

Ex-Post Evaluation of Japanese ODA Grant Aid Project  
“The Project for the Construction of Basic Schools in Lusaka, Phase II”

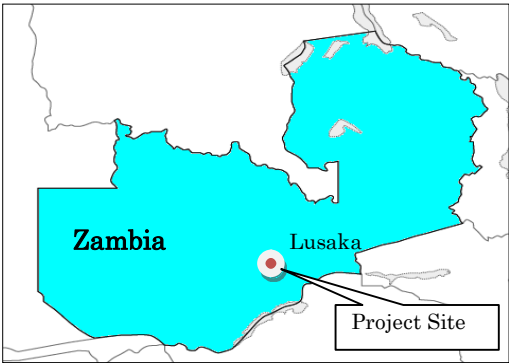
External Evaluator: Hisae Takahashi, Ernst & Young Advisory Co., Ltd.

**0. Summary**

In the Lusaka district, where the improvement of access to basic education is imperative, about 30% of the population of seven-year-olds, the school age in Zambia, have no access to any school, despite the enrolment policy for all school age children introduced by the Government of the Republic of Zambia in 2007. The government of Zambia defines infrastructure development, including the construction of school facilities, as effective measures; therefore the effectiveness of this project, which has implemented the construction of new schools in the Lusaka District, is very high. Although the construction of two schools, among the 12 schools initially planned, was stopped due to land issues, construction of the other ten schools has increased the number of students in primary and secondary schools in the Lusaka District, and has also produced the following effects, including a decrease in the number of students per classroom, reduction in the distance travelled to school and safer commuting routes to the schools, together with improved access to education. In addition, several other impacts have been observed, such as an increase in gross school enrolment rate among girls, the improvement of public safety in neighbouring areas, and the creation of employment for local residents, and improved performance of students. However, there is concern about sustainability in terms of budget problems and the variable maintenance situation in each school.

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

**1. Project Description**



Project Location



Constructed Classroom

**1.1 Background**

During the 1990s, the Zambian Government created a policy of “Educating Our Future”<sup>1</sup> as a

<sup>1</sup> “Educating our Future” is an education policy that was formulated in 1996. This policy aims at ensuring

guideline for educational plans and a “Basic Education Sub-Sector Investment Program” for its execution in order to improve the educational environment, provides learning opportunities at primary schools for all children in Zambia and enrol them in secondary schools. In Zambia, the high rate of population growth<sup>2</sup> and the drop in investment in the education sector due to the adverse financial situation have led to a decline in gross primary school enrolment<sup>3</sup> rate due to the lack of sufficient capacity to accept students. Particularly in the capital, Lusaka, the inflow of people from local areas into the urban area has not slowed down. The rate of increase in the population is 5-6% and the gross enrolment rate is below the national average.<sup>4</sup>

The Zambian government view this situation as an educational crisis for the country, and it has prioritized resolving the shortage of educational facilities in Lusaka and undertaken the improvement of school facilities with the cooperation of the World Bank, etc. Japan also implemented a grant aid project entitled “Project for the Construction of Basic Schools in Lusaka” from 1999 through 2000, which completed the construction of school facilities and the procurement of equipment for 8 schools in the Lusaka District, resulting in mitigation of the shortage of school capacity.

Nevertheless, the increased demand for expansion of the number of classrooms has still overwhelmed the supply and the educational environment did not improve. The Japanese government therefore implemented this project for the construction of basic schools in Lusaka District to contribute to the development of human resources in Zambia.

**1.2 Project Outline**

The objective of this project is to improve access to and an opportunity as well as study environment of basic education in the Lusaka District through the construction of school buildings and water supply/drainage facilities as well as the provision of furniture and equipment for classrooms in twelve basic schools.

Grant Limit / Actual Grant Amount	1,269 million yen / 1,103million yen
Exchange of Notes Date (/Grant Agreement Date)	August, 2004 and March, 2005 (Extended E/N Date)(1/2) July, 2005 and March, 2006 (Extended E/N Date) (2/2)
Implementing Agency	Ministry of Education
Project Completion Date	February, 2006 (1/2), February, 2007 (2/2)

that all students are able to access a primary school by 2005 and a secondary school by 2015.

<sup>2</sup> Based on the information from the Central Statistics Office of Zambia, the average of the annual rate of increase in the population from 1990 to 2000 was 3%.

<sup>3</sup> After the independence of Zambia, the gross enrollment rate primary schools had continued with an average increase of 6.5% per year. Although the total enrollment rate reached 95% by 1985, it started to decline thereafter to 77.9% in 2000.

