

**EX-POST PROJECT EVALUATION 2011:
PACKAGE IV-4
(Vietnam, Mongolia, Mali, Mauritania)**

OCTOBER 2012

JAPAN INTERNATIONAL COOPERATION AGENCY

KRI INTERNATIONAL CORP.
FOUNDATION FOR ADVANCED STUDIES
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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 2009, and Technical Cooperation projects and Grant Aid projects, most of which project cost exceeds 1 billion JPY, that were mainly completed in fiscal year 2008. 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.

October 2012
Masato Watanabe
Vice President
Japan International Cooperation Agency (JICA)

Disclaimer

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Ex-Post Evaluation of Japanese Grant Aid Project
**“Project for Improvement of Facilities of Primary Schools
in the Northern Mountain Region (Phase 2)”**

External Evaluators: Tetsuya Ishii & Hiroshi Okukawa,
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0. Summary

This project was carried out to increase the number of classes capable to provide full-day education and to improve the learning environment in the provinces of Bac Giang, Thai Nguyen, Tuyen Quang, and Phu Tho where the level of the socio-economic development is low due to geographical constraints. As a result of the ex-post evaluation, the project has been considered highly relevant and consistent to the Vietnamese development policy including the Education Development Strategic Plan 2001-2010, as well as to the local development needs and Japan’s ODA policy. In combination with the efforts of the Vietnamese people to increase the number of classrooms, the project contributed to bringing down the average number of students per classroom from 107.4 in 2002¹ to 25.1 in 2008. The great majority of the assisted schools now provide full-day education of which favorable influence on the students’ learning achievement is suggested. Therefore, the effectiveness and impact is high. Furthermore, its efficiency is evaluated to be high because the project cost and period were within the plan. However, sustainability of the project effect is fair because of some maintenance issues observed concerning the acquisition of repairing techniques, the procurement of replacing parts, and the districts’ allocation of management costs to the schools.

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

1. Project Description



Project Locations



A School Building Constructed in the Project

1.1 Background

The Socialist Republic of Vietnam which adopted the “*Doi Moi* (renovation)” policy in 1986 has

¹ This indicator is figured out by dividing the total number of students by the total number of classrooms at the target schools. It does not mean that more than 100 students learned in a classroom at the same time because one classroom is utilized twice if the double-shift education is provided.

introduced market economy and been opening its market to foreign investors. Developing human resources to respond to the new economic environment has become its central concern. The Ministry of Education and Training (MOET) developed the Education Development Strategic Plan for 2001-2010 and strove to improve education quality and facilities, but the outcome was not fully satisfactory. Therefore, the Government of Vietnam sought the assistance of development partners, including the World Bank, to repair and construct school facilities. The Japanese government also carried out grant aid projects in 1994-1998 to improve primary school facilities in 16 coastal provinces frequently affected by storms and floods.

The Northern Mountain Region, the target area of this project, is less developed compared to other regions in Vietnam due to geographical constraints. Its educational environment was underdeveloped. There were shortages of classrooms which forced a considerable number of schools to operate in double shift. The difference between students learning in a double-shift school and those in a full-day school was therefore emerging. Moreover, there were a large number of temporary school buildings constructed with minimal wooden structure without windows or doors which did not meet the design standards for educational facilities. Students in remote areas had difficulty in travelling to school because villages were scattered in the mountainous areas with poor road networks.

Against this background, in 1998, the Government of Vietnam requested the Japanese government to provide grant aid for the construction of facilities and provision of equipment in eight provinces in the Northern Mountain Region. Responding to the request, the Project for Improvement of Facilities of Primary Schools in the Northern Mountainous Region was carried out in 2000-2002 in the four provinces of Ha Giang, Lai Chau, Cao Bang, and Bac Kan. The evaluated project was its second phase for the other four provinces of Bac Giang, Thai Nguyen, Tuyen Quang, and Phu Tho.

1.2 Project Outline

The objective of this project was to improve the educational environment of primary schools in the four northern provinces of Bac Giang, Thai Nguyen, Tuyen Quang, and Phu Tho through reconstruction and expansion of school buildings and provision of educational equipment.

Grant Limit / Actual Grant Amount	1st stage: 494 million yen / 479 million yen 2nd stage: 344 million yen / 296 million yen 3rd stage: 511 million yen / 428 million yen Total: 1,349 million yen / 1,204 million yen
Exchange of Notes Date	1st stage: November 2003 2nd stage: July 2004 3rd stage: July 2006
Implementing Agency	Responsible Organization: Ministry of Education and Training Implementing Organization: International Relations Department, Planning and Finance Department and Primary Education Department of the Ministry of Education and Training

Project Completion Date	1st stage: March 2005 2nd stage: March 2006 3rd stage: February 2008
Main Contractors	1st stage: Fujita Corp. 2nd stage: Kanto Construction Co., Ltd. 3rd stage: Kanto Construction Co., Ltd.
Main Consultant	Mohri Architect & Associates, Inc.
Basic Design	1st mission: July 2002–February 2003 2nd mission: August 2003–September 2003 Implementation Review Study: December 2005–March 2006
Related Projects	Technical Cooperation “Support Program for Primary Education Development Phase 1” (2001-2002) “Support Program for Primary Education Development Phase 2” (2002-2004) “Project for Strengthening Cluster-Based Teacher Training and School Management” (2004-2007) Grant Aid “Improvement of Primary School Facilities Project Phase 1” (1994) “Improvement of Primary School Facilities Project Phase 2” (1995-1996) “Improvement of Primary School Facilities Project Phase 3” (1996-1997) “Improvement of Primary School Facilities Project Phase 4” (1997-1998) “Project for Improvement of Facilities of Primary Schools in the Northern Mountain Region” (2000-2002) Assistance by Other Organizations “Primary Education Project”, World Bank (1994-2003) “Primary Education for Disadvantaged Children”, World Bank, DfID, CIDA, AusAID, NORAD (2002-2007)

2. Outline of the Evaluation Study

2.1 External Evaluators

Tetsuya Ishii and Hiroshi Okukawa, KRI International Corp.

2.2 Duration of Evaluation Study

Duration of the Study: November 2011–September 2012

Duration of the Field Study: January 3–16, 2012 (1st mission), April 15–21, 2012 (2nd mission)

2.3 Constraints during the Evaluation Study

Out of the 43 schools assisted by the project, the evaluation team conducted site visit to 26 schools due to limited time of the study duration. However, data were collected from all the target schools through a written questionnaire. In addition, more than half of the schools were visited with due consideration of their geographical distribution. Therefore, the result of the evaluation should be considered as based on sufficient evidence. The logic and the process of selecting 22 sample schools in the first mission were as follows:

- 1) This project was carried out in four provinces and the educational administration of each province would have influence on the school facilities management and promotion of full-day schooling in its respective area. Therefore, the number of sample schools in each province was allotted in accordance with the proportion of the schools assisted in the province to the total assisted schools.
- 2) Similarly, taking account of the influence of district² educational administration and geographical factors (e.g., urban-rural gap), the sample schools were selected from the maximum number of districts. One or a few districts were considered as a stratum from which one sample was identified; random selection was carried out if one stratum included more than one school.

In the second mission, the evaluation team visited project sites relatively close to the provincial capitals mainly due to time constraint in order to collect supplementary data and information.

3. Results of the Evaluation (Overall Rating: A³)

3.1 Relevance (Rating: ③⁴)

3.1.1 Relevance with the Development Plan of Vietnam

When the plan of this project was made in 2003, the Strategy for Socio-Economic Development 2001-2010 of Vietnam stated that one of the objectives for educational development was to promote full-day education. In addition, one of the central targets set in the Education Development Strategic Plan for 2001-2010 was to achieve 99% net enrolment rate in primary education by 2010 through increasing financial resources to strengthen school facilities. Furthermore, the Comprehensive Poverty Reduction and Growth Strategy also provided plans pertinent to the project, including transition from double-shift to full-day schooling, increase of students' average learning time, and increase of proportion of students going to full-day school. Therefore, the project can be considered to be relevant to the development plan of Vietnam.

As far as the national development plan effective at the time of the ex-post evaluation is concerned, the Strategy for Socio-Economic Development 2011-2020 adopted in January 2011 continues to give importance to education reform while its emphasis has shifted to the promotion of vocational training and higher education in science and technology in order to strengthen human

² A city (thị trấn) is administratively at the same level as a district (huyện). In this report, unless otherwise specified, the term "district" includes those administrative units at the district level.

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

⁴ ③: High, ②: Fair, ①: Low

resources for industrial development. The subsequent document of the Education Development Strategic Plan for 2001-2010 has not been finalized yet⁵. According to its draft, while giving emphasis on human resource development for industry in line with the Socio-Economic Development Strategy, the new plan also recognizes the necessity to continue the improvement of school facilities and aims the provision of full-day education at all primary schools by improving school facilities through the “School Concretization Program”. The School Concretization Program is a nationwide government program to construct school buildings made of concrete which will meet the national standards for school facilities. In an interview with officials of the Ministry of Education and Training (MOET), it was reported that the ongoing program aimed to construct 14,600 classrooms by 2012, but actual achievement as of January 2012 was only 8,500-9,000 classrooms. Thus, the next phase of the program is being developed. Taking account of the government’s continuous effort to improve school facilities, this project was, and still is, relevant to Vietnam’s development policy at the time of the ex-post evaluation.

3.1.2 Relevance with the Development Needs of Vietnam

The Northern Mountain Region is less developed compared to the other areas in Vietnam. Its socio-economic disparities compared to the urban areas is quite high and its educational environment is far from satisfactory level. During the Basic Design (B/D) Study of the project, 48 target schools were selected on the basis of the following criteria from the 89 schools that the Vietnamese government had originally requested:

- 1) Schools urgently need the rehabilitation because of over aging and/or damage of the existing buildings.
- 2) Schools urgently need the construction of additional classrooms due to overcrowding.
- 3) Incomplete schools⁶ which are not provided with higher grade classes and are distant from the complete schools.

Based on the above criteria, it can be understood that the selected target schools all require improvement of their facilities.

Additionally, a principal’s room and an educational materials room were constructed for schools which did not have such facilities. The project also constructed toilets according to the capacity of classrooms since sanitary facilities were either lacking or in a very poor condition in all the target schools. The evaluation team found no specific problems in the criteria for the selection of target schools or the establishment of additional facilities, considering them to be sufficiently reasonable.

⁵ The Education Development Strategic Plan 2009-2020 was in the process for the Prime Minister’s approval and yet to be finalized. The project team could obtain only the 14th draft written in December 2008 from the website of UNESCO International Institute for Educational Planning (IIEP). http://planipolis.iiep.unesco.org/upload/Viet%20Nam/Viet_Nam_Education_%20strategy_2009-2020_viet.pdf (accessed 2012-05-29)

⁶ An incomplete school signifies one that does not offer G1-G5 classes.

3.1.3 Relevance with Japan's ODA Policy

Japan's Official Development Assistance (ODA) Charter approved by the Cabinet in August 2003 considered poverty reduction through educational development as one of the priority issues and ASEAN countries as one of its priority regions. Therefore, this project is consistent with the Charter. The previous Japanese Medium-Term Policy on ODA (August 1999-February 2005), which was adopted throughout the project planning period, also gave priority to assistance for basic education.

The Japanese government implemented the Improvement of Primary School Facilities Project Phase 1 to Phase 4 in 1994-1998 for 16 coastal provinces vulnerable to storms and floods and the Project for Improvement of Facilities of Primary Schools in the Northern Mountain Region Phase 1 in 2000-2002 to lessen the interregional gaps in the country. This project was carried out in four provinces of the same region where Phase 1 was not carried out to ensure strong continuity of the assistance. The Support Program for Primary Education Development of JICA was conducted to assist in the development of Vietnam's Program for Primary Education Development based on the Education Development Strategic Plan for 2001-2010. The program included action plans coherent with this project's approaches such as providing alternative solutions to the lack of classrooms for transition to full-day schooling, constructing new classrooms based on the estimation of future school-age population, and strengthening school facilities management through cooperation between school and commune (subdivision of a district).

Therefore, the coherence of Japan's assistance to the primary education sector of Vietnam has been maintained and the evaluators concluded that the relevance of this project to the Japanese ODA policy was high.

Overall, this project has been highly relevant with Vietnam's development plan, development needs, as well as Japan's ODA policy; therefore its relevance is high.

3.2 Effectiveness⁷ (Rating: ③)

3.2.1 Quantitative Effects (Operation and Effect Indicators)

The B/D Study set four indicators to quantitatively measure the effects of the project and Table 1 provides the baseline, target, and actual values. The figures represent the state of the 48 originally targeted schools in reference to the four indicators, which include the number of temporary classrooms, total number of classrooms, number of students per classroom, and proportion of schools capable to provide full-day education. The baseline values representing the state of the schools before the project implementation were measured in 2002 during the B/D Study. The targets were set as expected outcome to be achieved at the project completion in 2006. However, since the entire project was completed in 2008, the values in 2008 were considered as actual achievements of the project. In addition, the values in 2011 were also presented to confirm the present state.

⁷ Sub-rating for Effectiveness is to be put with consideration of the Impact

Table 1 Effect Indicators

Indicators	Set in B/D Study		Summed in Ex-Post Evaluation	
	Baseline (2002)	Target (2006)	Actual (2008)	Actual (2011)
Number of Temporary Classrooms	61	0	0	0
Total Number of Classrooms *	245	649	885	923
Number of Students per Classroom**	107.4	34.2	25.1	25.4
Proportion of Schools Capable to Provide Full-day Education***	31.75%	99.2%	Over 100%	Over 100%

Note: All the indicators are for the 48 originally targeted schools.

* Classrooms appropriate for continuous use, ** Total number of students divided by total number of classrooms,

*** Total number of classrooms divided by the required number of classrooms (student number/35) according to the national standard limiting the student number in a class up to 35

1) Number of temporary classrooms in the target schools

A temporary classroom is typically made of wood. The great majority of the temporary classrooms are built with mud walls with no provision for windows or doors, and are not easily repaired. There were 61 temporary classrooms aimed to be replaced by the project. The evaluation team confirmed that all temporary classrooms had been demolished⁸ by 2008.

2) Total number of classrooms in the target schools

The target number of 649 classrooms is the sum of the 245 classrooms considered as continuously usable in the B/D Study (baseline) and 404 classrooms planned to be newly constructed by the project. However, the data collected from the Provincial Departments of Education and Training (DOET) through a written questionnaire in the ex-post evaluation informed that there were 885 classrooms in the target schools in 2008 and 923 classrooms in 2011. The actual achievement greatly exceeded the target number of classrooms because several values on the actual achievement included: (1) the number of classrooms in branch schools which were not included in the target value⁹ and (2) the number of classrooms additionally constructed after the project by the Vietnamese side without Japanese assistance. Thus, a simple comparison between the target and the actual achievement does not represent the project effects. To address the issue, more careful and detailed comparison between the target in 2006¹⁰ and the actual achievement in 2008¹¹ was carried out for each school.

⁸ The data collected through a written questionnaire in the ex-post evaluation informed that there were 109 “over-aged or severely damaged” classrooms in 2008 and 72 in 2011 at the 48 target schools. However, it has been confirmed that all of them were classrooms different from those 61 temporary ones identified in the B/D Study. Actually, they include the number of classrooms in branch schools which were mostly not counted in the baseline or target values. Furthermore, an over-aged or severely damaged school does not necessarily mean a temporary classroom. By careful and detailed examination during the evaluation mission, the above-presented figures have been confirmed.

⁹ Educational statistics in Vietnam usually figure out the number of classrooms in a school as the sum of those in the main site and those in the branch(es), if a school has one or more branches. Meanwhile, the B/D Study counted the number of classrooms only in the main site if the project assists the main site and those in a branch if the branch is assisted. Therefore, the baseline and target values were figured out accordingly.

¹⁰ (Considered usable) + (Planned to be constructed in project)

Consequently, it was found out that five schools had smaller number of classrooms in 2008 than the target.

In four out of the five schools, the number of students per classroom was smaller than the national standard of 35. This means that over-aged classrooms were demolished in accordance with the decreased number of students. Therefore, although the number of classrooms was smaller than the target, the project objective was securely met. In the other school (Phan Thiet Primary School in Tuyen Quang Province), the number of classrooms was smaller than the target and the number of students per classroom was larger than the national standard of 35; against the project target of 25 classrooms, it had 24 classrooms with 35.5 students/classroom in 2008, and 28 classrooms with 35.7 students/classroom in 2011. The number of students per classroom is slightly larger than 35 but the exceeding value is quite small. Therefore, the evaluators considered that the project objective was virtually attained.

