site visits, the wall paintings were confirmed in most of the schools but maintenance plans (or similar documents) were not confirmed.

3.4.1.2 Analysis of Difference between Plan and Actuality

The reason for the reduction in outputs is the budget shortage due to cost escalation. In particular, estimation of the construction costs in the Detailed Design sharply increased and more than doubled compared to the costs in the Outline Design (254% of the plan) as shown in Table 9.

Table 9 Unit Cost Comparison for Construction Area (m^2)

	Estimates in O/D (April 2007)	Estimates in D/D (August 2008)
Unit costs for construction area (m^2) (Ethiopia Birr)	1,876.0	4,760.4
	(100%)	(254%)

Source: JICA Internal Documents

According to JICA internal documents and interviews with the Procurement Management Agency, the major factors causing the cost escalation are 1) cost inflation of the construction materials and personnel due to the construction rush[30], and 2) different cost estimation methods between the Outline Design and Detailed Design[31].

As a result, the number of sites decreased from 57 in the initial plan to 38 due to the

[30] Estimated costs in the Detailed Design compared with those in the Outline Design for cement which accounts for 70 % of the unit costs doubled, costs for wood building materials increased 1.7 times, costs for reinforcing steel doubled and supervision of construction and design increased by 30 %.

[31] Construction costs were estimated using an average of sample contracts from 4 local construction companies prepared in April 2007, which are different from the lump sum contracts adopted by the Japanese Grant Aid scheme and they did not reflect inflation during the construction. Moreover, the unit costs in one of the 4 reference contracts were largely inaccurate and influenced the estimate in the Outline Design Study. Such problems were corrected by the Procurement Management Agent at the Detailed Design stage. In particular, the cost estimation methods based on Bill Quantity (BQ) of the 4 reference contracts was the major factor that affected the difference from the lump sum method that takes inflation and various risk factors into account. (Interview with Procurement Management Agent)

budget shortage. The detailed changes in the number of sites are presented in Table 10. At the Detailed Design stage, 42 sites were planned, but due to the budget shortage and lack of technically qualified contractors, tenders for 3 out of the 11 lots were canceled, and the contract for the remaining 8 lots (31 schools) was signed to start the construction. The supplementary tenders in April and September 2009 took place because surplus budgets were available due to the devaluation of the Ethiopian currency against the dollar and therefore additional 7 sites were added. As described above, the actual number of sites was lower than not only the planned number in the Outline Design but also in the Detailed Design.

Table 10 Changes in Number of Sites

	O/D April to October 2007	D/D March to June 2008	Tender October 2008	Supplementary Tender April and September 2009	Actual
North Shawa	25	25	21	4	25
West Harerge	18	17	10	3	13
Arsi	14	Not implemented			
Total	57	42	31	7	38

Source: JICA Internal Documents, interviews with Procurement Management Agency and documents from the Agency

3.4.2 Project Inputs

3.4.2.1 Project Cost

The actual project cost was the same amount, 1,041 million yen, as planned (Grant Limit), but since the outputs decreased from the planned outputs (by 33% for the number of sites which declined from 57 to 38, and by 31% for the number of classrooms which declined from 348 to 240), the project cost was regarded to be higher than planned[32].

3.4.2.2 Project Period

The project period was significantly longer than the planned period since it took 36 months, which was nearly double the 19 months for the 2 zones of North Shawa and West Harerge, excluding Arsi, estimated in the Outline Design Study. According to interviews with the Procurement Management Agency and others, the following are the reasons: 1) local Ethiopian contractors usually do not have enough funds and cannot get the construction started just after the contract is signed as planned but must wait until advance payment is made, 2) due to difficulty in procurement of cement, construction at

[32] The Grant Aid for Community Empowerment scheme aims to provide the amount in the Exchange of Notes (E/N) to the counterpart government, and therefore, it is anticipated that the outputs may be changed after the Detailed Design and actual procurement. However, the ex-post evaluation is conducted based on the initial plan.

some sites was temporarily suspended, 3) additional contracts were signed using the surplus budgets that became available because of devaluation of the local currency, and 4) at some sites due to the delay in construction, the rainy season set in and construction was suspended until the rainy season was over.