<sup>4</sup> As of 2000, the national average gross enrollment rate in primary schools in Zambia was 78% and for the Lusaka District it was 66%. In addition, at schools in Lusaka District, where the population influx from the outskirts of the city is increasing, there is no tendency, for instance, for those new immigrants from the outskirts to find it difficult to be accepted for enrollment in school. Moreover, in the event that the number of those wishing to enroll in a school for the first time is greater than the number of children it can accept, schools permit the enrollment of children by prioritizing those over the age of seven. (From an interview with the implementing agency)

Main Contractor	Shimizu Corporation
Main Consultant	Shimizu Industrial Corporation
Basic Design	Basic design study report on the project for construction of basic schools in Lusaka District. May -October, 2002
Detailed Design	August – December 2004 (1/2), July to December 2005 (2/2)
Related Projects (if any)	Grant Aid Project /“The Project for Construction of Basic Schools in Lusaka District”(1999-200)

## 2. Outline of the Evaluation Study

### 2.1 External Evaluator

Hisae Takahashi: Ernst & Young Advisory Co., Ltd.

### 2.2 Duration of Evaluation Study

Duration of the Study: November, 2010 – December, 2011

Duration of the Field Study: February 21, 2011– March 3, 2011, June 19, 2011-June 26, 2011

## 3. Results of the Evaluation (Overall Rating: B<sup>5</sup>)

### 3.1 Relevance (Rating: ③<sup>6</sup>)

#### 3.1.1 Relevance with the Development Plan of Zambia

The Poverty Reduction Strategy Paper (PRSP) in 2002 and the Transitional National Development Plan (TNDP<sup>7</sup>) (2002-2005) have set the goals of achieving sustainable high rates of economic growth, diversifying the economy and improving access to and the quality of social services. Education has been particularly identified as one of the most important areas in these plans and is thus reflected in the government budget priorities with the recognition of the importance of the education sector. The Public Investment Programme (PIP) also clearly describes improved access to the basic services of school facilities.

In addition, the Six National Development Plan (SNDP) (2011-2015) basically follows the concept of the PRSP/TNDP, taking improvement in the education sector as a core measure of the advancement and development of the country and indicating one of the six high priority areas for government spending. In addition, the Educational Sector National Implementation Framework III (NIF III) (2011-2015) views that the shortages in infrastructure, textbooks, chairs and desks, etc., are important issues to be resolved and that the most effective form of support is to develop the infrastructure, especially the construction of schools.

As noted above, from planning through to the ex-post evaluation, the education sector has importance as a core aspect of economic and social development and poverty reduction measures in Zambia. This project supports education through the development of basic schools. Therefore the

<sup>5</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>6</sup> ③: High, ② Fair, ① Low

<sup>7</sup> The TNDP is planned based on the PRSP that was designed in 2002.

project is highly consistent with the implementation of the development policy of Zambia.

### **3.1.2 Relevance with the Development Needs of Zambia**

The Zambian Government created the national education policy “Educating Our Future” in 1996, which promoted access to basic education as a top priority. Nevertheless, the high rate of population growth and the drop in investment in education due to the adverse financial situation have led to a severe shortage of classrooms. At this time, approximately 30% of the population of 7-year-old school age children have no access to schooling. In particular, in the capital, Lusaka, the inflow of people from local areas into the urban area has not slowed down, resulting in the most severe shortage of classrooms in the country.

Furthermore, since the announcement of the introduction of a “Free Basic Education Policy<sup>8</sup>” for primary school children (1<sup>st</sup> to 7<sup>th</sup> grade), it is obviously impossible for classroom expansion to keep up with the increased demand and therefore the shortage of infrastructure is continuously considered as an important issue. According to statistics provided by the Ministry of Education, 37% (Approximately 12,000 children<sup>9</sup>) of the population of 7-year-old school age children have no access to schooling in Lusaka District.

As described above, in Lusaka District, the project area, one of the current issues for improvement is the shortage of educational facilities and furniture to handle the increasing number of school-age children resulting from the introduction of a free education system and the inflow of people from local areas into the urban area. Therefore, the level of need for school facilities continues to be high in this area.

### **3.1.3 Relevance with Japan’s ODA Policy**

Japan has identified the following three items as priority areas for ODA in Zambia at the time of Planning:

- ① Agriculture, Rural development (resolving the problem of poverty)
- ② Health, Healthcare (especially the control for infectious diseases such as HIV/AIDS)
- ③ Education (especially Basic Education)

Item ③ emphasizes the policy of supporting the physical aspects, such as buildings, maintaining facilities and providing equipment for improving access to basic education, as a short-term challenge.

As mentioned above, this project has been highly relevant with the Zambia’s development plan, development needs, as well as Japan’s ODA policy, therefore its relevance is high.

## **3.2 Efficiency (Rating: ②)**

### **3.2.1 Project Outputs**

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<sup>8</sup> This is a policy introduced by the Zambian Government, which aimed to increase the incentive for children to attend school by making the user fee (the fee borne by parents or guardians for school education) for tuition fees, etc. free of charge, thereby alleviating the burden on parents or guardians.