3) Number of students per classroom

This indicator is computed by dividing the total number of students by the total number of classrooms. The baseline value in 2002 was 107.4 but it does not necessarily mean that more than 100 students received lessons in one classroom at the same time. This figure can be explained by the repeated use of one classroom in the double-shift education and the utilization of facilities other than classrooms to provide lessons. The target of the project for this indicator was 34.2 students per classroom. Meanwhile, the actual values were 25.1 and 25.4 in 2008 and 2011 respectively. These are due to the following reasons: (1) Gradual decrease of school-age population in the target four provinces¹², and (2) Active support of the local community to achieve the 25-student classes as recommended by MOET for effective lessons while the maximum number of students per classroom is limited to 35. Taking this context into account, the evaluators have concluded that the figure of approximately 25 students per classroom represents the sufficiently produced project outcome and does not signify an excessive aid by the project.

4) Proportion of schools capable to provide full-day education

This indicator is calculated by dividing the total number of classrooms by the required number of classrooms (total number of students divided by the national standard of 35). The actual achievement values are over 100% while the target was 99.2%, which shows a complete achievement comparing with the target. The number of schools providing full-day education in each province is given in Table

¹¹ (Continuously used since pre-project period) – (Demolished due to over-aging) + (Constructed in Project) + (Constructed after Project without Japan's aid)

¹² The B/D Study estimated the number of students in 2006 on the basis of the average annual growth rate of student number for the past five years in each school and figured out the number of classrooms to be constructed in the project accordingly so that one classroom has less than the national standard of 35 students. The evaluation team has compared the estimated number of students and the actual numbers at the time of the project completion and the ex-post evaluation. As a result, several schools had a considerable gap between the estimated and actual values in a way that an increasing tendency of student number was estimated while the reality was decreasing or stable. It can be understood that misestimation may have occurred because the estimation was based only on the micro-data (i.e. five-year change in each school) which were easily influenced by an exceptional factor in a specific year.

2. In fact, all the target schools under the project, except for one, have achieved the transition from double-shift to full-day education. At Dong Van Branch of Thuong Am Primary School where four classrooms were constructed by this project continues double-shift education because it has seven classes for four grades to meet the national standard of 35 students per class. The number of students and that of classes in each grade are as follows: 42 students for 2 classes in Grade 1, 36 students for 2 classes in Grade 2, 27 students for 1 class in Grade 3, and 36 students for 2 classes in Grade 4. There are no Grade 5 students in the branch because all fifth graders study at the main site.

Bac Giang Province has a small number of double-shift schools in 2003 because a trial project was carried out throughout the province to confirm the effectiveness of the full-day education. The contribution of the project for the transition to full-day schooling in each province can be measured by the proportion of the number of schools which made the transition from double-shift to full-day education within the project to that in the entire province. The results of the proportion are 10.4% in Thai Nguyen, 14.8% in Tuyen Quang and 18.2% in Phu Tho. The proportion in Bac Giang Province could not be calculated because it had no double-shift school in 2003.

Table 2 Number of Double-Shift Schools in Each Province

Province	2003			2008			2011		
	Total No. of Schools in the Prov.	Double-shift Schools in the Prov.	Double-shift Schools under the Project	Total No. of Schools in the Prov.	Double-shift Schools in the Prov.	Double-shift Schools under the Project	Total No. of Schools in the Prov.	Double-shift Schools in the Prov.	Double-shift Schools under the Project
Bac Giang	267	7	0	271	54	0	272	0	0
Thai Nguyen	223	67	7	225	0	0	225	0	0
Tuyen Quang	185	150	9	163	96	1	165	28	1
Phu Tho	297	143	8	305	99	0	306	62	0
Total	972	367	24	964	249	1	968	90	1

Source: Evaluation Team

Table 3 shows the state of the facilities and equipment provided in the project, which was confirmed from all the assisted schools through a written questionnaire and can serve as another quantitative indicator for the project effect. It was reported that nearly 100% of provided facilities and equipment of classrooms, toilets and principal rooms were actually utilized. The evaluation team confirmed the proper utilization of the facilities and equipment provided in the project through direct observation during the site visits. On the other hand, the reported proportion of usage of the educational material rooms was relatively low (less than 70%). In fact, several schools changed the purpose of the room which had been supposed to store educational materials and reported, “The number of educational material room established with Japanese assistance was zero.” Through the site visit, it was observed that educational material rooms were used as school infirmary (3 schools), teachers’ room (1 school), and vice-principal’s room (2 schools). One school uses it as a storeroom for unused desks and chairs. The evaluators concluded however that the purpose/use of the educational material room could be autonomously decided by the school since its change would not make a significant influence on the achievement of the project objective, and also a considerable length of

time had passed since the project completion.

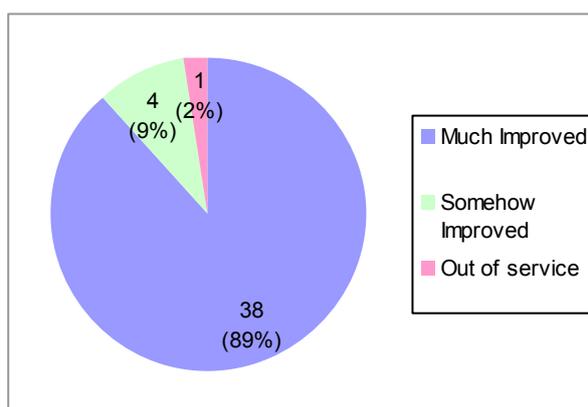
Table 3 State of Provided Facilities and Equipment at the Time of Ex-Post Evaluation

Facilities and Equipment	Provided	In Service	Proportion
Classroom	375	375	100%
Student Desk	7,272	7,165	99%
Student Chair	14,544	13,824	95%
Teacher Desk	404	395	98%
Teacher Chair	404	408	101%
Blackboard	404	393	97%
Toilet	50	50	100%
Principal's Room	13	13	100%
Desk	13	13	100%
Chair	13	13	100%
Shelf	39	25	68%
Blackboard	13	12	92%
Educational Material Room	19	13	68%
Shelf	133	88	66%
Meeting Table	76	43	56%
Chair	152	85	56%
Blackboard	19	13	68%

Source: Answers to the questionnaire

Note: The reported number of teacher desks in service was larger than the number of those provided. However, considering it to be within an acceptable error range, the table presents it as reported.

Other project outcome expected in the B/D Study involved the improvement of hygienic conditions through the establishment of toilet facilities and enhanced management of school facilities because of the provision of technical assistance¹³ (“soft component” of the grant project). According to the data collected through the questionnaire with regard to the effect of the establishment of toilets, 38 out of 43 schools (89%) answered that the hygienic condition had “much improved”. In total, 98% of schools expressed either “much improved” or “somehow improved” (Figure 1). As far as the enhancement of school facilities management is concerned, the establishment of School Facilities Management Committee and involvement of parents and community in the management was observed at around 70% of the 22 schools visited during the first mission. The subsequent paragraphs will discuss the qualitative effects in details.



¹³ The technical assistance activities included: (1) analysis of actual use and maintenance of school facilities, (2) development of School Facilities Management Guidebook and (3) provision of workshops on the maintenance and management of facilities according to the Guidebook.

3.2.2 Qualitative Effects

The expected qualitative effects of the project include an improvement of hygienic conditions due to toilet facilities and enhancement of school's facilities management through the provision of technical assistance. According to the interview conducted during the site visit with regard to the hygienic conditions, before the project implementation, sanitary facilities were crude and had no sewage treatment so that the surrounding environment was considerably unsanitary. This often led students to dispose their waste around the toilet without proper disposal, which made the environment even more unsanitary. After the project provided toilet facilities with water flush (with a pail) and sewage treatment system (penetration of purified sewage into the ground), students began to use the toilet regularly and the hygienic condition improved greatly. Young pupils were taught how to use the toilet properly soon after their entrance to school. Meanwhile, a considerable number of schools expressed difficulty in getting sufficient water pressure since the water tank was situated at a low position. Some of the schools relocated the tank at a higher position.

As far as enhancement of the facilities management is concerned, if a school has established its School Facilities Management Committee (or similar organization), the committee members typically include the principal or vice-principal, teachers, administrative staff, janitor, and parents. Several schools involve a representative of the Communal People's Committee as their committee member, which generally tends to enhance the commitment of the community to the school facilities management. The parents are involved in the following manner:

- 1) Monitor the facilities on a regular basis,
- 2) Provide labor for simple repairs of facilities and equipment, and
- 3) Contribute funds for repairs of facilities and equipment.

Other quantitative effects frequently pointed out during the site visit include the advantages of louver windows as well as the high quality of the construction as a whole. A lot of sunlight penetrates the louver windows so that students are prevented from getting short-sighted in proper lighting. Windows allow fresh and cool air to flow inside the classroom in summer while they can be closed to keep out the cold wind in winter. Besides these advantages, complaints were also made about the difficulty in repairing a louver window once it develops trouble (see details in 3.5.2). Furthermore, some appreciated the student's desks and chairs because they suit the students' physical size and help them maintain good posture and write neatly, while others pointed out that the desks and chairs had become too small for big children due to improved nutrition especially in urban areas. Others reported that the desk and chairs were too heavy to move so that they could not serve as a napping bed for students after school lunch despite the original plan to install flat desks¹⁴.

3.3 Impact

3.3.1 Intended Impacts

The indirect effect of the project implementation expected in the B/D Study involves its contribution

¹⁴ In Vietnam, students usually have time for nap after lunch if it is served in the school.

to the community through the utilization of school facilities for adult education, literacy education, and other community activities. According to the answers to the questionnaire, 37 out of 43 schools (86%) responded that they used the assisted classrooms only for primary education as presented in Table 4. Purposes other than primary education which were identified during the first site visit include mainly cultural activities for children and meetings about education. A limited number of schools were used as venue for an election. The probability of using the classrooms constructed in the project for some purposes other than primary education is small. It was pointed out that the reason behind the limited use of classroom was that adults could not use the small desks and chairs of children in the school. Moreover, communes have recently acquired culture houses and community learning centers where community activities can often be carried out without using the school. During the site visit, negative perception of the classroom's use for non-child education purposes was often observed among the teachers and educational administrators participating in the meeting.

Thus, the indirect project effect expected in the B/D Study was not sufficiently generated. However, it does not necessarily mean that the project made little impact because the expected effect scarcely has logical connection with the direct outcome of the project. It would be more reasonable to view the enhanced learning achievement of students as the most important impact to be produced through the increase in the number of classes providing full-day education and the improved educational environment which were aimed at by the project. Nevertheless, because learning achievement can be enhanced by many complex factors besides the conversion from double-shift to full-day education and the improved learning environment, it is quite difficult to accurately and exclusively measure the impact of the project based on the said factors. Therefore, the impact was evaluated to the extent that could be confirmed in the site visit.

Sixteen out of the 22 schools visited during the first mission provided written or verbal data about the increasing proportion of "excellent students" in terms of learning achievement. Usually, a school keeps a chronological record of the proportion of its excellent students through which one can grasp, with a certain reservation on its objectivity, a general tendency of student achievement through the years in the school. An average 3-6% increase could be observed at the schools where more than one year's data were available. During the site visit, a large number of interviewees expressed their view that the introduction of full-day education had increased student's learning achievement because increased class hours led teachers to instruct students more carefully. Their statements and the increased number of excellent students implied that this project had made a certain contribution to the improvement of student's learning achievement.

Table 4 Use of Classrooms for Other Purposes

Primary Education Only	37
Adult/Continuing Education	1
Technical and Vocational Education and Training	0
Cultural Activities	6
Health Education	6
Policy Dissemination	0
Others	1

Source: Answers to the questionnaire

Note: n=43; only the schools with the classrooms constructed by this project. Multiple answers allowed. It was specified that "others" involved extra-curricular programs which should be considered as a part of primary education.

3.3.2 Other Impacts

1) Impacts on the natural environment

During the site visit, the schools reported that the project had not produced any adverse impact to the natural environment. It was also confirmed by the four provincial DOET that the project had not contributed to negative impact on the natural environment of any target schools.

2) Land Acquisition and Resettlement

During the site visit, the schools reported that no resettlement of residents had been required due to the project implementation. It was also confirmed by the four provincial DOET that no resettlement of residents had been needed at any target schools.

3) Other indirect effects

It was expected, as an impact provided by the technical assistance for the improvement of school facilities maintenance and management, that the technical transfer would be firmly established and further shared among the schools other than those assisted by the project, with the support of MOET and DOET. It was confirmed through the interview during the site visit that the four provincial departments had issued an official instruction to all schools to properly maintain and manage facilities and equipment in accordance with the guideline provided by the project. From that fact, a certain degree of expansion of the project effects can be inferred. Nevertheless, some newly appointed staff members of the district bureaus who accompanied the evaluation team had never seen the School Facilities Management Guidebook (herewith referred to as Guidebook) produced by the project. Thus, there is a concern about the insufficient transfer of the guideline from a staff member to his/her successor with the lapse of time after the project completion.

In addition, the evaluation team explored, to the extent possible, the synergetic effects between this project and the Project for Strengthening Cluster-Based Teacher Training and School Management carried out in Bac Giang from September 2004 to September 2007. It was confirmed that a JICA document on the teacher training project sought linkage between the two projects, which proves the sincere concern about the synergy from the early stage. Bac Giang Province DOET as well as the visited schools highly appreciated that two projects for the improvement of school facilities and teaching methods were carried out almost at the same time, because both the approaches were indispensable to increase the quality of education. However, the synergy could occur almost exclusively in the target areas of the teacher training project (1 city and 4 districts out of 1 city and 9 districts in the province), while most of the target schools of this facilities improvement project in the other districts could not obtain the effect of the technical assistance for pedagogical improvement.

In conclusion, this project has largely achieved its objectives. Therefore, its effectiveness is high.

3.4 Efficiency (Rating: ③)

3.4.1 Project Outputs

The 48 target schools were selected in the B/D Study and supposed to be provided with educational facilities. However, the number of target schools was revised through the Detailed Design (D/D) Study or the Implementation Review Study. A comparison of the project outputs between the plan and the actual result is given in Table 5.

Table 5 Comparison of Project Outputs between Plan and Actual Result

Assisted Items	Province	Plan		Actual Result
		Basic Design	Implementation Review	
Target Schools	Bac Giang	16	-	16
	Thai Nguyen	14	-	10 (-4)
	Tuyen Quang	9	9	9
	Phu Tho	9	8 (-1)	8 (-1)
	Total	48	-	43 (-5)
Classrooms	Bac Giang	158	-	158
	Thai Nguyen	106	-	77 (-29)
	Tuyen Quang	54	53 (-1)	54
	Phu Tho	86	87 (+1)	86
	Total	404	-	375 (-29)
Toilet Facilities	Bac Giang	20	-	20
	Thai Nguyen	16	-	11 (-5)
	Tuyen Quang	9	9	9
	Phu Tho	10	10	10
	Total	55	-	50 (-5)
Principal's Room	Bac Giang	3	-	3
	Thai Nguyen	8	-	4 (-4)
	Tuyen Quang	2	2	2
	Phu Tho	4	4	4
	Total	17	-	13 (-4)
Educational Materials Room	Bac Giang	4	-	4
	Thai Nguyen	12	-	8 (-4)
	Tuyen Quang	3	3	3
	Phu Tho	4	4	4
	Total	23	-	19 (-4)

Source: JICA document

Note: The figures in parentheses are differences from the planned numbers in the B/D Study.

The Implementation Review Study was carried out only in Tuyen Quang and Phu Tho which were the target areas of the 3rd Stage (see 3.4.2.2 Project Period). Therefore, no change was made in the project plan by the Implementation Review Study in Bac Giang (1st Stage) or Thai Nguyen (2nd Stage) and it is indicated by the symbol “-” in the table.