As described above, the project cost was as planned but exceeded the plan in view of the reduction in outputs[33], and the project period significantly exceeded the plan. Therefore, the efficiency of the project is low.

3.5 Sustainability (Rating: ②)

3.5.1 Institutional Aspects of Operation and Maintenance

The operation and maintenance system of primary schools by the government definition has been unchanged since the time of planning to date, and function accordingly. The Federal Ministry of Education established the Guidelines for Organization of Education Management, Community Participation and Education Finance (commonly known as the Blue Book), in August 2002, and defined the roles and responsibilities of educational administration organizations following the decentralization policy. At Woredas, villages and schools, there are Woreda education management committees, village education management committees and PTA respectively. The same system was operating both at the time of planning and the ex-post evaluation. Regular meetings of PTA and village educational management committees have also been held. However, the system for carrying out school maintenance according to the plan is weak and it was quite rare for WEOs to respond to school requests when repairs were necessary. In most cases, repairs need to be financed by the schools, and no maintenance plans were observed at schools during the ex-post evaluation.

3.5.2 Technical Aspects of Operation and Maintenance

In terms of technical aspects, minor repairs can be done by schools but there are difficult ones that cannot be managed by schools depending on what to repair. The Guidelines (Blue Book) are widely used as mentioned above, but no maintenance manuals for the facilities and equipment were confirmed at the directly visited sites. In addition, it was planned to construct facilities that would not require repairs for a few years after the completion of the Project according to the Outline Design Study, but 3 years after the Project completion, defects in the facilities and equipment were found in many of the

[33] The Grant Aid for Community Empowerment scheme aims to provide the amount in the Exchange of Notes (E/N) to the counterpart government, and therefore, it is anticipated that the outputs may be changed after the Detailed Design and actual procurement. However, the ex-post evaluation is conducted based on the initial plan.

schools within 3 years after the project completion, as mentioned later in 3.5.4 Current Status of Operation and Maintenance. According to the interviews at the school sites, changes of door keys, repainting of blackboards and other minor repair of the facilities and furniture could be done by teachers and parents, but there were many cases that called for external technicians such as for roof leaks, and cracking of basements, floors and walls.

3.5.3 Financial Aspects of Operation and Maintenance

Since the sites are operating as primary schools, it can be judged that sustainability to a certain degree is confirmed, but the budgets for repairing the facilities and equipment are inadequate. The major sources of the operational and maintenance budgets are 1) school grants[34] and 2) income generating activities (selling eucalyptus logs and grasses for cattle, etc.), and other than school grants, almost none of the budget is allocated from the government. There is also limited support from the community and parents, except for the salaries for employing guards. The newly constructed facilities provided by the Project also need some repairs at this time, but the necessary budget is not available. Measures to prepare the budget have to be taken for facility defects that have already occurred but have been left unrepaired as well as for the necessary expenses for regular maintenance[35] in the future.

3.5.4 Current Status of Operation and Maintenance

As presented in Table 11, defects in the facilities constructed in the Project have occurred widely. Most of them have been left without repair due to budget shortages. There are cases where the defects happened 1 or 2 years after the Project completion or even during the construction or straight after the completion of the Project, according to the responses from the schools[36]. The Preliminary Study and Outline Design Study both pointed out the importance of quality control because the construction work is supervised by a local consulting firm and the construction is done by local contractors under the

[34] In Ethiopia, there are two types of school finances: Block Grants provided by the government, and School Grants financed through the General Education Quality Improvement Program (GEQIP). The amounts of the Block Grant which are used for recurrent school expenditures other than salaries are defined by the Blue Book at 10 Birr/year per student for Grades 1 to 4, and 15 Birr for Grades 5 to 8. However, it is also reported that there are Woredas that provide lower amounts than those defined or even in kind, not in cash. As for the School Grant in 2012/13, 40 Birr/year per student from Grades 1 to 4, and 50 Birr for Grades 5 to 8 were provided. The answers obtained through the Beneficiary Survey were mostly "School Grant", but there may be confusion about the strict source of funding among the respondents.