<sup>9</sup> Based on information provided by the Lusaka District Education Board.

In this project, 10 basic schools have newly built within Lusaka District and the major school equipment such as desks and chairs, have been provided. The planned and actual state are shown in Tables 1 and 2.

Table 1 Planned and Actual Output for the Construction of Facilities

	Classrooms	Offices	Library	Home economics room	Administration Blocks	Laboratories (Men, Women)	Guard houses	Water supply and Borehole
Planning	276	12	12	12	12	24	12	12
Actual	230	10	10	10	10	20	10	10

Sources: Basic Design Report and Completion Report.

Although it was planned that 12 schools would be built, 10 schools were eventually built after halting the construction of two schools due to land encroachment of the planned construction site (Chelston site) and the duplicate land ownership registration of another planned construction site (Chawama site). Both schools ended up being excluded from the project site due to the difficulty of resolving land ownership issues as well as securing new potential locations. In Lusaka District, with the population increasing on a daily basis, it is quite difficult to secure land and construction efforts continue to encounter such land problems. Given the fact that there was no prospect of a concrete solution regarding the land ownership issue and that it has become a serious social problem, excluding these two sites from the project was a realistic approach to ensuring the smooth progress of the project. On another front, it became clear that it took more than two years from when the planned construction sites were determined to the start of construction and also that these sites have not been surrounded by even basic fences during these two years. In this regard, preventive measures should be considered. Moreover, as it did not lead to the appearance of the planned output, one can point out that efficient project management was not adequately implemented in the case of this project.

Table 2 Planned and Actual Output regarding the Procured Furniture and Equipment

	Classrooms	Home economics rooms	Offices	Administration Blocks	Library	Classrooms	Home economics rooms
	Pupil's desk, teacher's desk & chair		Teacher's tables and chairs	Desks, chairs, tables, lockers and cabinets	Tables and chairs, bookshelves	Easels for supporting blackboards	Refrigerator, irons, pedal-operated sewing machines, stoves with ovens
Planned	276 set	12 set	12 set	12 set	12 set	276 set	12 set
Actual	230 set	10 set	10 set	10 set	10 set	230 set	10 set

Source : Basic Design Report and Project Completion Report

The procurement of items of educational furniture and equipment were also halted to the two sites mentioned above, the Chelston site and Chawama site. Although some items of furniture and equipment have been altered to suit each site, there was no difference in the effect of their impact.



Photo : Constructed building and classroom (Left : Chunga site, Right : Northmead site)

### 3.2.2 Project Inputs

#### 3.2.2.1 Project Cost

The project cost was lower than planned. While the planned cost was 1,269 million yen, the actual project cost was 1,103 million yen, or 87% of the planned cost. The main reason that the actual project cost less than planned was due to the exclusion of two sites from this project, as noted above<sup>10</sup>.

Looking at the planned and actual cost by project phase, the planned cost was 633 million yen while the actual cost was 471 million yen at first phase. This planned cost assumed the construction of six basic schools so that the planned cost for four schools is 422 million yen<sup>11</sup>. Therefore, compared to the planned cost, the actual cost was 112% higher, which slightly exceeded the planned cost. According to the implementing agency, this is attributable to inflation at the time of the procurement of the equipment in first phase. In the second phase, while the planned cost was 636 million yen, the actual cost was 632 million yen, or 99% of the planned cost, that is, the project cost in the second phase was lower than planned.

#### 3.2.2.2 Project Period

The project was implemented in two phases (First phase: from September 2004 through March 2006, Second phase: from February 2006 through April 2007<sup>12</sup>). Even though construction at two sites was halted, the project period fell two months behind the planned period, and was thus slightly longer than planned (107% of the planned period). The delay was due to the rise in prices at the time of procurement, which resulted in it taking more time to procure equipment within the budget. However, the bidding and the contract went smoothly and the construction and procurement periods in the second phase were also shorter than planned, leading to 33 months in total for the entire project, which was shorter than planned (34 months) as well. The planned and actual periods are shown below:

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<sup>10</sup> The Project was composed of two phases. In the first phase (2005-2006) it was planned to construct school buildings at 6 sites (Jack, Chunga, Chazanga, Ngombe, Chelstin and Chawama). In the second phase, additional basic schools at another six sites were planned to be constructed (Mandevu, Chilenje South, Northmead, Mtendere, Kabanana and Libara Stage III).

<sup>11</sup> In the project, the primary schools and junior high schools were constructed to the same standard. The construction expense per school is calculated to be 105.5 million yen, dividing 633 million yen of construction costs in the first half by six schools. Accordingly, the construction expense for four schools is calculated to be 422 million yen.

<sup>12</sup> The total period required for tenders and contract-related work, and construction and procurement.

