

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”**

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## 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"> <li>• 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)</li> <li>• African Development Bank, Islamic Development Bank, French Agency of Development: funding for PNDSE I</li> <li>• UNICEF: Support for primary education such as procurement of stationeries and equipment; Support to the PNDSE I in the literary education and traditional education.</li> </ul>

## 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: B<sup>1</sup>)

#### 3.1 Relevance (Rating: ③<sup>2</sup>)

##### 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.

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<sup>1</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>2</sup> ③: High, ② Fair, ① Low

### 3.2 Effectiveness<sup>3</sup> (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 schools<sup>4</sup> 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.

<sup>3</sup> Sub-rating for Effectiveness is to be put in consideration of Impact.

<sup>4</sup> 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 2010/2011<sup>5</sup>. 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 classroom<sup>6</sup>.

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
<b>【Access to the Technical Bloc】</b>						
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 bloc<sup>7</sup>

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.

<sup>5</sup> 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).

<sup>6</sup> Interview with the directors of the target schools (January 2012)

<sup>7</sup> 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 classroom<sup>8</sup>. 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 country<sup>9</sup>.
- **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 reasons<sup>10</sup>.

Table 3 Utilization of Facilities

Item	Number of Facilities Constructed	Number of Facilities Usage	Usage Rate
<b>【Primary Schools】</b>			
Ordinary Classrooms	324	324	100%
Director's Room	2	2	100%
Latrines	12	12	100%
Sub-Total	284	284	100%
<b>【Secondary Schools】</b>			
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

<sup>8</sup> 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).

<sup>9</sup> Interview with the Ministry of Education (May 21, 2012)

<sup>10</sup>The 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 school<sup>11</sup>.

### 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 discussion<sup>12</sup>, 18 out of

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<sup>11</sup> 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.

<sup>12</sup> 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	
<b>1. Number of Target Schools</b>	<b>23</b>	<b>23</b>	<b>11</b>	<b>57</b>	<b>19</b>	<b>21</b>	<b>10</b>	<b>50</b>	<b>88%</b>
(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	
<b>2. Facilities</b>									
(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%
<b>3. Equipment</b>									
(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 schools<sup>13</sup>. 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)<sup>14</sup>.

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,

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

<sup>14</sup> 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 power<sup>15</sup>. 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 study<sup>16</sup>. 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

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

<sup>16</sup>Basic 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 ordinance<sup>17</sup>. 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

<sup>17</sup> 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 2012<sup>18</sup>.

### 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 damages<sup>19</sup>. Except for blackboards, of which coating materials are easily removed in spite of regular coating by the schools<sup>20</sup>, 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 nationwide<sup>21</sup>. 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%	

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

<sup>19</sup> Focus group discussion in January 2012 and results of the questionnaire

<sup>20</sup> 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.

<sup>21</sup> 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 DREFP<sup>22</sup> 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

<sup>22</sup> 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 delay<sup>23</sup>.

#### 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

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<sup>23</sup> 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.