[35] During the Outline Design Study, approximately 2,100 Birr/year per school were estimated to be necessary for maintenance costs for re-painting (interior walls and ceilings, steel sash (window frames), blackboards) and sludge removal.

[36] According to the Construction Supervision Consultant, there were contractors who did not respond in spite of that fact that the Consultant pointed out the defects.

Grant Aid for Community Empowerment scheme. For reference, there are some sites where high standard school facilities were constructed by the Oromia Development Association (ODA), a local non-government organization (NGO)[37], 2002 (more than 10 years before), but the facilities still appeared to be firm and durable, and the schools were satisfied with the quality. In light of the above, it is assumed that the defects in the facilities may be attributed not only to maintenance problems but also to quality control in construction supervision.

Table 11 Overall Situation of Defects of Project Facilities

Item		Schools that answered there are problems	
		Number	%
1	Roof	12	33%
2	Pillar/beam	4	11%
3	Ceiling	19	56%
4	Wall (inside/outside)	17	47%
5	Floor	18	50%
6	Window	14	39%
7	Door	32	89%

Source: Beneficiary Survey (36 valid responses to School Questionnaire)

By confirming the situation at the directly visited school sites, door problems such as damage to knobs and keys were obvious in most of the schools. (The problems could have been avoided by using a different type of key, such as a bar-type lock.) In addition, problems were found of cracks in the concrete basement, floors and walls, leaking roofs in several schools, and a cover of precipitating tank of the latrine and a big hole in 1 school, which would not be regarded as minor defects and raise concerns in view of safety and durability. Most of the water

Figure 2 Brocken door knob & key hole that is changed to a bar key

[37] The Oromia Development Association (ODA) was founded in 1993 as a local non-profit organization, and it has constructed a total of 316 school facilities from primary to higher education to date. According to the interviews with ODA, in case of primary schools, proposals from communities and schools are reviewed and selected, and detailed needs are also confirmed with Woreda and Zone Education Offices. 90% of the construction costs is borne by the community and school side, and the rest is financed by ODA. On top of that, ODA provides technical staff such as engineers directly from ODA. All the construction contractors and furniture suppliers are procured in Addis Ababa, and material procurement and construction supervision are carried out with particular consideration given to quality assurance. During construction, a junior engineer is stationed at the site with rotational visits by a senior engineer. The quality of the furniture is strictly checked in Addis Ababa, and it is transported to the construction site. According to the interviews at the schools with ODA school facilities, they explained that it was effective that the school formed a committee which received training together with local contractors for about 2 weeks, and the committee conducted monitoring with strong ownership during the construction work.

tanks beside the latrines were damaged and not in a usable condition at the visited sites. Many schools commented that since the school was closed during the rainy season, the water tanks collecting rainwater were little use and there was no incentive to repair them. At most of the sites, there were no wells and as a result, no access to water.

With regard to furniture, as mentioned in 3.2.1.2 Operation Indicators, the surfaces of the blackboards were worn down and sometimes had holes. Many schools pointed out the low quality of the original blackboards[38]. However, there are some schools which repaint them regularly and therefore, the problem of the blackboards could be due to both the original quality and maintenance issues. Regarding other furniture items, some of the students' desks and chairs and many of the noticeboards and shelves were found to be damaged. According to the Beneficiary Survey, out of 36 valid responses, 15 schools complained about the quality of the furniture.

As for the overall status of cleaning, it did not appear that it was regularly done except for a few schools. In particular, the latrines looked seriously unhygienic. The effect of the Soft Component as already mentioned appeared not to be demonstrated.