Table 3 Planned and Actual Project Periods

	First Phase		Second Phase	
	Bidding • Contract	Construction • Procurement	Bidding • Contract	Construction • Procurement
Planned	3 months	14 months	3 months	14 months
Actual	2 months	15 months	2 months	14 months

Source : Basic Design Report and Project Completion Report

As described above, although the actual output at first phase was lower than the original plan, both the project cost and period were within the plan and it does not meet the decreasing of the output, therefore efficiency of the project is fair.

### 3.3 Effectiveness<sup>13</sup> (Rating: ③)

#### 3.3.1 Quantitative Effects

The project was implemented for the purpose of expanding learning opportunities and improving the educational environment of the project area. From this point of view, the ex-post evaluation was performed by a baseline comparison with the actual state of the following as indicators of the effective operation of the project. For the items with a planned value, the achievement levels are also reviewed and the effects of this project were validated.

(1) The number of students at the project schools

“Proportion of students supported by this project”

In this project, 10 basic schools were newly constructed in Lusaka District. As a result, about 20,000 students<sup>14</sup> are considered to have gained access to schooling or to have been able to go to a school that was closer to their home. Moreover, as shown in Table 4, after the project ended, the number of children attending school in Lusaka District had increased by just under 30,000 children compared with the situation before the project was implemented, so one can point out that this project has contributed 20,000 of those children.

In addition, the foregoing project, “The Project for the Construction of Basic Schools in Lusaka (1999-2000)” built eight basic schools in Lusaka District and provided access to schooling for about 21,000 children. That is, a total of 41,000 children benefited from this entire Grant Aid Project. Therefore, the implementation of this project is considered to have contributed to access to schooling for 20% of the approximately 178,600 students in basic school in Lusaka District <sup>15</sup>(Refer to Table 4).

<sup>13</sup> The rating of the impact will be included in the rating of the effectiveness of the project.

<sup>14</sup> This indicates the actual number of students at the project schools as of 2010 (Source: Lusaka District Education Board). During the planning, it was expected that each basic school would accept 1,640 students (16,400 students in the 10 project schools). Therefore, it can be judged that the Project is currently accepting a larger number of students than was planned.

<sup>15</sup> As of 2011, there are 96 basic schools in the Lusaka District.

Table 4 Number of Enrolled Students at Basic Schools in the Lusaka District

	Before the Project	After the Project		
	2005	2007	2008	2009
Total	149,724	163,059	171,207	178,661
Primary school	133,502	144,935	149,438	151,769
Secondary school	16,222	18,124	21,769	26,892

Source: Documents provided by the Lusaka District Education Board

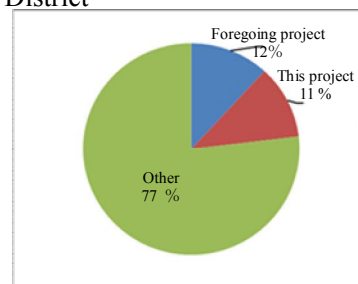


Figure 1 Proportion of Children Enrolled in Basic Schools in Lusaka District Accounted for by Children Attending Schools Targeted by the Grant Aid Project (2009)

(2) Enhancement of the educational environment in Lusaka

“Increase in the number of new students”

In the capital, Lusaka, the inflow of people from local areas into the rural area has not slowed down and more than 30% of children did not have access to a basic school at the time of the planning of this project. In this project, 230 classrooms in 10 schools have been newly constructed based on data on the number of children and the size of existing schools nearby. According to the Ministry of Education, around 30% of the children had no access to a basic school in Lusaka District at the time of the completion of the project (in 2009), thus it can be considered that the situation has not worsened despite a substantial growth in the population<sup>16</sup>. The number of new school children was 18,819 in 2009, which exceeded the planned target number of 18,088. The number of students who went to secondary school was 12,294, which also substantially exceeded the planned target number of 5,831.

Furthermore, the above target number assumes the construction of 12 schools. Recalculating the planned target number for ten schools, number of new school children in primary school was calculated to be 15,073 and number of students who went to secondary school to be 4,776. Compared with actual number, number of new school children increased nearly 30%, and number of students who went to secondary school increased about 30%. As a result, it was confirmed that the implementation of the project contributed to the increase in number of new school children.

In addition, this project features the construction of junior secondary schools, which was the first attempt at this in Zambia<sup>17</sup>. As some students were unable to advance to a junior secondary schools due to the long distance from their home or to the full capacity of the nearby school, the project also enabled these students to continue to study at a junior secondary and then secondary school.

Therefore, the construction of the basic schools in this project can be considered to have contributed to a rise in the number of new students at secondary schools.

<sup>16</sup> According to a report published by the Central Statistical Office of Zambia, the population of the Lusaka District increased from 1.08 million in 2000 to 1.74 million by 2010.