The common reason for the cancellation of facilities improvement in four schools located in Thai Nguyen Province on the 2nd Stage was the virtual alleviation of the shortage of classrooms due to the construction of new classrooms by the Vietnamese side without Japanese assistance after the B/D Study. In addition, an Implementation Review Study was carried out before the Exchange of Notes (E/N) for the 3rd Stage, and the number of classrooms to construct was recalculated on the basis of the actual number of students which had significantly changed after the B/D Study. Consequently, one school in Phu Tho Province was considered ineligible to receive Japan's grant because the number of students had decreased more rapidly than estimated and came below the level requiring classroom construction assistance according to the set criterion. These cancellations can be understood as

reasonable from the perspective of efficient use of limited resources. In addition, there were some minor changes in the construction’s position or specifications for some technical reasons. They did not affect the project output (e.g., positional changes) and were technically rationale (e.g., changes on the basis of surveys or soil investigations). Therefore, the evaluation team did not see any problems in the changes which had been made after completion of due procedures.

Table 6 presents the number of participants in the technical assistance activities in the first through third stages. As originally planned, the activities included: (1) Analysis of actual use and maintenance of school facilities, (2) Development of the School Facilities Management Guidebook, and (3) Provision of workshops on the maintenance and management of facilities according to the Guidebook.

Table 6 Number of Participants in TA Activities

Participants	Stage			Total
	1st	2nd	3rd	
School	169	175	181	525
Provincial DOET	5	3	7	15
District BOET	18	7	23	48
Total	192	185	211	588

Source: JICA’s document

3.4.2 Project Inputs

3.4.2.1 Project Cost

The grant limit for the entire project from the 1st to the 3rd stages determined in the Exchange of Notes was 1,394 million yen while the actual grant amount was 1,204 million yen (ratio of actual grant to grant limit: 89%). In the 2nd stage, according to the result of the D/D Study, construction of classrooms for four schools was cancelled and the articles in furnishing the schools were altered accordingly (reduction of 53,211 thousand yen). However, since the prices of construction materials increased considerably (increase of 49,214 thousand yen), the gap between the grant limit (344 million yen) and the actual grant amount (296 million yen) was not very large, and the ratio of the latter to the former was 86%. The cost revision can be considered reasonable because it accorded the changed project content and the revised cost was within the grant limit (see Table 7). In summary, the actual grant amount was lower than planned.

Table 7 Grant Limit and Actual Grant Amount

(Unit million yen)

Stage	Grant Limit	Actual Grant Amount	Ratio
1st	494	479	97%
2nd	344	296	86%
3rd	511	428	84%
Total	1,349	1,204	89%

Source: JICA document

Moreover, in order to cut the project cost, the school facilities were designed to use adequate but inexpensive materials and equipment. In fact, the direct costs for construction in this project were 829 million yen and the total floor space was 26,000 m² so that the unit cost for one square meter was approximately 32 thousand yen, or equivalent to 5 million Vietnamese dong (1 yen = 157 dong in March 2008). Comparing it with 3 million dong/m², the unit cost of a school building constructed by the Vietnamese government which was informed by teachers during the site visit, it can be concluded,

in consideration of the high quality of Japan-assisted classrooms, that the financial input to the project was efficient.

3.4.2.2 Project Period

In the B/D Study, the project period was estimated to be 54 months including the time necessary for the detailed design. The actual period of the project implementation was 50 months (4 years and 2 months) from December 2003, when the contract with the consultant was concluded at the 1st Stage, to February 2008, when the construction was completed at the 3rd Stage; it was therefore shorter than planned. The B/D estimated 18 months' duration of each stage including 3 months of detailed designing, 3 months of tendering process, and 12 months of procurement and construction, and thus 54 months (3 stages x 18 months) as the entire project period from 1st to 3rd stages. Meanwhile, efforts to shorten the project period were exerted during the actual implementation; thorough preparation were made to issue a public announcement of the tender 1 month after the conclusion of contract with the consultant at the 1st stage; D/D and tendering processes were carried out in the 2nd stage in parallel with the 1st stage construction; and an Implementation Review Study was conducted from December 2005 to March 2006 to prepare for the 3rd stage so that the contract with the consultant and public announcement for construction bidding could be immediately made after the Exchange of Notes.

As far as the input from the Vietnamese side is concerned, they were in charge of acquisition and preparation of land, installation of electricity and water supply, construction of surrounding walls, and others. Through interviews with the Executing Agencies of Vietnam and the Japanese engineering consultant, it was confirmed that the responsibilities of the Vietnamese side were fully performed as planned. Nevertheless, the information about the expenses for these works was not provided.

In conclusion, both project cost and project period were within the plan; therefore efficiency of the project is high.

3.5 Sustainability (Rating: ②)

3.5.1 Structural Aspects of Operation and Maintenance

In Vietnam, the educational administrative bodies consist of the MOET at the central government level, 68 Provincial DOET, and Bureaus of Education and Training (BOET) at the district level. The BOET administer primary schools and are thus the most relevant to the project. In this report, the term *facilities management* involves a series of administrative activities in keeping school facilities and educational equipment in proper use such as making an inventory, checking regularly, repairing and amending, if necessary. Special attention is given to the maintenance of the facilities and equipment provided by this project.

According to the documents provided by JICA, the organizational structure for facilities management in school has improved because of the project's technical assistance through involving teachers, parents, and people's committee members, as well as school principals. In order to confirm

that effect, interviews were carried out during the site visit to 26 schools, and 19 (3 in Bac Giang, 5 in Thai Nguyen, 6 in Tuyen Quang and 5 in Phu Tho) of them affirmed the establishment of the School Facilities Management Committee or an equivalent organization. Meanwhile, it was also observed that some other schools carried out facilities management relying upon the existing structure without establishing a new organization; the school accountant was typically in charge of the maintenance of facilities and equipment. While no specific problem was revealed with regard to the structural aspects of facilities management, the evaluation team remarked that facilities tended to be managed better if a larger variety of stakeholders were involved.

The District BOET carries out regular monitoring of schools once or twice a year and supervises school’s facilities management. Usually, the monitoring is conducted at the end of school year before long holidays and the responsibilities for repairing facilities, if it is considered to be necessary, are placed on the school, commune, or district according to the degree of damage. A review is carried out at the end of the holidays to confirm the completion of repair works as planned. The bureau is officially appointed to perform the regular school monitoring and actually performs it every year. Therefore, it can be reasonably expected that the monitoring will be continuously carried on in the future.

Overall, the evaluation team concluded that, even though no serious problems could be identified with regard to the management structure, there is still room for improvement in facilities management in schools where involvement of parents and community members should be strengthened through close cooperation.

3.5.2 Technical Aspects of Operation and Maintenance

As mentioned above, the responsible organization for the repair of school facilities depends on the degree of the damage. Since the district is only in charge of serious damage which would require rebuilding of the facilities, other ordinary repairing works are taken in charge by schools or communes. A school generally asks the commune for help if the problem is difficult to be resolved while the degree of reliance on the communal authorities differs considerably from school to school. The evaluation team primarily explored on the capability of teachers and parents to use the techniques necessary to maintain the facilities because majority of damaged facilities are slight enough to be repaired at the school level.

A non-negligible number (at least 6 out of 22) of schools expressed their difficulty in repairing damaged electric circuit, window glass, louver window handle, door lock, water supply system of toilet, and other facilities provided by the project. Depending on the knowledge and skills of teachers, parents, and local technicians, some schools can fix the damage while others cannot. However, all the schools considered that a louver window handle cannot be



repaired by them once it breaks down. As mentioned in 3.2.2 Qualitative Effects, louver windows were selected because of their effectiveness for good lighting and ventilation, and they had been installed since the Improvement of Primary School Facilities Project Phase 3 (1996-1997). Unlike the previous projects, this project used louvers integrated with an aluminum window frame for the sake of maintenance and endurance. However, the evaluators' site visit revealed that their replacement parts are not locally available and a certain level of technique is required to repair them because of their mechanical structure. Some schools claimed that the classrooms that have broken louver window are not conducive for learning due to poor ventilation especially during summer where the temperature is high. The Guidebook suggests asking the manufacturers to repair the windows if trouble occurs such as difficulty to open the windows by turning a handle. Nevertheless, the evaluation team could not find any schools which actually made contact with the manufacturers. Because the contact details of the manufacturers were written in a document other than the Guidebook, the evaluation team provided their addresses and phone numbers (in Hanoi) during the second site visit with the thought that schools were not well informed about the contacts. However, schools and district officials appeared to be reluctant since they considered the replacement parts to be custom-made and expensive. In the meantime, the BOET do not provide schools with technical assistance on the current issues on doors, windows, electric equipment, and water systems since these are not viewed as serious by the district authorities for them to get involved. Therefore, because several schools have failed to repair the facilities with their available techniques and resources, it is concluded from the viewpoint of sustainability that the technical aspects of operation and maintenance still have some issues to be addressed.

3.5.3 Financial Aspects of Operation and Maintenance

The B/D Study and the Implementation Review Study expected that sufficient budget would be allotted for school facilities management by the district. The evaluation team observed that the school has a budget for water and electricity, but it does not have sufficient provision to cover the costs for repairing damaged facilities or equipment. A school is provided with a school budget according to the number of teachers, with an allotment of 80-90% teachers' salary and 10-20% management costs usually termed "other expenses". However, the latter are mainly used for purchasing teaching-aids and carrying out school events, and not much remains to maintain the facilities. As a consequence, donation from student's parents is an important financial source to overcome the financial shortage.

Meanwhile, the MOET prohibits the schools from collecting management costs from the parents regularly. Therefore, a number of schools redress the lack of funds by asking parents for their voluntary donation or asking representatives of parents to collect funds instead of the school staff. The government promote the concept of "socialization of education" meaning that not only public sector but also the entire society including private sector and local community ought to support the educational services. The evaluation team observed, during the site visit, several cases in which the commune collected money and established an "Education Socialization Fund" to afford the cost for repairing facilities. Such practice is remarkable as an alternative means for a financially vulnerable

government to provide the nation with necessary educational services. However, it is too hasty to conclude that the school facilities management has been financially secured by the establishment of the “Education Socialization Fund”.

Thus far, no school facilities provided by this project have been damaged so severely that they ought to be reconstructed. The districts have not therefore been obligated to prepare a budget for repair. However, the evaluation team heard from several school staff their concern about the future. Although they are aware of the established procedure through which they would request the BOET to prepare a district budget for an extensive repair in case of necessity, they are somewhat suspicious about the actual budget allocation because there still remain a great number of school facilities to be improved in the district. The evaluation team could not receive any clear responses from the BOET or DOET to the question about the future budget allocation.

Therefore, although no serious financial problems have occurred, the evaluation team has viewed potential vulnerability from the perspective of financial sustainability.

3.5.4 Current Status of Operation and Maintenance

In general, the school facilities provided by this project are considered to be well operated and maintained because they are kept in a condition required to fulfill their primary functions. Furthermore, no specific factors which may largely change the current status have been identified, so that it can be expected that a similar situation will continue for a certain length of time. Meanwhile, the following are some typical issues which a certain number of schools are confronting:

- Slight surface cracks in mortar on walls
- Gaps between the building and its entrance steps
- Damage or loss of window glass and rubber seals
- Damage or malfunction of window handles
- Ill-fitting entrance doors
- Broken door knobs and locks
- Electricity cut-off to classrooms
- Broken water taps in the toilet

Influenced by the length of time after the completion of construction, facilities are damaged more heavily in Bac Giang (1st stage) than in Tuyen Quang or Phu Tho (3rd stage). However, it should be noted that the level of maintenance differs from school to school even in the same province, which implies strong influence of school leaders and teachers’ caution as well as the supervision of the district.

Majority of schools require students to clean their classrooms every day. In addition, many schools set one day



of the week for more careful cleaning. At schools where toilets are also cleaned by students, it can be observed that the sanitary facilities are well maintained and hygienic.

Overall, some problems have been observed in terms of technical and financial aspects of operation and maintenance; therefore sustainability of the project effect is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was carried out to increase the number of classes capable to provide full-day education and to improve the learning environment in the provinces of Bac Giang, Thai Nguyen, Tuyen Quang, and Phu Tho where the level of the socio-economic development is low due to geographical constraints. As a result of the ex-post evaluation, the project has been considered highly relevant and consistent to the Vietnamese development policy including the Education Development Strategic Plan 2001-2010, as well as to the local development needs and Japan's ODA policy. In combination with the efforts of the Vietnamese people to increase the number of classrooms, the project contributed to bringing down the average number of students per classroom from 107.4 in 2002 to 25.1 in 2008. The great majority of the assisted schools now provide full-day education of which favorable influence on the students' learning achievement is suggested. Therefore, the effectiveness and impact is high. Furthermore, its efficiency is evaluated to be high because the project cost and period were within the plan. However, sustainability of the project effect is fair because of some maintenance issues observed concerning the acquisition of repairing techniques, the procurement of replacing parts, and the districts' allocation of management costs to the schools.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

- It is recommended to enhance the involvement of student's parents and Communal People's Committee in utilization and maintenance of school facilities as well as the participation of the principal, vice-principal, teacher, janitor, and other school staff. In fact, community's assistance to school education can be expected to be stronger if the relationship between the school and community become closer. Furthermore, involvement of students, the primary users of the school facilities, in cleaning and monitoring the facilities including toilets should be encouraged, because not only it increases cleanliness of the facilities but also it cultivates students' sense of hygiene and public spirit¹⁵.
- In the interview with the Ministry of Education and Training, it was considered to be desirable to promote and establish a mechanism to strengthen wider community's financial support

¹⁵ In Vietnam, students usually clean their classrooms and the schoolyard in almost all the schools. It depends on the school leader's decision whether students should clean the toilet or not. However, during the site visit, the Ministry of Education and Training agreed to encourage the cleaning of toilet by students.

which may substitute for the regular collection of funds from parents in order to overcome the shortage of facilities management costs provided by the district. Moreover, the district should take account of the estimated durability of the school buildings and give due consideration to the future allocation of its budget for an extensive repair of facilities.

- It has been observed that a number of schools faced technical difficulties in repairing damaged window handles, door locks, electric circuits, and so forth. Meanwhile, some school staff and district educational officials are not aware of the School Facilities Management Guidebook which provides instructions on how to maintain the facilities and equipment. The insufficient usage of the Guidebook implies that several problems could have been resolved if the school and district had referred to it carefully. Therefore, the proper use of the Guidebook should be further promoted and the district and province's supporting mechanism should be established to address issues and problems which the schools or communes cannot resolve.

4.2.2 Recommendations to JICA

Not applicable.

4.3 Lessons Learned

- For a school facilities improvement project, there is a risk of a relatively large error in estimating a future number of students on the basis of solely micro-data such as a trend of student numbers within one school for a short period of time. Therefore, it is important to assist school facilities establishment according to more accurate future needs by estimating number of students in combination with macro-data such as population growth of a larger area.
- As observed in the case of louver windows in this project, high quality of construction material is sometimes incompatible with easiness of its maintenance after handover. Therefore, very careful consideration must be taken during the design period. It is important to maximize the use of locally available techniques, materials and equipment, on the basis of a careful examination, taking account of the extent to which a compromise can be made from the quality perspective.
- While it has been confirmed that technical assistance activities can improve the operation and maintenance of the facilities after handover, sustainability has not yet been completely ensured because of some technical troubles and lack of technical transfer to successors. In this project, one of the problems involves poor understanding of the facilities management guideline which is provided in the Guidebook although it was instructed through workshops. Especially, with regard to the equipment of higher quality and higher techniques than those generally employed at the project sites, it would have been effective for Japanese side to ensure the acquisition of the know-how for maintenance by school and district staff during the project period in order to reduce the uncertainty for sustainability. Therefore, in a grant project for the improvement of educational facilities, technical assistance is desirable to be further strengthened so that those who are responsible for facilities maintenance (school staff, local administrators, and/or

community representatives according to the context) can sufficiently understand how to accurately solve a trouble with the provided facilities and equipment, if it occurs.

Mongolia

Ex-Post Evaluation of Japanese Grant Aid Project

“The Project for Improvement of Primary Education Facilities (Phase III) in Mongolia”

External Evaluator: Tetsuya Ishii, KRI International Corp.

Sayaka Suzuki, KRI International Corp.

0. Summary

This project was carried out to improve the educational environment and access of 17 targeted primary schools in Ulaanbaatar by enhancing the capacity of existing schools, constructing new schools, and providing basic educational equipment. This project has been highly relevant with Mongolia's development plan, development needs, as well as Japan's ODA policy; therefore, its degree of relevance is high. Through the project implementation, the overload of classrooms has been mitigated and the application of triple-shift schooling has been reduced. The student's motivation for learning, accessibility to school, and hygienic status have also been improved. The project gives a positive impact to neighboring schools too since the target schools are enabled to accept more students within their school district. This project has largely achieved its objectives; therefore, its level of effectiveness is high. On the other hand, the efficiency of the project is judged as fair because the project period was slightly longer than planned. As for the sustainability, the school facilities are basically well-managed and maintained by the Department of Education of Ulaanbaatar, the school personnel, school management committee, and student's parents association. However, the situation of operation and maintenance at each school relies on motivation of the school administrators; and allocated budget for school maintenance seemed insufficient. Therefore, sustainability of the project effect is fair.