As described above, some problems have been observed, particularly in terms of the financial aspect, in repair of the facilities and equipment, in addition to the institutional and technical aspects. However, since the sites are operating as primary schools with the necessary institutional arrangements, it can be judged that sustainability is confirmed to a certain degree. In conclusion, sustainability of the project effect is fair.

4. Conclusions, Lessons Learned and Recommendations

4.1 Conclusions

The Project was implemented to improve access to primary education through expanding and newly constructing primary school facilities in the Oromia Region. As a result of the ex-post evaluation, the Project was relevant to Ethiopia's development plan and needs in terms of primary school construction as well as Japan's ODA policy for Ethiopia, but the Project design was not appropriate in terms of target school selection, etc. Therefore, its relevance is fair. In terms of the fundamental indicator to judge the effectiveness (increase in number of registered students), the achievement was substantially lower than the target. The expected impacts are also limited as against the planned impacts, although some effects in association with the improved learning environment are observed to a certain degree. Therefore, the Project has achieved its objectives to a limited extent, and its effectiveness and impact of the Project are low. The

[38] According to the interviews at the visited sites, one school mentioned that they paid an additional amount to the contractor to install a different type of blackboard as a special arrangement. Another school mentioned that they refused to accept the blackboards at first because of the poor quality.

project costs were as planned but exceeded the plan in view of the reduction in outputs, and the project period significantly exceeded the plan. Therefore, the efficiency of the Project is low. Regarding the operation and maintenance of the Project, problems have been observed particularly in terms of the financial aspect for repair of the facilities and equipment. However, since the sites are operating as primary schools with the necessary institutional arrangements, sustainability is confirmed to a certain degree. In conclusion, the sustainability of the project effectiveness is fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

- One new school site was temporarily converted to a Teacher Training College to meet an acute need to produce primary school teachers, and the students at the primary school were moved and have been studying in a nearby guesthouse without basic educational facilities since 2010. Since the facilities at the site were constructed for the primary school students, OEB is requested to take the necessary measures until they go back to the school site to improve the appropriate learning environment for the students in the guesthouse by means of increasing the number of classrooms and so on.
- One school site was once upgraded to a "complete school." However, due to budget system changes and subsequent shortages, it was not able to recruit teachers. The school had to return to being a 1st cycle school again. Since it is the responsibility of the Ethiopian side to allocate the necessary number of teachers, OEB is requested to assist the teacher recruitment finances of the school.
- Regarding the facilities and equipment at the target sites, OEB is requested to grasp the current situation in collaboration with local education offices in view of safety and durability as well as urgency and need for repairs. In doing so, it is recommended to include technical personnel with professional knowledge in construction and design because a deliberate survey is required to assess the cause of the defects, including whether there are any serious defects. In addition, the school directors need to take measures to mobilize the budget which will be necessary on a regular basis for maintenance (repainting and sludge removal) together with the PTA and village educational management committee members.
- Overall, the status of daily maintenance and cleaning appears to be not well-conducted. On the other hand, in schools where the school directors demonstrated good leadership, the situation was better. OEB and local education offices are recommended to develop capacity of the school directors as the key to

good school management to perform daily maintenance including regular cleaning.

- In the absence of the deployment of librarians, many schools limited the opening hours of the library. However, there are some schools which efficiently operated the library for as many hours as possible by assigning teachers with no teaching assignments or students from higher grades. Local education offices are recommended to arrange sharing such good experiences of full utilization of the library with other schools during regular school directors' meetings and other occasions.

4.2.2 Recommendations to JICA

- Regarding the facilities and equipment at the target sites, JICA needs to facilitate OEB for appropriate maintenance. JICA is recommended to confirm with OEB the survey results in order to grasp the current situation including judgment of the urgency and need for repair as well as the progress of measures taken for the necessary budget appropriation. At the same time, it is recommended that JICA should conduct monitoring visits to target sites to confirm the status of use of the facilities and equipment.