<sup>17</sup> Hitherto, due to budgetary problems, a primary school would be built first and then, if the budget were secured, a junior secondary school would be added several years later.



“Improving school shifts<sup>18</sup>”

At the time of planning, it was expected that the project would improve the average number of school shifts from 2.26 to 2.02 at basic schools in Lusaka District by transferring some students to the new schools from existing schools that have accommodated an excessive number of students. In the case of the regular 2-shift system, students have around 4 hours of schooling per day. When it comes to the 3-shift system, a school is only able to secure 3 or fewer hours of schooling per day, which does not provide enough school hours of schooling for the students. As shown in Table 5, the average number of shifts at basic schools in Lusaka District decreased to 1.7, which indicates an average 4.7 hours of schooling per day. Although the data schooling hours per day before implementing the project could not be obtained, improvement by reducing the average number of shifts is considered evidence of an increase in schooling hours per day.

Table 5 Improvement of the Educational Environment in the Lusaka District

	Baseline (2002)	Planned (2006)	Actual (2009)
Proportion of pupils without access to basic education	40.5% <sup>Note1</sup>	-	30.32%
Number of newly enrolled pupils at primary schools	15,688	18,088	18,819
Number of newly enrolled pupils at secondary schools	4,391	5,831	12,294
Average number of shifts	2.26	2.02	1.70 <sup>Note2</sup>

Note 1: Data for the year 2004

Note 2: Data for the year 2010

Source: Documents provided by the District Education Board

### 3.3.2 Qualitative Effects

#### (1) Shortening of the distance travelled to school

Thanks to the construction of new schools, the commuting distance to school has been shortened. Pursuant to the guidelines<sup>19</sup> from the Ministry of Education, primary schools are supposed to be located within a walking distance of five kilometres. Before the implementation of the project, many of the students living in compounds<sup>20</sup> had to walk several kilometres to school, sometimes up to ten kilometres, due to the limited number of schools in this area. According to a beneficiary survey<sup>21</sup> conducted as a part of this ex-post evaluation, 90% of the respondents answered that their commuting distance has been shortened owing to the newly constructed schools. Among these respondents, nearly 60% answered that the distance was shortened by two to three kilometres and for some by more than five kilometres. (Please refer to Table 6)

<sup>18</sup> In Zambia, due to a lack of primary schools and classrooms, schools across the country routinely operate double sessions (a two-shift system), in which a single classroom is used by two classes, one in the morning and one in the afternoon. Furthermore, there are many schools in urban areas which operate a three-shift system. There are no particular regulations about the number of shifts that can operate, but the Ministry of Education provides guidance recommending that the number be no more than two.

<sup>19</sup> “Standards and Evaluation Guidelines” by the Ministry of Education

<sup>20</sup> Represents unplanned settlements

<sup>21</sup> Beneficiary survey was conducted to the principle, the deputy head, PTA members (two-four members each), local residents (four- six people each) from ten target schools by interview-style.

Table 6 Change in the Commuting Distance (Results of a Beneficiary Survey)

Reduction in the commuting distance and the number of students affected	0km(no change)	1 km	2 km	3 km	4 km	5 km
	6	18	38	26	7	5

(2) Improvement of safety when commuting to school

The location of the construction was determined by the Lusaka District Education Board (DEB) in consideration of the location and density of existing schools and also the traffic situation in the neighbourhood. Accordingly, newly constructed schools are dotted evenly throughout Lusaka and this has led to safer commuting together with a reduction in the commuting time to school. For example, before the project, a serious issue was that some students became involved in accidents when they crossed a main road that was on the way to and from school. However, after the project, much safer school routes could be secured, free of the danger of the heavily-travelled main roads.

(3) Improvement in the basic skills of students thanks to the home economics rooms

In this project, students were expected to acquire basic skills to encourage their independence by the end of the course of basic education through the introduction of a home economics room in each school and also through the procurement of the necessary educational materials. Home economics rooms are equipped with sewing machines, irons, and ovens for cooking practice, and both boys and girls enjoy the opportunity to receive practical training once a week. According to the beneficiary survey, almost 70% of the respondents answered that basic skills for daily life had improved thanks to this practical training, such as training in the use of sewing machines/irons and cooking practice, including cooking methods for Nshima, their staple diet. Consequently, the implementation of this project is considered to have produced some effects in the development of basic skills.

Question: Does the home economics room offer students the opportunity to improve their basic skills?	Yes, very much	Yes, somewhat	No	Don't know
	17	51	0	32

As outlined above, this project achieved its objectives mostly as planned; therefore its effectiveness is high.