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

1. Project Description



(Project Locations)



(One of the target primary schools)

1.1 Background

Most schools in Mongolia were built in the 1970's and 1980's. Today, they need to be repaired on a large scale or renovated as a result of its long use and damage by harsh weather condition. In addition, the population of Ulaanbaatar is rapidly growing because of the inflow of people from rural areas and this causes the intense shortage of educational facilities for basic education. Around 27.6% of public schools adopted the triple-shift schooling in 2001 and there were few schools in the newly developed suburbs. Although the number of school-age children increased approximately to 30,000 in Ulaanbaatar from 1998 to 2002, only one public school was built during the period.

Furthermore, the educational system reforms in Mongolia affected the deficiency of educational facilities in Ulaanbaatar. The number of school-age children was expected to increase since the official school entry age dropped from eight- to six-year old as a result of phased transition from 10-year to 12-year general education.

Against this background, the Government of Mongolia requested the Government of Japan to provide grant aid for the construction of school facilities and provision of equipment in the city areas. Responding to the request, the Project for "Improvement of Primary Education Facilities" in Ulaanbaatar, and the second phase in *Darkhan-uul* and *Orkhon* were carried out. This project was on its third phase in improving the basic education in Ulaanbaatar.

1.2 Project Outline

The objective of this project is to improve the educational environment and access of 17 targeted primary and secondary schools in Ulaanbaatar by enhancing the capacity of existing schools, constructing new schools, and providing basic educational equipment.

Grant Limit/ Actual Grant Amount	Stage 1: 832 million yen / 829 million yen Stage 2: 784 million yen / 738 million yen Stage 3: 887 million yen / 799 million yen Stage 4: 526 million yen / 466 million yen 3,029 million yen / 2,832 million yen (total)
Exchange of Notes Day	Stage 1: June 2004 Stage 2: June 2005 Stage 3: July 2006 Stage 4: June 2007
Implementing Agency	Responsible organization: Ministry of Education, Culture and Science (hereinafter called as the Ministry of Education) Implementing Organization: Department of Education of Ulaanbaatar
Project Completion Date	Stage 1: February 2006 Stage 2: March 2007 Stage 3: March 2008 Stage 4: March 2009

Main Contractor(s)	Stage 1: Dai Nippon Construction Co., Ltd. Stage 2: Kanto Construction Co., Ltd. Stage 3: Kanto Construction Co., Ltd. Stage 4: Konoike Construction Co., Ltd.
Main Consultant(s)	Mohri, Architect & Associates, Inc.
Basic Design	“Project for the Improvement of Primary Education Facilities (Phase III) in Mongolia” Mohri, Architect & Associates, Inc., August 2003–March 2004
Related Project (if any)	<p><u>Technical Cooperation</u></p> <ul style="list-style-type: none"> • Dispatch of JICA Expert ”Education Administration Advisor” (1999-2005) • JICA Project Formulation Study (2001) • JICA Technical Cooperation Project “In-Service Teacher Training Project“(2003-2006) • JICA “Teaching Methods Improvement Project towards Children’s Development” (2006-2009) • Dispatch of Japanese Overseas Cooperation Volunteers “Community participation in rural schools construction and rehabilitation“(2002-2009) • Grassroots Technical Cooperation Project (JICA Partnership Program) “Promoting a violence-free, fair environment in public education for the purpose of realizing the children's rights project” (2008-2011) • Dispatch of Japan Overseas Cooperation Volunteer and Senior Overseas Volunteer <p><u>Grant Aid</u></p> <ul style="list-style-type: none"> • “Project for Improvement of Primary Education Facilities in Mongolia” (Phase I: 1999-2001 and Phase II: 2002-2005) • “Project for Improvement of Primary Education Facilities in Mongolia Phase IV” (2008-present) • Japan’s Grant Assistance for Grassroots Human Security Projects (Renovation or extension of school buildings and dormitories) <p><u>Assistance by Other Organizations</u></p> <ul style="list-style-type: none"> • “Second Education Development Project (SEDP)”, ADB (2003-2007) • “Third Education Development Project (TEDP)”, ADB (2006-2010) • “Rural Education and Development Project”, World Bank (2006-2012) • Financial Assistance-EFA-FTI, World Bank, (2007-2009)

2. Outline of the Evaluation Study

2.1 External Evaluators

Tetsuya Ishii, KRI International Corporation

Sayaka Suzuki, KRI International Corporation

2.2 Duration of Evaluation Study

Duration of the Study: November 2011-September 2012

Duration of the Field Study: December 7-9, 2011, February 6-13, 2012,
and May 31-June 7, 2012

2.3 Constraints during the Evaluation Study (if any)

The simple comparison between the baseline data and the result was difficult, because the scales used of target schools in the basic design study were different from the current ones. Two target schools were divided into two separate schools after the project implementation. Another school's data contained the information of two primary schools which were not directly benefited by the project. It was because the said school belonged to the complex school consisting of three primary schools, two lower secondary schools, and two upper secondary schools. In the basic design study, the expected output was set up based on the aggregated data of the three primary schools under the complex school.

Accordingly, the evaluators tried to collect the information of the schools including the two schools separated from the one target school and the two untargeted primary schools under the complex school to understand the actual situation.

3. Results of the Evaluation (Overall Rating: B¹)

3.1 Relevance (Rating: ③²)

3.1.1 Relevance to the Development Plan of Mongolia

The Government of Mongolia formulated an “Action Plan for the 21st Century” in 1999 that stated the importance of education in contributing a sustainable society and economic development. Moreover, the “Action Plan of the Government of Mongolia for 2000-2005” worked out the strategies for equal opportunities and access to education by the construction and expansion of school buildings. In the “Economic Growth Support and Poverty Reduction Strategy” (2003), the improvement of all levels of education and its accessibility were the short-term priorities to reduce the poverty in Mongolia.

With regard to the education sector policy during the planning and implementation of the project, “The Basic Directions of Education Sector Reform in 1997-2005” was formulated in 1996. This policy placed one of the priorities on the alleviation of deficiency of education facilities. The improvement of education facilities and materials were also included in the mid-term objectives of the “Mongolian Education Sector Strategy 2000-2005”. The “Master Plan to Develop Education of Mongolia in 2006-2015” (2006) sets the objectives of primary and secondary education, namely, “the reduction of disparities in unequal opportunities to obtain quality education” and “the creation of environment and conditions to provide quality service”. However, the monitoring report of the master plan (2009) pointed out that the public school capacity was still in a critical situation.

The “Education National Program” in 2010 indicated the education sector policy at the

¹ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

² ③ : High, ② : Fair, ① : Low

time of the ex-post evaluation. The main focus of the policy was transferred from equal opportunities and access to quality education to the accomplishment of education system at the international level and constant improvement in the quality and efficiency of education. However, the improvement of school capacity, reduction of school's burden in the city, and improvement of educational facilities were mentioned as pre-conditions to achieve the policy's objectives.

3.1.2 Relevance to the Development Needs of Mongolia

As a part of the educational system reforms, the period of compulsory education was changed from ten years to 11 years in 2005, and from 11 years to 12 years in 2008. The population inflow from countryside to Ulaanbaatar has continued. Therefore, the school-age population (at compulsory education level) increased yearly as shown in Table 1.

According to the estimation of the Department of Education of Ulaanbaatar, approximately 25,000 students will be enrolled from 2012 to 2015 and 78 new schools will be required after the completion of the 12-year schooling system. Around 30,000 migrants from rural areas per year accelerated the increase in the number of students in Ulaanbaatar as well.

Table 1 School-age Population in Ulaanbaatar

Year	School-age Population	Note	Difference from 2004
2004	155,532	10-year schooling system 8–15 years old	—
2005	167,278	11-year schooling system 7–15 years old	7.55%
2006	167,832		7.90%
2007	169,082		8.71%
2008	182,690	12-year schooling system 6–15 years old	17.46%
2009	178,318		14.65%
2010	178,595		14.82%

Source: Summarized by the evaluators based on the statistical data obtained from the Ministry of Education

Therefore, this project has been highly relevant from the time of the basic design study to the ex-post evaluation. Since the needs for primary education facilities are still high, the “Project for Improvement of Primary Education Facilities (Phase IV) in Mongolia” is still being implemented.

3.1.3 Relevance to Japan's ODA Policy

This project was highly relevant to Japan's ODA policy at the time of the basic design study. Based on the consultation with the Japan's Economic Cooperation Team in 1997, the main fields of Japan's cooperation with Mongolia were identified as follows:

(1) infrastructure including energy, communication, and transportation, (2) human resource development and institutional building necessary for smooth transition to a market economy, (3) promotion of agriculture and livestock industry, and (4) support to basic human needs for living. The “Japan’s Country Assistance Program for Mongolia” in 2004 put emphasis on “the institution building and human resource development necessary for promoting a market economy through basic education and vocational education” in order to achieve a sustainable economic growth. This project contributed to the human resource development in Mongolia through the improvement of primary education facilities.

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

3.2 Effectiveness³ (Rating: ③)

3.2.1 Quantitative Effects (Operation and Effect Indicators)

(1) Expansion of Classroom Numbers and School Capacity

A total of 214 classrooms (124 classrooms in existing schools and 90 classrooms in new schools) were constructed in the 12 existing schools and five new schools through the project. As a result, the target schools were enabled to accommodate an additional 17,120 students. The classroom numbers and school capacity of the target schools are shown in Table 2. Although the project was initially planned to consist of three stages, another stage was required during its implementation. It was mainly because the project scale became too big to be covered by only three stages. In connection with this, the project completion was delayed until 2009. Therefore, the evaluators compared the target (planned to be achieved in 2007) with the data of its completion (2009) in the ex-post evaluation. As Table 2 shows, the classroom numbers and school capacity was expanded by the project as well as by the school’s efforts.

Table 2 Classroom Numbers and School Capacity

		Baseline (2003/2004)	Target (2007)	Result	
				Completion (2008/2009)	Ex-post Evaluation (2011/201)
Classroom Numbers	Existing School	371 rooms	495 rooms (124 rooms)	504 rooms (124 rooms)	506 rooms (124 rooms)
	New School	0 room	90 rooms (90 rooms)	90 rooms (90 rooms)	90 rooms (90 rooms)
	Total	371 rooms	585 rooms (214 rooms)	594 rooms (214 rooms)	596 rooms (214 rooms)
School Capacity	Existing School	29,680 students	39,600 students (9,920 students)	40,320 students (9,920 students)	40,480 students (9,920 students)
	New School	0 student	7,200 students (7,200 students)	7,200 students (7,200 students)	7,200 students (7,200 students)

³ Sub-rating for effectiveness is to be put into consideration of Impact.

	Total	29,680 students	46,800 students (17,120 students)	47,520 students (17,120 students)	47,600 students (17,120 students)
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Note: The number in () is the project output.

Source: Summarized by the evaluators based on the data obtained during the ex-post evaluation study

(2) Number of Student per Classroom in Existing Schools

The number of students per classroom decreased from 44.72 to 30.80 at the time of completion and to 29.19 at the time of ex-post evaluation. Since the results fulfilled the targets indicated in the “Master Plan to Develop Education of Mongolia” (35.2 students per classroom), the project contributed to the appropriate learning environment.

Table 3 Number of Students per Classroom in the Existing Schools

	Baseline (2003/2004)	Target (2007)	Completion (2008/2009)	Ex-post Evaluation (2011/2012)
Total Number of Students	33,185 students	N/A	31,049 students	29,545 students
Total Number of Classrooms (Project Outputs)	371 classrooms	495 classrooms (124 classrooms)	504 classrooms (124 classrooms)	506 classrooms (124 classrooms)
Number of Students per Classroom ⁴	44.72 students	51.3 students	30.80 students	29.19 students

Source: Summarized by the evaluators based on the data obtained during the ex-post evaluation study

Though the targets were achieved, a big gap between the targets and the results was evident because the number of students in 2007 was overestimated at the time of basic design study. It was estimated based on the analysis of the number of students from 1998 to 2003. However, the areas around the target schools were too crowded to accept new inflow of enrollees in recent years.

With regard to the new schools, the number of students has increased though not so much as estimated in the basic design study. The average number of students per classroom was 34.23 at the time of completion and is 37.18 at the time of ex-post evaluation. The number of students per classroom continually increased in the new schools.

(3) Reduction of Triple-Shift Schooling in Existing Schools

At the time of the basic design study, seven out of 12 existing schools were forced to implement triple-shift schooling. At the time of completion (2008/2009), all schools were able to apply double-shift schooling. In five out of seven schools which implemented the triple-shift previously, the transition from triple-shift to double-shift was undertaken immediately after the extension of the school capacity by the project.

⁴ Based on the basic design survey, it was calculated as number of students/(classroom number x double-shift)

Table 4 Number of Shifts in Existing Schools

	Basic Design Study (2003/2004)	Completion (2008/2009)	Ex-post Evaluation (2011/2012)
Double-shift	5 schools	12 schools	9 schools
Triple-shift	7 schools	0 school	3 schools
Note		<ul style="list-style-type: none"> • In five out of seven schools which applied triple-shift, the transition from triple-shift to double-shift was undertaken immediately after the extension of the school building by the project. • As regards to the remaining two schools, the transition occurred because the schools ceased accepting students from outside of the school district. 	<ul style="list-style-type: none"> • Three schools started the triple-shift schooling in 2010/2011. • Among the three schools, two schools implemented the triple-shift schooling at the time of the basic design study as well.

Source: Summarized by the evaluators based on the data obtained during the ex-post evaluation study

While nine schools continue the double-shift schooling at the time of ex-post evaluation, three schools started the triple-shift schooling in 2010/2011 for the following reasons:

- School No. 14 and No. 33: These schools are located in *Bayanzurkh* District which has the largest population in Ulaanbaatar and accept students from two *khoroos*⁵ due to school shortage. There were many students who wish to study at these schools since they were selected as laboratory schools of the Cambridge International Program⁶; and
- *Golomt* Complex School: This school is located in *Nalaikh* District, approximately 50 km away from Ulaanbaatar. As a result of the constant increase in the number of students, this school was divided into two schools in April 2008 and adopted triple-shift schooling in 2010/2011.

At the time of the basic design study, three of the abovementioned schools had more than 2.4 times as many students as their capacity and School No.14 and No.33 were forced to implement triple-shift schooling. After the project completion, the ratio of student number and school capacity decreased to approximately 1.9 and the double-shift schooling was implemented. However, the ratio again reached to 2.05-2.21 and the triple-shift was applied at the time of ex-post evaluation.

⁵ *Khoroo* is a subdivision of district in Ulaanbaatar. One district has 4–20 *khoroos*. Usually, each *khoroos* has one public school.

⁶ The Government of Mongolia introduced the curriculum in accordance with the Cambridge University program in 2011/2012 in order to develop internationally competent human resources. The laboratory schools were selected from each district/*aimag* (*Bayanzurkh* District has two laboratory schools) and are implementing the program.

Although triple-shift schooling was still implemented in three schools, the ratio of the student number and school capacity at the time of ex-post evaluation decreased in comparison with the ratio at the time of the basic design study. Hence, it can be said that the project has a certain effect to reduce triple-shift schooling in the existing schools.

With regard to the new schools, the project had no way to alleviate triple-shift schooling because the maximum number of classrooms by the project was decided at 18 to avoid the concentration of demands for big facilities. Since the new schools were located in the newly developed areas, the number of students was still increasing and four out of five schools implemented the triple-shift.

3.2.2 Qualitative Effects

To identify the qualitative effects of this project, the evaluators conducted a focused group interview with one to five school administrators, six teachers, six students (equal number of boys and girls), and six parents (equal number of male and female) at each school. A total of 54 school administrators, 101 teachers, 105 students benefitted by the project, and 97 parents participated in the interview. The following analysis was based on the interview results:

(1) Improvement of Access to Target Schools and Alleviation of Classroom Shortage of Neighboring Schools

The new schools were built in the areas developed by the inflow of population from rural areas including *ger* district⁷. Since there were few schools in those areas, many students were obliged to go to school by bus or on foot along the *ger* streets without streetlamps for 30 to 40 minutes. The project was implemented in anticipation of the improvement on the access to school and the alleviation of classroom shortage in neighboring schools by transferring students from neighboring schools to the target schools.