4.3 Lessons Learned

4.3.1 Lessons learned during Planning (Outline Design Stage)

- Improving the accuracy of the Outline Design: Considering the Grant Aid for Community Empowerment scheme for employing a local consulting firm for the Detailed Design, it is important to ensure that more accurate plans are developed at the Outline Design stage. In African countries where classroom expansions are in rapid progress, there is a great possibility that the situation has largely changed just in a few years, and therefore, the Outline Design Study has to be conducted based on the latest direct data collected from the schools of the priority list because it provides the basis for judgment of the relevance and implementation of the Project. With regard to the project costs, it is necessary to estimate the accurate amounts as far as possible and estimation of the project duration should also be carried out more practically by reflecting the local context.
- Confirming needs and setting appropriate evaluation indicators: The Project aims to increase the capacity to enroll additional children and eventually to increase the number of registered students. However, the need for increased student numbers was not well confirmed at the target sites and therefore, the effectiveness was negatively influenced because there was a gap between the plan and the actuality. In addition, the effects of damaged classrooms and congestion should have been well anticipated,

and such effects could be considered in the effects of the Project and the effective indicators set accordingly.

- Issues in setting target for student increase: As found in the Project, it is necessary to consider that setting targets for the increased number of students is methodologically not easy because both demand (projection of enrolment) and supply (number of classrooms and their deployment) need to be well examined, and also they are influenced by not only the situation at the target sites but also by the situation in the responding school catchment areas and/or neighboring schools. In a country like Ethiopia where many over-age school children are enrolled, it is not appropriate to project demand based on the school-age population, population growth rate, etc. and projection is difficult as it is influenced by improvements in internal efficiency such as promotion, repetition and dropout rates. As for the supply side, in a situation where most of the primary school construction activities are covered by community support but not controlled by the government administration, accurate information on the number of classrooms in neighboring schools (the present and future plans) needs to be collected at a particular time when school constructions are rapidly progressing. Therefore, both demand and supply need to be examined more thoroughly in terms of confirmation of needs, but when it is difficult to do so, it is pointed out as a lesson learned that the project objective and related effective indicators need to be reviewed and might be different.
- Examining the contents of the request based on the actual school situation: The Project was designed to provide facility and equipment components based on national standards and the policy for introducing the Full Day School system in terms of component items and size. However, as a result, it was not consistent with actual needs and some facilities and equipment were not used to their full potential. Also, the reason for adopting the shift system at the target sites was because introducing the Full Day School system might be a constraint that would discourage enrollment in the actual situation. When examining the policy targets, careful consideration should be given to whether they are feasible and not too ambitious in view of the actual situation of the schools. Items and size also need to be determined in view of urgency and need, as the Japanese Grant Aid scheme prioritizes. Individual needs surveys at each site on the status of the existing facilities are also necessary to avoid duplication of construction of the same facilities so that cost-efficiency can be improved.

4.3.2 Lessons Learned during Implementation (Detailed Design and Construction Stage)

- Improving the quality of the Detailed Design: In the Project, the essential processes

were not fully carried out, such as finalization of the list of target schools based on the results of the site survey as expected by the Outline Design and confirmation of the needs of each site. In the Grant Aid for Community Empowerment scheme, different consultants conduct the Outline Design (Japanese consulting firm) and the Detailed Design (local consulting firm), and therefore it is difficult to ensure consistency and the checking mechanism does not function well compared to the General Grant Aid scheme. More capable procurement management is required to ensure consistency between the Outline Design and Detailed Design, and to strengthen the function to revise the plan when necessary at the Detailed Design stage.

- Implementing effective soft component: In order to improve the quality as well as to raise awareness of maintenance, it is necessary to implement the soft component more effectively. For reference, the case of a local NGO (ODA) which constructed high standard school facilities using local contractors similarly to the Grant Aid for Community Empowerment scheme shows that a committee was formed at the school and contributed to the quality assurance of construction supervision. Such practices may be considered for reference in similar projects with many widely dispersed construction sites, because supervision is limited if carried out just by visiting Japanese technical personnel or construction supervision consultants.