### 3.4 Impact

#### 3.4.1 Intended Impacts

(1) Increase in the gross rate of school enrolment among girls

As a result of the construction of ten basic schools, more students have been accepted into a school and this has led to an improvement in the gross rate of school enrolment in Lusaka District. In particular, it has contributed to an increase in the gross rate of school enrolment among girls. This is mainly because their parents have become more accepting of school attendance by girls owing to the new construction of a school in their neighbourhood and the safer school commuting routes. (Please refer to Table 7.) The gross rate of school enrolment among girls in Lusaka district finally caught up

the national average by 2008, although it used to be more than 20% below the average. Regarding the increased gross rate of enrolment among girls, the Ministry of Education has been playing an important role as well by developing a programme aimed at an increase in the gross enrolment rate among girls and encouraging each school to accept more girls.

Table 7 Improvement in the Gross Enrolment Rate among Girls

	Planned	Actual	
	2002	2007	2008
Lusaka district	58%	86%	89%
National Average	81%	90%	91%

Source : Documents provided by Lusaka DEB and EDASIST from Ministry of Education

(2) Utilization of the school facilities after school hours

At the time of planning of this project, the newly constructed basic school were planned to be open to the public after school hours and utilized for adult education, such as literacy education and community activities. Eventually, it was expected that this would increase opportunities for local activities. According to interview surveys conducted in each school concerning the utilization of facilities after school hours, six schools out of the ten target schools responded that the classrooms and schoolyard are available for literacy education for adults or church activities.

On the other hand, only 30% of respondents in the beneficiary survey answered that the school facilities were utilized after school hours. The major reason is that concerns about security discourage the opening of school facilities to the public. In addition to this, the low recognition of the need for adult education might be one of the reasons that school facilities were not utilized enough, since the number of students participating in adult education classes is normally limited to 10-15, and some schools only started adult classes from this year (2011).



Photo: Literacy education classes that are held after school hours (Mandevu site)

Question After school hours, are the school facilities utilized for adult education or community activities?	Yes, very much	Yes, somewhat	Same as before	No	Don't know
	5%	24%	1%	0%	70%

(3) Improved performance of the students

According to interview surveys conducted at the ten target schools, the number of students who passed nationally uniform exams for the seventh grade has been on the increase at eight basic schools. In addition, the beneficiary survey gave the result that over 60% of the respondents answered that the performance of the students had increased. Teaching and learning at the new schools with facilities that were well-equipped with desks, chairs, and instructional equipment has motivated both the teachers and students, and has also contributed to the improvement of the performance of the students

to a certain degree.

The data on examination pass rates or the number of successful applicants for nationally uniform exams in the Lusaka District before and after the project was not available, after confirming with the Lusaka DEB and Examination Council. As an alternative<sup>22</sup>, the examination pass rate in the Lusaka Province was obtained. Data showed that the pass rate of seventh grade students had increased up to 75.1% in 2010 from 33.9% in 2003, which was before the project, and also that the difference from the national average pass rate had been narrowing. (Please refer to Table 8.) Other than the above, the encouragement<sup>23</sup> provided by the construction of new basic schools in Zambia as a whole is also one of the factors that have contributed to the great increase in the pass rate in 2009. Thanks to this, more and more students have been accepted into secondary schools, and as a result, more students have prepared for taking examinations.

Question Has the performance of students in this area (number of successful applicants for nationally uniform examination) improved?	Yes, very much	Yes, somewhat	No, deteriorated	Don't know
	40%	22%	3%	35%

Table 8 Pass Rate of Seventh Grade Students for Nationally Uniform Examinations

	2003	2008	2009	2010
Lusaka Province	33.9%	57.8%	73.5%	75.1%
National Average	52.2%	65.4%	71.5%	84.2%

Source : Documents provided by Lusaka DEB

### 3.4.2 Other Impacts

#### (1) Impacts on the natural environment and Land Acquisition and Resettlement

As a result of hearings held by the implementing agency and school officials, no major problems have been observed with regard to the environment. Regarding the location of this project, it was confirmed that all the planned construction sites belonged to the Ministry of Education at the time of basic design study. However, it was found that the sites for two schools among the six schools targeted for the first phase of the project, had problems of land encroachment and duplicate land ownership registration at the stage of contracting with the consultants. In the Lusaka District, it is often the case that even acquired land suffers from forcible entry and illegal occupation, and regarding the ownership of illegally occupied land, it is difficult to solve those problems in most cases. Accordingly, construction at the above two sites was stopped as described in section “3.2 Efficiency”.

#### (2) Other Indirect Impacts

The creation of employment is one of the other indirect impacts of this project. According to the beneficiary survey, 94% of the respondents pointed out the creation of new jobs for local residents as

<sup>22</sup> The population of the Lusaka District accounts for 80% of those living in the Lusaka Province, therefore information on the Lusaka District is considered to be reflective of the Lusaka Province.