According to the focused group interview, with the transfer of students from the neighboring school to the new school, commuting time was shortened from 10 to 20 minutes on the average. One of the new schools previously accepted Grades 1 to 5 students only due to its capacity; however, the project enabled the school to accommodate Grades 1 to 9 students (now Grade 12). As a result, the students were able to pursue secondary school at the same site as the primary school, and the school access significantly improved. In connection with this, the parents pointed out that the risk of traffic accidents was decreased. The school administrators responded in the interview that the deficiency of classrooms in neighboring schools was mitigated as well because the

⁷ The area where the *ger* (the nomad's mobile houses) and simple houses stand side by side is generally located in the outskirts of Ulaanbaatar. It is formed by the migrants from the rural areas.

new schools started to accept some students from neighboring schools.

The safety of the students of the existing schools was also reinforced according to the focused group interview. The commuting time was shortened as a result of the reduction of classes in the third shift. It was also reported in the interview that the shortage of classrooms was alleviated in some neighboring schools near the five existing schools extended by the project, since those schools have more capacity than before.

Therefore, this project contributed not only to the new schools but also to the existing schools in the improvement of school access for students⁸ and alleviation of classroom shortage of neighboring schools. On the other hand, there was no difference between male students and female students on the recognition of safety issue.

(2) Improvement of Hygienic Status in Existing Schools

The project was expected to eliminate the shortage of latrines, reinforce student's privacy, and provide proper hygienic environment to the students, especially for female students. The project set up the latrines to meet the scale of the building, while necessary number of toilets was calculated based on the number of students as determined in the official requirements for the establishment of an educational facility in Mongolia. The project adopted the squat-style toilet that is durable and easy to be maintained. The faucets were set up both inside and outside the latrines.

According to the focused group interview, for both male and female students, the queues that were made in front of the latrines during break time were eliminated and the student's privacy was improved since the project provided enough number of latrines with locks. They welcomed the squat-style toilet since they recognized that this style is more hygienic than the conventional one and can be maintained easily⁹.

Based on the answers to the questionnaires and interviews conducted with school administrators, the schools started to take initiatives in teaching the students the proper use of the latrines and provided soaps near the faucets for hand washing. As a result, hand washing after using the latrine was well practiced in 11 out of 12 schools. Some students from the *ger* districts were not used to hand washing, since the access to water was very limited in the districts. This project made a favorable influence to the students from the *ger* districts and improved their hygienic status.

(3) Improvement of Building's Quality and Function during Winter

The project set up a small space at the entrance to lessen the cold winds blown into the

⁸ The project enhanced student's motivation for learning at school. Although the house was moved to afar, some students would still like to go to the same school. It appears that their commuting time became longer.

⁹ There was no difference between male and female students on the recognition of the hygienic issue.

building, laid the foundation below the depth of frost penetration to prevent from frost heaving, and adopted the insulation material for roofs, walls, and windows as protection against extreme cold weather conditions in Mongolia. While the existing schools were supplied with hot water for heating by the public corporation in Ulaanbaatar, the new schools were heated by the boiler set up by the project.

The students from the seven of 17 target schools responded that the school became warmer than before. The students of the remaining ten schools also mentioned that the school became more comfortable. The evaluators observed that the measures taken by the project against extreme cold were basically appropriate (The post-ex evaluation conducted in February 2012).

Although some problems were observed, they were not serious enough to have an effect on the project result. The heating systems of the 13 out of 17 schools were not working properly and the problems were not resolved in 11 schools (see “Sustainability”). Six out of 17 school administrators commented that smaller windows were needed for ventilation because if the windows are left wide open, the room condition becomes cold. Furthermore, the glass windows were not thick enough to keep the cold out.¹⁰

3.3 Impact

3.3.1 Intended Impact

At the time of the basic design study, school facilities were expected to be utilized for non-formal education targeting the school dropouts and street children and also to give positive impact to the local communities. Three out of the 17 target schools were utilized for non-formal education and this service has been continued in one school. Seven schools have been utilized for meetings, trainings, elections, and medical missions. Therefore, it can be said that the project created a positive impact to the local communities.

3.3.2 Other Impacts

There was no reported impact to the natural environment during the construction of the school facilities. There was also no resettlement caused by this project and land acquisition for the newly constructed schools was done smoothly.

There were five indirect effects through the implementation of this project, as follows:

¹⁰ According to the person concerned of JICA projects in Mongolia, the width of the windows was reduced and the small windows for ventilation were set up in Phase IV of the Project for Improvement of Primary Education Facilities in Mongolia.

(1) Increased Student's Motivation for Learning

The results of the questionnaire survey showed that the project increased the student's motivation for learning. The school administrators believed that the student's motivation was enhanced by the provision of a good learning environment. Before the project implementation, there was one school filled with smoke during cold winter mornings due to coal stoves. The school administrator of this school mentioned that many students were constantly late for school and waited for the smoke to disappear. The rate of student's attendance notably improved after the boiler for heating was set up.

The school administrators pointed out that there were other reasons that improved the student's motivation such as good lessons provided by the teachers whose motivation and teaching methods were enhanced (see below)¹¹ and the increased spare time and space for students to prepare and review lessons.¹²

The students answered in the focused group interview that they were teased by students from other schools because the school was poorly maintained. However, through the project, a better school was built. The students would like to tell the bullies that although they were from the *ger* district, they can still look after themselves and can study very well. This showed the positive impact of the project on the student's motivation for learning.

(2) Improved Teacher's Motivation and Teaching Method

According to the questionnaire survey, the improvement of teacher's motivation and teaching method were observed at 11 out of 17 schools.¹³ The stability of teachers in one school was low due to bad working environment before the project implementation. Only one applicant showed up when the school offered two teaching positions. At the completion of the project, this ratio started to improve and the number of applicants and available positions became equal.¹⁴ At the time of ex-post evaluation, the number of applicants became double than the number of available positions.

The school administrators of seven schools recognized that the teaching method was improved because the project created favorable space for the teachers to prepare for lessons and to improve his/her teaching ability in the school. Some administrators and

¹¹ The school administrators or teachers from ten out of 12 existing schools recognized that the student's achievement was improved by the project.

¹² The students allowed more spare time for studying because the project improved the student's access to school and alleviated the triple-shift schooling. The students are now taking less time to commute and are able to go home earlier than before. The corridor and the vacant classes are now used as study space in some target schools. Before the project implementation, the students had no space to stay at school except on their own shift.

¹³ The administrators of new schools responded to this question comparing their situation in the previous school.

¹⁴ The teachers are directly employed by public schools in Mongolia.

teachers pointed out the effect of blackboards provided by the project as another reason for such improvement. The small blackboards less than 2.5 m wide were found in many classrooms of public primary schools in Ulaanbaatar.¹⁵ The surface of the blackboards often needs to be wet because it is worn out and cannot be used when dry. Teachers tried hard to make the letters readable on the said blackboards. However, after the project provided the appropriate blackboards, the teachers started to focus on how they can make the students understand the lessons well through writing on the boards.

(3) Promoted Parents Cooperation

According to the answers on the questionnaire and interviews conducted, seven out of 17 school administrators recognized the improvement of parent's cooperation with the school after project implementation. Since parents appreciated the good learning environment for their children and provided active participation in school activities, they took the initiative of fixing minor damages in the school facilities.

(4) Encouraged Initiative to Utilize School Facilities

Before the project was implemented, the corridors, cloakrooms, and special purpose rooms were modified to become classrooms since there is no more space available for the schools to create new rooms.

The wide cloakroom¹⁶, teacher's room, and wide passageways were provided by the project which led the school's initiative in utilizing the facilities. For example, all target schools were utilizing the wide space in front of the cloakroom as gymnasium. Some schools set up a special purpose classroom or library in the basement, divided the teacher's room into several small rooms for various users, and set up the study space for students in the wide corridors.



(The teacher's room divided into several rooms) (The gymnasium in front of the cloakroom)

¹⁵ As the evaluator conducted a survey on the blackboards of three public primary schools (non-target school of the project) in Ulaanbaatar, there were ten out of 54 classrooms which had the blackboard with more than 2.5 m wide.

¹⁶ The cloakroom was designed based on the official requirements for the establishment of an educational facility in Mongolia. To prevent the thick coats from occupying big space in the classrooms and to prevent personal belongings from loss, the wide cloakroom was set up by the project. The wide space is also required when the students arrive and leave the school.

(5) Led to Other Donor’s Cooperation to Equip Educational Facilities

According to the result of questionnaire survey, the seven out of 17 school administrators believed that the project led the other donors such as ADB, FTI, and World Vision, to cooperate with the schools. The Department of Education of Ulaanbaatar explained that the opportunities for a small project such as provision of teaching materials and educational equipment were increased because appropriate school buildings and classrooms were set up by the project.

As shown, the project has largely achieved its objectives. Moreover, three target schools donated to the disaster area of 2011 Tohoku Earthquake and it showed that the project generated gratitude and friendship towards Japan.

Therefore, its effectiveness and impact are high.

3.4 Efficiency (Rating: ②)

3.4.1 Project Outputs

(1) Outputs of the Japanese Side

At the time of the basic design study, a total of 17 schools (214 classrooms) composed of 12 existing schools and 5 new schools were targeted. All schools were completed during implementation stage. The outputs of the project are shown in the following table.

Table 5 Outputs of the Project

	Plan				Result				
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Stage 4	Total
1. Number of target schools	1	4	7	12	1	4	4	3	12
Existing schools	1	4	7	12	1	4	4	3	12
New schools	3	2	0	5	3	1	1	0	5
2. Facilities									
Number of classrooms	72	72	70	214	72	54	60	28	214
Number of teacher’s rooms	4	6	7	17	4	5	5	3	17
Number of cloakrooms	4	6	7	17	4	5	5	3	17
Number of latrines	8	9	14	31	8	7	10	6	31
Number of faucets (Outside of latrines)	8	9	14	31	8	7	10	6	31
3. Equipment									
Set of educational furniture	4	6	7	17	4	5	5	3	17
Set of teaching materials	4	6	7	17	4	5	5	3	17
Set of maintenance tools	4	6	7	17	4	5	5	3	17

Source: Summarized by the evaluators based on the materials related to JICA and the data obtained during the ex-post evaluation study

(2) Outputs of the Mongolian Side (Obligation of Mongolian Side)

The outputs produced by the Mongolian side within the project period were the following: 1) land acquisition for construction; 2) land leveling work to clear, level, and reclaim the site, and to construct the fences around the site; 3) demolition/removal of existing obstacle on and in the site; 4) construction of access road for construction; 5) acquisition of space to store necessary equipment; 6) connection to electricity, water supply, and drainage for the construction; 7) connection to electricity, heating system, drainage, water supply, and telephone system; 8) construction of the border fence and gate, gardening, and planting; and 9) supply and installation of general furniture. The outputs were almost completed without problems except for the construction of the border fence and gate, gardening, and planting.

The construction of the border fence and gate, gardening, and planting were not completed by the implementing organization at six out of 17 target schools due to lack of budget. Therefore, the school needed to prepare school grounds in cooperation with teachers and parents.¹⁷

3.4.2 Project Inputs

3.4.2.1 Project Cost

As indicated in Table 6, the actual project cost borne by the Japanese side was lower than the planned cost (equal to 93.5% of the plan cost).¹⁸

Table 6 Planned and Actual Project Cost

	Planned (JPY)	Actual (JPY)
Stage 1	832 million	829 million
Stage 2	784 million	738 million
Stage 3	887 million	799 million
Stage 4	526 million	466 million
Total	3,029 million	2,832 million

Source : The material related to JICA Study

3.4.2.2 Project Period

The project period spent by the Japanese side for the detailed design and construction works was slightly longer than planned. The actual project period was 55.86 months as against the planned period of 55.5 months (100.6 % of the planned period). It was mainly because the total number of stages was changed from three to four during the project implementation. The project cost of Stage 2 was cut down and one of the target schools of this stage was transferred to Stage 3 based on the discussion between JICA and the

¹⁷ Interview with the Department of Education in the district level and school administrators

¹⁸ For this ex-post evaluation, only the costs of the Japanese side were compared since the actual cost borne by the Mongolian side was not available.

Ministry of Finance (Japan). Since the scale of Stage 3 became big, the Ministry of Foreign Affairs in Japan divided Stage 3 into two stages. As a result, this project was composed of four stages instead of three stages.

As the contractor was selected on every stage, the number of tender increased and caused the extension of the project period.

Although the project cost was within the plan, the project period slightly exceeded the plan; therefore, efficiency of the project is fair.

3.5 Sustainability (Rating: ②)

3.5.1 Structural Aspects of the Operation and Maintenance

The structure for operation and maintenance is secured under the Ministry of Education and the Department of Education of Ulaanbaatar.

(1) Structure at the Administrative Bodies

The Ulaanbaatar City manages schools under the instruction of General Education Department, Ministry of Education that is the responsible organization of this project. The Finance and Economy Department implement budgetary measures for the construction, maintenance, and management of the educational facilities.

The implementing organization of this project, the Department of Education of Ulaanbaatar establishes the operation system of new schools, makes the plan for transferring the students, and operates and maintains the school building. The person in charge has strong ownership and commitment to the project, monitors the target schools, and provides the instruction to maintain the facilities.¹⁹

While the Department of Education in the district level²⁰ collect the information on the school operation and maintenance and provide instruction to the schools, they have neither huge amount of budget nor broad authority. They sometimes introduce the donor's projects to schools in order to support the maintenance of the facilities.²¹

(2) Structure of the School

The school administrators are in charge of school operation and maintenance. In some schools, the establishment of canteen and library, the preparation of school ground, and other renovation were carried out under the supervision of the administrators. One of the target schools utilizes the experience of another target school when they operate and

¹⁹ The material concerned to JICA, and interviews conducted with the Department of Education in the district level and with the school administrators

²⁰ The Department of Education in the district level was re-established in 2008 to lighten the burden imposed on the Department of Education of Ulaanbaatar.

²¹ The interviews conducted with the Department of Education in the district level and with the school administrators

maintain the facility because the school administrator of that school previously worked in another target school.²²



(Exchanged flooring to strong material)



(Well landscaped garden)

On the other hand, how to properly maintain the school facilities was not turned over well to the new school administrators at four out of 17 target schools. One of the school administrators responded in the interview that the former school administrator told them not to repair anything in the school within five years after the completion. During the workshop to get feedback on the result of ex-post evaluation on June 5, 2012²³ a comment was raised that the school administrators basically received enough instructions to maintain the facilities and understood their roles, however, problems may occur in case both the administrators and engineers who took the instructions in this project are replaced.

The School Implementation Committee was organized by representatives of teachers, parents, school personnel, district officers, and community at each target school. The committee approves the school direction, financial condition, and contents of education. The school needs to obtain approval from the committee when they intend to collect contributions from parents for educational facilities. The parent's association also collaborated in improving the student's learning environment.

3.5.2 Technical Aspects of the Operation and Maintenance

There have been slight damages on the facilities and equipment of the target schools such as peeling paints on walls, broken windows and doors, and damaged desks and chairs. The school personnel and parents repaired the slight damages.²⁴ There was one school where the teacher and students soldered and repaired the desk and chair legs during the

²² Interviews conducted with school administrators

²³ Representatives from the Department of Education of Ulaanbaatar, Department of Education in the district level, and target schools attended the workshop.

²⁴ Interview conducted to the school administrators and focused group interview with the teachers and parents

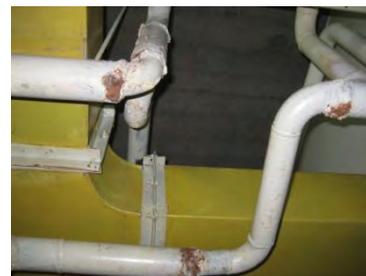
technology lesson²⁵.



(Repaired door)



(Repaired legs of chair)



(Repaired pipes for heating)

However, some problems are preventable if the schools frequently called the student's attention to use the facilities with care and improve engineer's knowledge on maintenance. For example, some schools reported that there was collecting water in the basement, however, it can be prevented by regular cleaning of the drainage. Others reported that it was hard to obtain some materials for repair, however, equivalent materials were usually available in the market.²⁶

3.5.3 Financial Aspects of Operation and Maintenance

(1) Government Budget for School Maintenance

The government budget, expenditure, and cost for school maintenance are shown in Table 7.

Table 7. Government Budget, Expenditure, and Cost for School Maintenance (MNT million)

Year	Budget	Expenditure	Cost of School Maintenance (Budget= Expenditure)	The Ratio of Cost of Maintenance to Budget	Note
2005	3,900	3,900	100	2.56%	Including pre-school and higher education.
2006	8,800	8,800	400	4.55%	
2007	26,200	26,200	3,800	14.50%	
2008	23,295	21,783	4,100	17.60%	Excluding pre-school and higher education.
2009	36,616	33,847	3,100	8.47%	
2010	63,410	61,237	2,900	4.57%	
2011	105,548	102,624	3,300	3.13%	

Source: Ministry of Education

(2) Operation and Maintenance Cost by Schools

The Department of Education of Ulaanbaatar and the Department of Education in the

²⁵ The focused group interview with the teachers

²⁶ From JICA official

district level responded that the budget allocated by the government was not enough to maintain the facilities. Fourteen out of 17 school administrators also responded that it was difficult to manage the school maintenance within the allocated budget.²⁷ Since the budget for new facility is often reduced, it was difficult to secure the budget for maintenance in case problems arise.²⁸ Under these circumstances, the target schools made great efforts to maintain the facilities by utilizing the funds accommodated by the city and district, support of the donors, and contributions of parents. However, there were some problems without a good repair plan after temporary measures were taken (see Section 3.5.4).

The Department of Education of Ulaanbaatar and the Department of Education in the district level were able to accommodate the funds for minor repairs. For the major repairs, the project of donors was introduced. The parent’s and private companies’ concern on the school also supported the maintenance of facilities. Usually the contribution from the parents was used for the maintenance of their children’s classroom. The contributions were collected once a year from MNT 1000 to 5000 (approximately JPY 60 to JPY 300 based on the exchange rate of August 2012) per student.²⁹ The parents who joined in the focused group interview said that the contribution was not a burden for them. However, one of the specialists from the Department of Education in the district level mentioned that approximately 20% of the parents were not cooperative and believed that the maintenance cost should be covered by the school.

3.5.4 Current Status of the Operation and Maintenance

As seen, the school facilities were generally well-maintained by the school personnel, parents, and students. The schools were regularly cleaned and maintained by school personnel. However, the conditions such as measures taken against problems, ways of handling facilities, and renovations to increase the durability of facilities among 17 target schools were not the same.

The following table shows the problems reported during the ex-post evaluation.

Table 8 Problems Reported during Ex-post Evaluation

Place (Main Problems)	Number of School with Problems	Not Solved by the Time of Ex-post Evaluation
Roof (leak)	2	1
Pillar/beam (paint partially removed)	1	0

²⁷ According to the defect inspection report, one of the target schools was not able to pump out sewage one year after the completion due to lack of budget.

²⁸ The discussion in the workshop to feedback the result of ex-post evaluation on June 5, 2012

²⁹ The questionnaire survey

Ceiling (leak)	2	0
Wall (paint partially removed and cracked)	11	5
Floor (worn-out floor and removal of non-slip tiles)	6	3
Window (broken glass)	13	9
Door (breakage of hinge)	13	6
Latrines (cracks in the toilets, removal of tiles, and breakage of door)	10	6
Desk and chair (legs partially removed)	6	4
Blackboard and notice board (partially removed)	1	0
Teaching material (missing)	1	1
Heating system	13	11
Alarm (malfunctioning)	2	2
Ventilation fan	1	1

Source: Summarized by the evaluators based on the data obtained during the ex-post evaluation study

The facilities remain unrepaired if the repair/replacement cost was expensive. However, these problems did not give negative impacts to the project effect as temporary measures were taken. Consequently, there was no serious problem on the current status of the operation and maintenance.

In addition, the students, teachers, and school administrators increased their awareness in using the facilities with care and keeping the schools clean. The schools took the initiative in the following practices³⁰ to maintain the facilities:

- Using shoe covers in the building;
- Using tablecloth to prevent students from writing graffiti on the desk;
- Putting plants along the wall corridors to prevent students from writing graffiti; and
- Writing the student's number or name on the desk and chairs for clear identification of the user's responsibility. The user took care of simple maintenance, such as tightening of screws.

Some problems have been observed in terms of financial aspects; 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 educational environment and access of 17 targeted primary schools in Ulaanbaatar by enhancing the capacity of existing schools, constructing new schools, and providing basic educational equipment. This project has been highly relevant with Mongolia's development plan, development needs, as well as Japan's ODA policy; therefore, its degree of relevance is high. Through the project implementation, the overload of classrooms has been mitigated and the application of

³⁰ The focused group interview targeting the teachers, students and parents and the observation of the evaluator

triple-shift schooling has been reduced. The student's motivation for learning, accessibility to school, and hygienic status have also been improved. The project gives a positive impact to neighboring schools too since the target schools are enabled to accept more students within their school district. This project has largely achieved its objectives; therefore, its level of effectiveness is high. On the other hand, the efficiency of the project is judged as fair because the project period was slightly longer than planned. As for the sustainability, the school facilities are basically well-managed and maintained by the Department of Education of Ulaanbaatar, the school personnel, school management committee, and student's parents association. However, the situation of operation and maintenance at each school relies on motivation of the school administrators; and allocated budget for school maintenance seemed insufficient. Therefore, sustainability of the project effect is fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

- (1) Some schools were able to solve the problems that were not solved by the others and took the initiative in various practices to develop their own school. These good management and maintenance practices shall be shared among the target schools. By providing sharing opportunities, some problems will be prevented or will be solved smoothly.
- (2) On the other hand, some schools did not have the appropriate understanding and knowledge on how to use the facilities and equipment properly and effectively. For example, some target schools did not know that equivalent materials can be used for repair instead of the original ones. Although the instructions on how to operate and maintain the facilities was given at the time the building was handed over, the information may not be properly turned over by the previous school administrators and engineers to the newly appointed ones. The information transfer on the heating system was particularly essential. Continued explanation and training on the maintenance to these schools will be necessary.

4.2.2 Recommendations to JICA

None.

4.3 Lessons Learned

- (1) Although the achievement target was set at the basic design study, no monitoring was made until the ex-post evaluation. Therefore, it is recommended that the consultant

reports the progress of achievement in the completion report and the defect inspection reports. Such continuous monitoring will significantly contribute to the achievement of the targeted outputs and obtain useful information for the next projects.

- (2) Some problems were preventable if the schools frequently called the student's attention to use the facility with care and improve the engineer's knowledge on maintenance. The change of administrator at school has a big influence, too. It is recommended that the manual to mitigate the problems related the operation and maintenance of school facilities be developed and handed over to the target schools. The manual is expected to enhance the administrator and engineer's knowledge on maintenance and transfer necessary information from the predecessor to the successor.
- (3) Japan's Grant Aid system requires the recipient country to use and maintain the facilities exactly as they were handed over. However, there are cases that the schools took initiative in effectively utilizing the space such as dividing the teacher's room, and creating new small rooms were observed in this project. It is, therefore, recommended to pay attention to these initiatives of the recipient country to maximize the project effect.

Mali

Ex-Post Evaluation of Japanese Grant Aid Project
“Project for Construction and Equipment of Primary Schools (Phase III)”

The ex-post evaluation of this project has been canceled due to the deteriorating security situation caused by a political disturbance.

Islamic Republic of Mauritania

Ex-Post Evaluation of Japanese Grant Aid Project

**“Project for the Construction of Classrooms for the Primary and Secondary Schools in
Nouakchott and Nouadhibou in the Islamic Republic of Mauritania”**

External Evaluator: Tetsuya Ishii, KRI International Corp.

Maki Hamaoka, Foundation for Advanced Studies on
International Development

0. Summary

This project was implemented in order to improve the learning environment and provide access to basic education through the construction of classrooms and other facilities, and procurement of educational equipment for Nouakchott and Nouadhibou. The project objective has been highly regarded as relevant with the development plan and development needs of the Islamic Republic of Mauritania (hereinafter called “Mauritania”), as well as with Japan’s ODA policy, therefore its degree of relevance was high. After the project completion, the number of students per classroom decreased significantly. The learning environment was improved due to the less crowded classrooms, and indirectly helped and motivated the students to come to school and learn. Therefore, the level of project effectiveness was high. The efficiency was judged to be fair. Although the project cost was lower than the planned cost, the cost is virtually considered to be high considering the decrease in the final output. In addition, the project period slightly exceeded the planned period. As for the sustainability of the project, operation and maintenance structures within the education sector are stable. Facilities and equipment that were provided by the project have been well-kept by each school and association of students’ parents including minor repair works, indicating no major problem with the status of operation and maintenance. In regard to financial aspects, financial resources seemed insufficient in terms of the promptness of budget allocation by communes that are primarily responsible for the operation and maintenance of primary schools’ infrastructures, although the communes make efforts to secure budgets through solicitation from different sources. Therefore, the sustainability of the project scored fair.

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

1. Project Description



(Project Locations)



(One of the target primary school)

1.1 Background

In Mauritania, different donors, including the World Bank, built primary schools throughout the country. However, the construction of classrooms has not been keeping up with the increase in number of students due to rapid domestic migration, especially in Nouakchott City, the capital, and Nouadhibou City, the second city. In the school year 1999/2000, the number of students per classroom in primary education was 71 in Nouakchott City and 75 in Nouadhibou City, as against the national average of 44. Learning environment was extremely overcrowded. A serious shortage of classrooms worsened the learning environment in secondary schools as well; many schools had no choice but to provide a substandard educational environment, such as dividing the school hours into two shifts and some scheme using the classrooms of primary schools. Facilities for science education have not been provided in most of the secondary schools, causing other problems such as the lack of human resources that will meet the economic and industrial needs that requires basic scientific knowledge. Improving the primary and secondary education facilities in these two cities became an urgent issue in providing education that will meet the needs of the society.

1.2 Project Outline

The objective of this project is to improve the learning environment and provide access to basic education by constructing classrooms and other facilities, procuring educational equipment and supporting facilities for hygiene education to 57 target schools in Nouakchott City and Nouadhibou City.

Grant Limit/Actual Grant Amount	Stage 1: 950 million yen /940 million yen Stage 2: 1,073 million yen /1,057 million yen Stage 3: 620 million yen /429 million yen 2,643 million yen /2,609 million yen (Total)
Exchange of Notes Date	Stage 1: July 2005 Stage 2: June 2006 Stage 3: August 2007
Implementing Agency	State Ministry for National Education, Higher Education and Scientific Research (hereinafter called the “Ministry of National Education”)
Project Completion Date	Stage 1: May 2007 Stage 2: March 2008 Stage 3: March 2009
Main Contractor(s)	Kitano Construction Corporation
Main Consultant(s)	System Science Consultants Inc.

Basic Design	“Project for the Construction of Classrooms for Primary and Secondary Schools in Nouakchott and Nouadhibou in the Islamic Republic of Mauritania”, System Science Consultants Inc., July 2003–February 2004
Detailed Design	Stage 1: October 2005 - February 2006 Stage 2: September 2006 - January 2007 Stage 3: October 2007- May 2008
Related Projects (if any)	<u>Grant Aid by Japanese Government</u> “Project for the Construction of Classrooms for Primary Schools in Nouakchott in the Islamic Republic of Mauritania” (1997-2000) <u>Other Donors</u> <ul style="list-style-type: none"> • The World Bank: funding for Education Sector Development Program I (2001-2010) (hereinafter called as “PNDSE I”) and construction of primary and secondary schools through Urban Development Program (2002-2011) • African Development Bank, Islamic Development Bank, French Agency of Development: funding for PNDSE I • UNICEF: Support for primary education such as procurement of stationeries and equipment; Support to the PNDSE I in the literary education and traditional education.

2. Outline of the Evaluation Study

2.1 External Evaluator

Tetsuya Ishii, KRI International Corp.

Maki Hamaoka, Foundation for Advanced Studies on International Development

2.2 Duration of Evaluation Study

Duration of the Study: November–September 2012

Duration of the Field Study: January 7–19, 2012, May 19–24, 2012

2.3 Constraints during the Evaluation Study (if any)

Visits to the target schools in Nouadhibou City were cancelled for security reasons. The external evaluator confirmed the current status of the operation and maintenance of the improved facilities and equipment through interviews with the representative from the Regional Direction for Education and Professional Training (DREFP) and directors of the ten target schools, and through verification of photos of major facilities and equipment.

3. Results of the Evaluation (Overall Rating: B¹)

3.1 Relevance (Rating: ③²)

3.1.1 Relevance with the Development Plan of Mauritania

The Government of Mauritania formulated “Cadre Strategique de Lutte contre la Pauvreté (CSLP)” (Strategic Framework against Poverty Reduction) in December 2000 that stated its medium- and long-term development goals. CSLP included basic education as one of the priority development areas.

With regard to the education sector policy, PNDSE I was formulated in 2001. PNDSE I placed top priorities on the improvement of overcrowded classrooms in the primary and secondary schools, and the reinforcement of science education that has not been sufficiently provided in secondary education. Following the PNDSE I, PNDSE II (2011-2020) was formulated in 2011. PNDSE II focuses on the improvement of education quality, the increase in education continuance rate, and the improvement of management and operation of the educational system.

3.1.2 Relevance with the Development Needs of Mauritania

The need for the improvement of primary and secondary education facilities was quite high at the time of the basic design study and up to the ex-post evaluation.

The number of students per classroom in public primary schools in 1999/2000 was 71 in Nouakchott, 75 in Nouadhibou as against the national average of 44. In the secondary education, many schools were unable to accommodate the increasing number of students even though they used the classrooms of primary schools. In this manner, the learning environment at the time of the basic design study was extremely devastating and the need for the construction of additional classrooms was very high.

In 2010, the number of students per classroom in public primary schools was 43.4 in Nouakchott City and 34.8 in Nouadhibou City, as against the national average of 43.1. While the number of students per classroom in the secondary schools was 43.5 in Nouakchott City and 33 in Nouadhibou City as against the national average of 41.2. PNDSE II set a target to reduce the number of students per classroom by 2015 to 39 in primary schools and 32 in secondary schools. In light of this target, the need for additional classrooms is still high for both primary and secondary schools in Nouakchott City.

3.1.3 Relevance with Japan’s ODA Policy

This project was highly relevant with Japan’s ODA policy at the time of the basic design study. The basic assistance policy to Mauritania included cooperation in basic human needs such as education, health care, water supply, and in the fishery sector through grant aid and technical cooperation.

This project has been highly relevant with Mauritania’s development plan, development needs, as well as to Japan’s ODA policy, therefore, its relevance is high.

¹ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

² ③: High, ② Fair, ① Low

3.2 Effectiveness³ (Rating: ③)

3.2.1 Quantitative Effects (Operation and Effect Indicators)

(1) Quantitative effects on the target primary schools

A total of 270 classrooms were constructed in the 44 target schools through this project. In addition to the 329 existing classrooms, the total number of operational classrooms increased to 599. As a result, the number of students per classroom decreased from 83 to 42 in Nouakchott City and to 40 in Nouadhibou City. The average number of students per classroom got closer to the targets of PNDSE II. An appropriate learning environment is now ensured.

Table 1 Operational Indicator (Primary Schools)

Indicator		Baseline (2003)	Target (2007)	Result		
				2008/09	2009/10	2010/11
Number of Classrooms	Nouakchott (35 schools)	260	488	488	488	488
	Nouadhibou (9 schools)	69	111	111	111	111
Number of Students	Nouakchott (35 schools)	21,592	25,956	21,719	22,139	20,854
	Nouadhibou (9 schools)	5,741	6,487	4,133	4,598	3,976
Students/Classroom	Nouakchott (35 schools)	83	53	43	44	42
	Nouadhibou (9 schools)	83	58	46	46	40
Number of Students with Access to Permanent Classrooms	Nouakchott (35 schools)	12,480	23,424	23,424	23,424	23,424
	Nouadhibou (9 schools)	3,312	5,328	5,328	5,328	5,328
Number of Schools Applying Double Shift	Nouakchott (35 schools)	6	0	0	0	0
	Nouadhibou (9 schools)	0	0	0	0	0
Number of Schools Applying Double Flow	Nouakchott (35 schools)	7	0	0	0	0
	Nouadhibou (9 schools)	0	0	0	0	0

Source: Ministry of National Education

At the time of the basic design study, 70% of the 42 existing schools⁴ were forced to accommodate more than 70 students per classroom. Many of them were obliged to divide school hours into double shift and have students seated on the floor to attend classes. At the time of the ex-post evaluation, 60% of the schools accommodated 30-49 students per classroom. The increase in the number of classrooms alleviated the extremely overcrowded conditions, allowing students to take classes in a suitable environment.