<sup>23</sup> In Zambia, before the implementation of this project, the construction of primary schools was given priority over that of secondary, which were newly constructed as funds permitted.

an indirect impact. In each school, several workers (clerical employees, security guards, cleaners, migrant workers for mowing the lawn) have been employed with financial assistance from the PTA, and in the target schools many teachers have been employed from the neighbouring areas. Local vendors have been provided with job orders, such as the repair of broken windows and other repair work although, of course, the number of such opportunities is limited. Consequently, the project is highly appreciated by the local residents thanks to the creation of new jobs.

In addition to this, the project has contributed to improvements in public safety around the schools owing to the deployment of security guards and the fact that the surrounding streets have become busier after the construction of the schools. According to the beneficiary survey, 87% of the respondents answered that public safety in neighbouring areas had improved.

As explained above, this project, which implemented the construction of school facilities and the procurement of equipment and teaching materials, is considered to have had positive impacts, such as 1) an increase in the gross enrolment rate among girls thanks to the shortened distance and time taken to get to school, 2) improved performance of the students thanks to a better educational environment, 3) the creation of employment opportunities for local residents, and 4) improvements in public safety.

### **3.5 Sustainability (Rating: ②)**

#### **3.5.1 Structural Aspects of Operation and Maintenance**

In principle, each school is responsible for the maintenance of its own school facilities after the completion of construction. A School Maintenance Committee (SMC), consisting of the head teacher, the deputy head, teachers, and the PTA members, has been organized in each school and is responsible for the management and maintenance of the school facilities and equipment. The main role of the SMC is to check the school facilities periodically, to identify and confirm the places or items that need repair, and also to check up on the budget. Periodic meetings and checks have been implemented in each school, and so far no major problems have been observed in the system of each school.

Extensive repair work that the school cannot handle is reported to the Lusaka DEB<sup>24</sup>. After receiving a report, an inspector and a building officer from the DEB visit the school and check the degree of damage and obtain an estimation of the cost of the repairs. If the damaged parts are judged to be repairable, DEB will take care of this. According to the DEB, they currently have only one inspector and two building officers, and have suffered a shortfall in human resources<sup>25</sup> considering the number of schools they are responsible for. The DEB is supposed to visit each school and conduct a quarterly check even without a request from the school. However, under the present circumstances, the

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<sup>24</sup> There are district educational authorities under the Ministry of Education in nine provinces throughout Zambia. Besides, in each district, there are educational authorities for each area. The main roles of the Ministry of Education are to draw up acts related to education, to develop curriculums, and to allocate the budget. On the other hand, the main roles of the district educational authorities are to make plans at the district level and to monitor the quality of education. Lastly, the area educational authorities are responsible for the execution of educational policies, planning and practice, and monitoring of the schools and the quality of education in the area.

<sup>25</sup> Currently, the Lusaka DEB is responsible for 96 basic schools in the Lusaka District.

DEB only visits a school at the request of the school due to the shortage of human resources. In addition, according to the hearings held at each school, some schools were not aware of the process of reporting to the DEB regarding extensive repair work that the school cannot handle. Therefore, in terms of sustainability, there is a concern about the future establishment of a system of cooperation.

### 3.5.2 Technical Aspects of Operation and Maintenance

According to school officials, the DEB, and the Ministry of Education, the skills required for the management and maintenance of school facilities are not something special but rather part of a basic approach, such as daily cleaning and periodic checks. Regarding the daily cleaning, students do the sweeping, and litter bins have been set up in schoolyards at the initiative of the head teacher or deputy head. Consequently, no problem was observed regarding this point during the actual inspections. In addition, regarding the repair of street gullies, assistance from the SMC and the local community was available, and therefore there were no problems regarding this matter either.

According to interview for the DEB, there were no problems with regard to the technical aspects reported by engineers who belong to the DEB and no technical issues were observed in the actual inspections.



Photo : Students clean the classroom after school under the guidance of teachers (Kamlanga school at the Jack site)

### 3.5.3 Financial Aspects of Operation and Maintenance

According to preliminary calculations made during the basic design survey, the operation and maintenance fees per year were estimated at 18 million Zambian Kwacha (ZMK). Among these, ZMK2.1 million was supposed to be covered by allocations from the government, and the remainder from fees for PTA membership. Interviews conducted concerning the actual situation involving school officials, the DEB, and the Ministry of Education on the NIIF budget, which is fiscally distributed from the Ministry of Education, showed that it is very little and its use is also limited. In addition, in reality, the distribution of NIIF, which is often behind schedule, cannot be included as part of stable earnings, and as a result expenses for operation and maintenance all depend on financial assistance from the PTA. In this ex-post evaluation survey, it was found the operation and maintenance fees amount to an average of ZMK20 million for each school. Considering the current inflation rate (8-10% per year), this amount might not be enough. In addition, the act on educational tuition fees established by the Zambian government does not allow for financial aid from the PTA for the 1<sup>st</sup> and 7<sup>th</sup> grades. The operation and maintenance fees only consist of the PTA membership fee, which is only collectable from the 8<sup>th</sup> and 9<sup>th</sup> grades, as well as funds collected as the need arises. Accordingly, the responsibilities of the PTAs for the 8<sup>th</sup> and 9<sup>th</sup> grade have been increasing every year.