³ Sub-rating for Effectiveness is to be put in consideration of Impact.

⁴ Among the 44 target primary schools, all the 35 target schools in Nouakchott City were existing schools and seven out of nine schools were existing schools in Nouadhibou City.

(2) Quantitative effects on the target secondary schools

1) Utilization of permanent classrooms

A total of 57 classrooms were constructed in the six target schools (one existing school and five newly constructed schools). In addition to the six existing classrooms, the total number of operational classrooms increased to 63. As a result, the number of students per classroom is 63 in Nouakchott and 48 in Nouadhibou in 2010/2011⁵. Three schools out of the six target schools accommodate 25-48 students per classroom. This was considered to be the appropriate learning environment. For the other three schools, the number of students per classroom was 98 in Arafat 5, 71 in Arafat 7 and 86 in Toujounine 5 (data of 2010). The overcrowded environment in these three schools was caused by the rapid population growth in these communes due to the fast-growing migration from rural areas for the past two to three years. These schools tried to alleviate the overcrowded conditions by transforming their computer room into a permanent classroom⁶.

Table 2 Operational Indicator (Secondary Schools)

Indicator		Baseline (2003)	Target (2007)	Result		
				2008/09	2009/10	2010/11
Number of Operational Classrooms	Nouakchott (5 schools)	6	54	54	54	54
	Nouadhibou (1 school)	0	9	9	9	9
Number of Students	Nouakchott (5 schools)	444	2,404	2,797	2,976	3,422
	Nouadhibou (1 school)	0	350	366	293	430
Students/Classroom	Nouakchott (5 schools)	74	45	52	55	63
	Nouadhibou (1 school)	---	39			48
【Access to the Technical Bloc】						
Number of Students Studying in the Laboratory	Nouakchott (4 schools)	0	2,404	0	0	0
	Nouadhibou (1 school)	0	350			0
Number of Students Studying in the Computer Room	Nouakchott (4 schools)	0	2,404	0	0	346
	Nouadhibou (1 school)	0	350			430
Number of Students Studying in the Library	Nouakchott (4 schools)	0	2,404	2,026	2,163	2,570
	Nouadhibou (1 school)	0	350			430

2) Utilization of technical bloc⁷

In spite of the delay in the use of technical block due to delayed distribution of necessary equipment, the target schools currently use it as originally planned after the Ministry of National Education completed the installation of electricity and production/distribution of equipment for the laboratory. Presented below is the current status of the facilities of the technical bloc.

⁵ Out of the six target secondary schools, five schools were newly constructed. Since the comparison between before and after the project completion was not pertinent, Table 2 shows a result verified at the time of ex-post evaluation only (the number of students per classroom in Table 2 shows the number of students of the existing school).

⁶ Interview with the directors of the target schools (January 2012)

⁷ Facilities composed of a laboratory, room for preparation of experiment, computer room and library were constructed in five newly constructed secondary schools.

- **Laboratory**
Having received the laboratory equipment in 2012, the five target schools are able to provide classes in science, chemistry, and physics in the laboratory in accordance with the prescribed curriculum.
- **Computer room**
Among the five target schools, only one school uses the computer room solely for computer education. The other two relatively overcrowded schools use it as an ordinary classroom⁸. For the remaining two, the room has not been used yet (computers have been already provided to one, but no teacher has been assigned for computer education). At the time of the basic design study, the Islamic Development Bank was expected to procure computers. However, foreign assistance to Mauritania was disrupted after the coup in 2008 and computers were not procured. The distribution of computers to secondary schools is still delayed throughout the country⁹.
- **Library**
Among the five target schools, four use the library as intended and one school uses it as storage.

The rate of school facility usage is 100% for primary schools and 91% for secondary schools, since part of the ancillary facilities is not fully used due to different reasons¹⁰.

Table 3 Utilization of Facilities

Item	Number of Facilities Constructed	Number of Facilities Usage	Usage Rate
【Primary Schools】			
Ordinary Classrooms	324	324	100%
Director's Room	2	2	100%
Latrines	12	12	100%
Sub-Total	284	284	100%
【Secondary Schools】			
Ordinary Classrooms	57	57	100%
Laboratory	5	5	100%
Computer Room	5	3	60%
Library	5	4	80%
Director's Room	5	5	100%
Rooms for Study Director	5	5	100%
Accounting Room	5	5	100%
Boarding Master's Room	5	5	100%
Teachers' Room/Meeting Room	5	5	100%
Guard Station	5	5	100%
Latrines	50	40	80%
Sub-total	152	139	91%
Total	436	423	97%

Source: Summarized by the evaluator based on direct observations and interviews with school directors

⁸ Needs in increasing the seating capacity of the secondary schools was quite high. The laboratory and the computer room were therefore designed in a way that they can be used as ordinary classroom as necessary (JICA document).

⁹ Interview with the Ministry of Education (May 21, 2012)

¹⁰The delay in the use of the computer room was mainly due to the delay in the procurement of equipment. However, this situation is not limited to the target schools of this project. Only a few schools have received computers so far throughout the country. With regard to latrines, schools have closed some of the latrine booths to keep them clean by using limited water.

3.2.2 Qualitative Effects

The following are qualitative effects expected at the time of the basic design study:

- (1) Reinforcement of learning equity by eliminating the double shift system;
- (2) Improvement of access to the first cycle of secondary education;
- (3) Improvement of curriculum in accordance with the standard curriculum for the first cycle of secondary education (scientific education, technical education through the construction of the technical bloc);
- (4) Reinforcement of the management system in secondary schools; and
- (5) Improvement of hygienic status in the target primary and secondary schools.

(1) Reinforcement of learning equity by eliminating the double shift system

After the completion of the project, the double shift of classes was eliminated due to the increase in the capacity of the target schools. Learning equity was thus ensured in all the target schools. According to the answers to the questionnaires, 16 out of the 42 existing schools, or an equivalent of 38% of the existing schools, were obliged to teach lessons by applying double shifting due to limited seating capacity of classrooms. After the project completion, none of the target schools practiced double shifting. About 75% of the 12 schools reported effects of the elimination of double shifting such as “time management became easier than before”, “we can give lessons according to the standard timetable”, “teachers can spare some time for the students at school more than before”, and “the management of facilities and equipment became easier than before”.

(2) Improvement of access to the first cycle of the secondary education

Before the project completion, students were frequently compelled not to pursue secondary education due to lack of seating capacity in the secondary schools, even though they passed the exam and obtained a certification of primary education. In this project, the computer room and laboratory were designed to be used as ordinary classroom, in case of necessity. The two secondary schools that are slightly overcrowded use the computer rooms as ordinary classrooms to ensure the seating capacity.

(3) Improvement of curriculum in accordance with the standard curriculum for the first cycle of the secondary education

At the time of the basic design study, the secondary schools were expected to offer scientific and technical education according to the national standard curriculum that required the use of laboratory for scientific classes and computer room for technical education. Since they started to use the laboratory in February 2012, students are able to learn science, chemistry, and physics through experiments, in addition to theoretical learning. According to the interview with teachers of the target schools, various effects were confirmed: students increased their interest in science, which consequently improved their comprehension of science.

(4) Reinforcement of the management system in secondary schools

The administrative bloc that is composed of the director's room, study directors' room, teachers' room/meeting room, accounting room, and boarding master's room was expected to reinforce teaching and management system and to promote communication among teachers and staff. According to the answers to the questionnaires, interviews, and site visits, teachers' room was used for the preparation of classes by teachers, and meetings and documents are kept appropriately in the accounting room.



(Experiment in the laboratory)



(Meeting in a teachers' meeting room)

(5) Improvement of hygienic status in the target primary and secondary schools

A total of eight schools were provided with latrines and small plastic tanks with faucets for hand washing. These schools were classified into five secondary schools, two newly constructed primary schools and one existing primary school. At the time of the basic design study, these schools were expected to keep hygienic and clean environment.

With regard to the latrines, most of their exterior and interior are kept fairly clean. Some of the latrines booths have not been cleaned properly due to limited availability of water. Hand washing after using the latrines is practiced in all the schools, although plastic tanks for hand washing devices provided by the project is being used only by one school¹¹.

3.3 Impact

3.3.1 Intended Impacts

The following impacts were obtained through the implementation of this project.

(1) Improved quality of classes

Through this project, school equipment such as ruler, protractor, and compass were provided to the 44 primary schools. According to the questionnaires, 36 out of the 44 schools (82%) recognized an improved quality of education after the project completion. In the focus group discussion¹², 18 out of

¹¹ The hand-washing tank is not necessary for the three target schools in Nouadhibou because water pipes were installed in the school compound in 2010 and students wash their hands using tap water. In the four schools of Nouakchott, the hand-washing tank was used initially. However, it was replaced by other devices for different reasons: 1) Students often fail to close the tap firmly therefore plenty of water went to waste. 2) The capacity of the tank (40 L) was not enough for the number of students. 3) The tank was worn out into a hole. In these schools, students practice hand-washing with the use of water from a plastic bottle which they bring or a metallic barrel with a tap.

¹² The focus group discussions were organized in 34 schools in January 2012 during the field survey in order to collect information on changes recognized after the project completion and current status of the operation and maintenance. A total of 124 people participated in the discussions including teachers, staff, and parents.

29 schools (62%) reported that the equipment is well-utilized to enhance teaching. Such improvements in teaching environment had led to boost students' interest and comprehension.

(2) Change in motivation for school attendance and learning

According to the answers to the questionnaires, 90% of the target schools (91% for primary schools, 83% for secondary schools) recognized an increase in motivation for learning and school attendance. About 50% of the target schools indicated an improved environment where all students are able to learn at their desks and chairs as main reason of such changes. In the past, 40% of the schools reported that parents were worried about the effects of dusty classrooms and exposure to direct sunlight to the children's health and learning development. Now, it was reported that parents feel relaxed to send their children to schools since classrooms are built on solid foundation and well-ventilated. According to the focus group discussion, it became more convenient for the students to come to school. The students are now attending schools closer to their homes, taking less time to commute. This led to incur fewer absences and a decrease in the incidences of tardiness. Students are allowed more spare time for studying at home than before thus improving their academic performance. These cases showed an access to improved learning environment that has notable impact on students' motivation for learning.



Sitting at their desks, students can concentrate on their lessons more than before

Along with the increase in students' motivation for learning and attending schools, academic performance was improved. This is evident in the improvement in the passing rate of an examination (a requisite for the "Certificate for Primary Education") and in ratio of students going to the secondary schools. All the 34 schools that participated in the focus group discussion reported an improved students' understanding level and academic results. As shown in Table 6, approximately 40% of the target primary schools have increased their advancement rate to lower secondary education.

Table 4 Change in Motivation for Learning

		Recognized	Not Recognized	Don't Know	No Answer	Total
Primary Schools	Count	40	1	2	1	44
	%	90.9	2.3	4.5	2.3	100.0
Secondary Schools	Count	5	0	1	0	6
	%	83.3	0	16.7	0	100.0
Total	Count	45	1	3	1	50
	%	90.0	2.0	6.0	2.0	100.0

Source : Result of the questionnaires

Table 5 Examples of Changes in Motivation for Learning (multiple answers)

		All students can sit at the desk	Well-ventilated and vast classrooms	Students can concentrate on the lessons	Improved academic performance	Improved hygienic conditions	Decrease in tardiness, absences and early leaving
Primary Schools	Count	25	14	6	6	4	3
	%	62.5	35.0	15.0	15.0	10.0	7.5
Secondary Schools	Count	0	5	1	1	0	1
	%	0	100	20.0	20.0	0	20.0
Total	Count	25	19	7	7	4	4
	%	55.6	42.2	15.6	15.6	8.9	8.9

Source : Results of the questionnaires

Table 6 Continuance Rate of First Secondary Schools

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
Count	16	16	17	n.a.	18	18
Admission Rate (%)	28.6	30.2	27.1	n.a.	38.6	46.0

Source: Results of the questionnaires

Note : Count means number of schools that provided number of grade six students moving up to the first cycle of secondary school

3.3.2 Other Impacts

There was no reported impact to the natural environment during the construction of school facilities. There was no resettlement for this project and land acquisition for newly constructed schools was done smoothly.

Through the implementation of this project, there were various indirect effects such as improved quality of lessons, increased students' motivation for attending school and learning, improved academic results and advancement rating, and securing learning equity by eliminating the double shift system.

In this project, primary schools accounted for 90% of the total target schools. 80% of them (70% of the total target schools) were targeted following the former Japanese grant aid implemented in 1997-2000 in accordance with the Mauritanian government policy that placed particular emphasis on the decrease in the number of students per classroom, and an improvement of learning efficiency by eliminating the double shift and double flow. In light of this background, the project was considered to be a project that put great emphasis on the improvement of the learning environment and efficiency in primary education. In fact, positive effects caused by the improved learning environment were prominently manifested in the primary schools. With regard to the secondary schools, although the degree of improvement of learning environment varies in each school, effects on the academic performance were attributed to the decrease in commuting time.

This project has largely achieved its objectives, therefore its effectiveness and impact is high.

3.4 Efficiency (Rating: ②)

3.4.1 Project Outputs

(1) Outputs of the Japanese side

At the time of the basic design study, a total of 57 schools (368 classrooms) composed of 47 primary schools (287 classrooms) and 10 secondary schools (81 classrooms) were targeted. In the implementation stage, following the fluctuation in the exchange rate and escalation of labor and material costs, the project scope was modified to keep the project cost within the limits of the budget. As a result of this modification, a total of 50 schools (327 classrooms) composed of 44 primary schools (270 classrooms) and 6 secondary schools (57 classrooms) were targeted (88% of the planned number of schools and 93% of the planned number of classrooms). The modification in the project scope was appropriate since the project placed priority on higher-need schools and maintained the Mauritanian standard of classroom design in accordance with the government policy.

Table 7 Outputs of the Project

Item	Plan				Result				Difference
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	
1. Number of Target Schools	23	23	11	57	19	21	10	50	88%
(Breakdown)									
Primary Schools (existing schools)	17	20	7	44	16	19	7	42	
Primary Schools (new schools)	0	0	3	3	0	0	2	2	
Secondary Schools (existing schools)	4	0	0	4	1	0	0	1	
Secondary Schools (new schools)	2	3	1	6	2	2	1	5	
2. Facilities									
(1) Number of Classrooms	140	151	59	350	130	146	51	327	93%
(Breakdown)									
Primary Schools (existing schools)	107	130	44	281	103	125	36	264	
Primary Schools (new schools)	0	0	6	6	0	0	6	6	
Secondary Schools (existing schools)	6	0	0	6	3	0	0	3	
Secondary Schools (new schools)	27	21	9	57	24	21	9	54	
(2) Director's Room (newly constructed schools)	0	0	3	3	0	0	2	2	67%
(3) Technical Block (secondary schools)	2	3	1	6	2	2	1	5	83%
(4) Administrative Block (secondary schools)	2	3	1	6	2	2	1	5	83%
(5) Latrines Booth	24	30	22	76	20	24	18	62	82%
(Breakdown)									
For Primary Schools	4	0	12	16	0	4	8	12	
For Teachers of Secondary Schools	4	6	2	12	4	4	2	10	
For Students of Secondary Schools	16	24	8	48	16	16	8	40	
(6) Boarding Master's Room	2	3	1	6	2	2	1	5	83%
3. Equipment									
(1) School Equipment for Primary Schools	17	20	10	47	16	19	9	44	94%
(2) Handwashing Devices	3	3	4	10	3	2	3	8	80%

(2) Outputs of the Mauritanian side (obligations of the Mauritanian side)

The outputs produced by the Mauritanian side within the project period were the following: 1) Secure the land for the project; 2) Clear, level, and reclaim the site; 3) Demolish and remove existing facilities when needed; 4) Cut trees when needed; 5) Secure temporary classrooms; 6) Provide equipment for technical block of newly constructed secondary schools; 7) Provide equipment and furniture in addition to the equipment provided by the project; 8) Install walls and gates in 23 schools; and 9) Install electricity distribution line and water distribution main to the five newly constructed secondary schools¹³. These outputs were almost completed without problems except for the electricity and water.

The installation of electricity and water were completed a year after the project completion in one school of Nouadhibou City. As to the four schools in Nouakchott City, however, electricity was provided to one school in 2011 and to three schools in 2012. The significant delay was caused mainly by the fact that the Ministry of National Education consumed substantial time in the coordination and negotiation with other ministries and agencies, and that the negotiation slowed down the process due to frequent organizational changes within the education sector.

With regard to the water for the four schools in Nouakchott City, no progress has been made due to the ongoing review of the water supply plan for the city. These schools store water in a water storage tank, transported by a water tank lorry or a donkey, as supported by communes or the parents' association. Although water quantity is limited, each school devises a plan on the efficient use of water.

3.4.2 Project Inputs

3.4.2.1 Project Cost

As indicated in Table 8, the actual project cost borne by the Japanese side was lower than the planned cost (equal to 99% of the planned cost)¹⁴.

Table 8 Planned and Actual Project Cost

	Planned (yen)	Actual (yen)
Stage 1	950 million	940 million
Stage 2	1,073 million	1,057 million
Stage 3	620 million	612 million
Total	2,643 million	2,609 million

3.4.2.2 Project Period

The project period spent by the Japanese side for the detailed design and construction works was slightly longer than planned. The actual project period was 45 months as against the planned period of 38.5 months (116% of the planned period). This was due to the following: (1) In the first stage, part of the construction works were completed after the contracted period; and (2) In the second and third stages,

¹³ The Mauritanian side was required to connect city water pipe and electric power to the site before the project completion.

¹⁴ For this ex-post evaluation, only the costs of the Japanese side were compared since the actual cost borne by the Mauritanian side was not available.

following the unsuccessful bidding to select a contractor, a review of the original design and cost estimate for rebidding had to be conducted.

The project period spent by the Mauritanian side (period spent to complete its obligations) was significantly longer than the planned. It took 87 months for the connection of electric power¹⁵. The connection of water pipes has not been completed.

Although the project cost was within the planned cost, it is judged as slightly exceeded the plan considering the decrease of the output. Moreover, the project period was slightly exceeded the plan. Although a part of obligations of the Mauritanian side has not yet been completed, this delay does not have much influence on the objective of this project which is to improve the learning environment.

Therefore, efficiency of the project is fair.

3.5 Sustainability (Rating: ②)

3.5.1 Structural Aspects of the Operation and Maintenance

A structure for operation and maintenance is secured under the direction of the Ministry of National Education and its regional directions.

(1) Structure at the education sector

1) Structure of the Ministry of National Education

The Ministry of National Education as well as the Department of Infrastructures and Maintenance experienced organizational changes several times since the start of the basic design study¹⁶. The latter department experienced integration with, and separation from, the financial department repeatedly. It became an independent department in 2011 in response to the increasing recognition of the importance of operation and maintenance of school facilities. This department is actively pursuing an improved operation and maintenance system.

In regard to the structure by educational level, primary schools were under the jurisdiction of the regional department of primary education in each prefecture level. Secondary schools, on the other hand, were under the jurisdiction of the Department of Secondary Education in the Ministry of National Education. Since 2011, in line with the decentralization policy, DREFP came to supervise primary education, secondary education, and professional training in an integrated manner. An inspector assigned at the communal level supervises and advises on the management, operation, and maintenance of primary schools. Secondary schools are directly supervised and advised by the director of the DREFP. There is no problem in the collaboration among schools, inspectors, and the DREFP.

Schools make a report on the status of school facilities to the Ministry of National Education at the

¹⁵ Months from the signing of the Exchange of Notes for the 1st stage in July 2005 to the completion of the connection of electric power to the newly constructed secondary schools.

¹⁶Basic education from primary education to university and a part of advanced technologies and professional training were under the jurisdiction of the Ministry of Education until 2005. In 2006 and 2007, the Ministry was divided into the Ministry of Primary and Secondary Education, and Advanced Studies. In 2008 and 2009, they were integrated as a single ministry. In 2010, there were divided into Ministry of Primary Education and Secondary Education. Since 2011, the education related ministries were integrated into Stage Ministry of National Education, Higher Education and Scientific Research.

beginning and end of the school year. Based on these reports, the Ministry of National Education provides support such as distribution of coating material for blackboards and dispatches technical staff to repair school facilities when needed.

(2) Operation and maintenance structure at communal level

In Mauritania, operation, maintenance, and repair works of primary schools have to be managed under the responsibility of communes according to government ordinance¹⁷. Communes take in charge of repair works of schools facilities and equipment, garbage collection, water supply and so on. According to the questionnaire survey of this ex-post evaluation, 24 primary schools out of 44 schools (equivalent to 55% of the target primary schools) stated various support provided by communes such as installation and repair of fence and gate, and water supply. It is judged that communes carry out their fundamental responsibility.

(3) Function of parents’ associations

Parents’ associations are organized in almost all the schools except for one primary school. Around 65% of the schools with parents’ associations carry out some activities such as repair of school facilities and equipment (labor provision and/or cost sharing), purchase of cleaning utensils, awareness campaigns for parents and students on the importance of education and hygiene, partial payment of water charge, remedial classes, and guard man. Although the level of their activities varies depending on the initiative of the school’s directors, leadership of the chairman, or motivation of members, the parents’ associations assume a fundamental role for school operation and maintenance.

Table 9 Status of Parents’ Associations

	Parents Association		Experience in doing any activities by the association			Collection of operation and maintenance fee			
	Exist	Not exist	Yes	No	No answer	Yes	No	Do not know	No answer
Primary School	43	1	27	9	7	9	32	1	2
%	97.7	2.3	62.8	20.9	16.3	20.5	72.7	2.3	4.5
Secondary School	6	0	5	1	0	2	4	0	0
%	100	0	83.3	16.7	0	33.3	66.7	0	0
Total	49	1	32	10	7	11	36	1	2
%	98.0	2.0	65.3	20.4	14.3	22.0	72.0	2.0	4.0

Source: Results of the questionnaires and focused group discussion

(4) Efforts to strengthen operation and maintenance system by Mauritanian government

Although each stakeholder assumes their responsibility to a certain degree, maintenance and repair are sometimes delayed due to lack of budget and personnel. Recognizing this as an urgent issue, the Ministry of National Education has been promoting the institutionalization of a “supporting fund for the rehabilitation and maintenance of primary schools’ infrastructure”. This is a new system that

¹⁷ Government ordinance 87-289

includes setting up of a maintenance committee at each school, strengthening coordination among different stakeholders, and efficient use of operation and maintenance budget, expected to be officially approved in 2012¹⁸.

3.5.2 Technical Aspects of Operation and Maintenance

There have been slight damages to the facilities and equipment of the target schools such as breakage of doors and windows, wreckage of desks, and removal of coating material of blackboards. The target schools and the parents' associations repaired such slight damages¹⁹. Except for blackboards, of which coating materials are easily removed in spite of regular coating by the schools²⁰, schools are generally well-maintained.

The following table shows a result of direct observation on 23 schools (18 primary schools and 5 secondary schools) out of the 44 target schools in Nouakchott (35 primary schools and 5 secondary schools). Blackboards are not well-maintained in many schools. This is an issue commonly observed nationwide²¹. Recognizing the necessity to strengthen the operation and maintenance of school facilities including the blackboard, the Ministry of National Education is planning to organize a mass technical training for staff in charge of maintenance of schools facilities in 2013 in line with PNDSE II.

Table 10 Result of Direct Observation of facilities

		Very Good	Good	Poor	Very Poor	Total	Rate of "Good Condition"*
Roof	Count	21	2	0	0	23	100%
	Ratio	91%	9%	0%	0%	100%	
Ceiling	Count	21	2	0	0	23	100%
	Ratio	91%	9%	0%	0%	100%	
Doors of Classrooms	Count	16	0	7	0	23	70%
	Ratio	70%	0%	30%	0%	100%	
Window	Count	18	2	3	0	23	87%
	Ratio	78%	9%	13%	0%	100%	
Wall & Column	Count	15	8	0	0	23	100%
	Ratio	65%	35%	0%	0%	100%	
Floor	Count	20	3	0	0	23	100%
	Ratio	87%	13%	0%	0%	100%	

¹⁸ Interview with the Ministry of National Education and the office for PNDSE projects in May 2012

¹⁹ Focus group discussion in January 2012 and results of the questionnaire

²⁰ Since the blackboard procured by this project is positioned on a concrete column of classroom next door and on a concrete block wall, different functions caused by these different materials were prone to cause cracks on the part of blackboard adjoining with the column of classroom next door. At the time of the final inspection implemented one year after the project completion, based on the condition of the blackboard mentioned above, the contractor explained to the target schools to sand rough cracks with an abrasive paper carefully, to remove the blot to make the surface smooth and then to coat the board in order to maintain the quality of the blackboard (document offered by JICA). In light of the above, it is probably due to different manner of coating that some blackboards were well maintained and others had their surface removed or cracked although most of the target schools practice coating of the blackboard every once a year.

²¹ Interview with the Ministry of National Education (January 12, 2012)

Desk-chair for Students	Count	21	2	0	0	23	100%
	Ratio	91%	9%	0%	0%	100%	
Blackboard	Count	3	5	14	1	23	35%
	Ratio	13%	22%	61%	4%	100%	

Source : Calculated by the evaluator based on direct observation of schools

Note : "Good condition" is sum of "very good" and "good".

3.5.3 Financial Aspects of Operation and Maintenance

(1) Government Budget for Education Sector

In recent years, 13% to 15% of the national budget has been allocated to the education sector. The budget for the education sector is stable as shown in Table 11.

Table 11 National Budget and Budget of the Education Sector

(Unit : MRO million)

	2006	2007	2008	2009	2010	2011
Gross Domestic Product (GDP)	849,000	667,400	738,600	794,187	1,016,609	1,184,341
National Budget	208,849	197,316	237,739	n.a.	250,366	269,153
Budget for the Education Sector	20,619	25,470	33,935	35,496	33,944	41,688
Ratio of the Budget for the Education Sector to the GDP	2.4%	3.8%	4.6%	4.5%	3.3%	3.5%
Ratio of the Budget for the Education Sector to the National Budget	9.9%	12.9%	14.3%	n.a.	13.6%	15.5%

Source : Summarized by the evaluator based on the budget document for each fiscal year

(2) Operation and maintenance cost supported by the communes and the schools

Operation and maintenance costs of facilities and equipment of primary schools is shouldered by the communes according to the government ordinance, financed by the central government subsidies and tax revenue. In case of budget shortfall for operation and maintenance, communes have been managing to secure financial resources, appropriating other expenses or resources, making a request to the central government for additional budget and asking NGOs or donors for funding.

A budget for the operation and maintenance is allocated to each school by the Ministry of National Education via the DREFP²² for minor repair works, and this budget is being managed by the school directors. In case of financial difficulty in repairs of facilities, the target schools will ask the Ministry of National Education for assistance. School directors sometimes shell out their own money for maintenance cost or parents' associations collect a small amount of money from students' parents to supplement the financial need. Around 20% of parents' associations of the target primary schools have collected money for the operation and maintenance (see Table 9). The financial contribution of

²² According to the interview with schools directors and inspectors, schools are provided approximately MRO 20,000-70,000 (approximately JPY 5,400-JPY 18,900 (MRO 1= JPY 0.27 exchange rate as of June 2012). Operation and maintenance budget is firstly allocated to DREFP from the Ministry of National Education. Then, the amount allocated to schools is decided through discussion among schools directors.

members depends on the economic conditions and interest of parents. According to the answers to the questionnaires, 80% of the target primary schools (35 out of 42 schools) and 83% of the target secondary schools (5 out of 6 schools) cited that the budget for operation and maintenance was not sufficient since the allocated budget is only enough for minor repair works. Despite efforts made by communes and schools to collect financial resources, there is a slight problem in securing budget considering the time to obtain financial resources in case of budget shortages, causing setback on the repair works.

Placing importance on strengthening the financial capacity for the operation and maintenance of school infrastructure, the Ministry of National Education has been promoting the institutionalization of the “supporting fund for rehabilitation and maintenance of primary schools’ infrastructure” to realize efficient management of the operation and maintenance fund. This fund is expected to be financed mainly by donors and government subsidies. According to the PNDSE office, the institutionalization will allow primary schools to obtain funds for rehabilitation and maintenance of school infrastructure without delay²³.

3.5.4 Current Status of the Operation and Maintenance

Interviews and site visits revealed that in general, each school building is well-maintained, and being cleaned regularly by school staff, members of parents’ associations, and students. Educational materials provided by this project are well-organized and stored in designated places.

Some of the latrine booths were poorly cleaned at the time of the first field survey in January 2012. Schools were instructed to clean the interior and exterior of latrine booths under the direction of the Ministry of National Education and its local representative offices before the second field survey was implemented in May 2012. This is in response to the provisional recommendations made at the end of the first field survey. The target schools were required to continue to clean the latrines regularly.

Some problems have been observed in terms of financial aspects, therefore sustainability of the project effect is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was implemented in order to improve the learning environment and provide access to basic education through the construction of classrooms and other facilities, and procurement of educational equipment for Nouakchott and Nouadhibou. The project objective has been highly regarded as relevant with the development plan and development needs of Mauritania, as well as to Japan’s ODA policy, therefore its degree of relevance was high. After the project completion, the number of students per classroom decreased significantly. The learning environment was improved

²³ Parents associations are expected to provide materials or labor (Manuel de procédures du fonds d’appui à la réhabilitation et la maintenance des infrastructures scolaires de l’enseignement fondamental) (Procedure manual of supporting fund for rehabilitation and maintenance of school infrastructures of the primary education).

due to the less crowded classrooms, and indirectly helped and motivated the students to come to school and learn. Therefore, the level of project effectiveness was high. The efficiency was judged to be fair. Although the project cost was lower than the planned cost, the cost is virtually considered to be high considering the decrease in the final output. In addition, the project period slightly exceeded the planned period. As for the sustainability of the project, operation and maintenance structures within the education sector are stable. Facilities and equipment that were provided by the project have been well-kept by each school and association of students' parents including minor repair works, indicating no major problem with the status of operation and maintenance. In regard to financial aspects, financial resources seemed insufficient in terms of the promptness of budget allocation by communes that are primarily responsible for the operation and maintenance of primary schools' infrastructures, although the communes make efforts to secure budgets through solicitation from different sources. Therefore, the sustainability of the project scored fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

- (1) The Ministry of National Education is required to procure personal computers to be used as part of the technical block as it was intended and to offer lessons in computer following the national standard curriculum. To avoid shortage of classrooms after procurement of personal computers, it is also recommended to consider constructing additional classrooms for schools that currently use the computer room as ordinary classroom.
- (2) With regard to the operation and maintenance system, it is recommended to promptly institutionalize the "supporting fund for the rehabilitation and maintenance of primary schools' infrastructure" in order to strengthen the coordination among different stakeholders and improve the efficiency in the operation and maintenance of school infrastructures. In line with this, it is also recommended to establish a school operation and maintenance committee to strengthen the operation and maintenance system at each school immediately after the institutionalization of the fund.
- (3) In addition to the operation and maintenance training planned by the Ministry of National Education, it is recommended to establish a practical manual on maintenance of commonly observed structure defects.

4.2.2 Recommendations to JICA

The JICA Senegal Office should continuously monitor the facilities that have not yet been operated as intended due to lack of equipment like the computer rooms.

4.3 Lessons Learned

- (1) In this project, part of the obligations of the recipient country was not completed in all stages,

even at the time of the final inspection which was executed one year after the project completion. Parties concerned such as JICA and the consulting firm in charge of detailed design and supervision of construction works need to encourage the executing agency to assume its obligations as planned, check the budgeting, detailed implementation schedule, and progress of obligations.

- (2) In cases where obligations of a recipient country are not completed within the project period, the progress of unfinished obligations needs to be continuously monitored, for instance, through regular reporting of the executing agency to JICA local office.
- (3) According to the initial plan, this project was scheduled to be implemented in two stages for completion in 2007. The target year was in 2007 at that moment. Afterwards, the project stages were divided into three stages for completion in 2009. However, the target year for operational indicators was not modified. In case the initially planned division of project stages was changed, operational indicators should be also modified according to the modified target year in order to compare baseline value and target value appropriately.