At this time, assistance from the DEB is not so necessary since only three or four years have passed since the construction of the target schools. However, as time goes by, the need for assistance from the DEB will increase. The budget of the DEB is consisted of the following two: the budget of

Ministry of Education and the pool of educational sector fund. The former is directly allocated to DEB from Ministry of Finance, not from Ministry of Education (monthly in regulation). The latter is quarterly allocated to DEB from Ministry of Education. The actual expenditures are paid to a school for any extensive repair costs that the school cannot afford to pay. Recently, funding assistance from donors has decreased, and the budget allowance for the DEB has remained at the same level, as shown in Table 9. Among the income sources, operation and maintenance fees account for only 4% of the total budget of the DEB, therefore the funds available to the DEB are apparently not sufficient<sup>26</sup>.

Table 9 Budget for Operation and Maintenance Fees of the DEB  
(Unit: thousand ZMK)

	2008	2009	2010	2011
Budget for management and maintenance fees	53,592	33,396	33,396	34,396

Source : Documents provided by the Lusaka DEB

**3.5.4 Current Status of Operation and Maintenance**

To the extent that this evaluation survey was able to ascertain, the condition of the school facilities and equipment is generally good. However, a limited amount of damage was occasionally observed, which remained unrepaired due to fund shortages. For example, the following problems were observed in almost all the schools; breakage of plastic piping in the bathrooms, roof leakage during the rainy season, cracks in the walls and floors, etc.

In addition, it was found that maintenance and management conditions in each school vary depending on the perception and initiative of each head teacher. Actually, the variation in the conditions is proportional to the differences in the level of initiative shown by the head teacher and the deputy head. According to the results of interview surveys held in each school, the facilities are well-maintained in schools that take on the management of the school facilities as their own responsibility. In some cases when a head teacher moves to another school, consideration for the importance of management and maintenance is not taken over by the replacement. Therefore, the DEB should notify the head teacher of each school that management and maintenance should be implemented as part the ownership by the school. In addition, it is necessary to provide opportunities for people to understand the importance of management and maintenance for sustainable self-motivated activities by the school. For example, it might be useful, at the initiative of the DEB, to encourage events such as a “School Cleaning Campaign”, and periodically demonstrate its importance or award prizes to schools with well-maintained facilities at the initiative of the DEB. Such activities may contribute to the strengthening of collaboration among schools, and of each school with the DEB, and can be an effective means of promoting the management and maintenance of school facilities, furniture, and equipment.

As explained above, some problems have been observed in terms of structure and financial

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<sup>26</sup> According to a hearing held at the DEB

conditions, therefore sustainability of the project effect is fair.

## **4. Conclusion, Lessons Learned and Recommendations**

### **4.1 Conclusion**

In the Lusaka district, where the improvement of access to basic education is imperative, about 30% of the population of seven-year-olds, the school age in Zambia, have no access to any school despite the enrolment policy for all school age children introduced by the Government of the Republic of Zambia in 2007. The government of Zambia defines infrastructure development, including the construction of school facilities, as effective measures; therefore the effectiveness of this project, which has implemented the construction of new schools in the Lusaka District, is very high. Although the construction of two schools, among the 12 schools initially planned, was stopped due to land issues, construction of the other ten schools has increased the number of students in primary and secondary schools in the Lusaka District, and has also produced the following effects, including a decrease in the number of students per classroom, reduction in the distance travelled to school and safer commuting routes to the schools, together with improved access to education. In addition, several other impacts have been observed, such as an increase in gross enrolment rate among girls, the improvement of public safety in neighbouring areas, and the creation of employment for local residents. However, there is concern about sustainability in terms of budget problems and the variable maintenance situation in each school.

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

### **4.2 Recommendations**

#### **4.2.1 Recommendations to the Executing Agency**

##### **(1) Strengthening of management and maintenance activities through collaboration among the schools**

It is important for the maintenance of school facilities to use the facilities and equipment in the proper way and to carry out daily activities, such as periodic cleaning. In this survey, it was also found that the facilities are well-maintained in schools where a responsible official, normally the head teacher or deputy head, demonstrates initiative. In some schools, the responsible officials have a negative attitude towards management and maintenance activities, while other schools try various measures to improve the school environment. It is therefore preferable to strengthen cooperation among the schools and share their experience in the improvement of management and maintenance. In addition, the DEB mentioned that the implementation of observation tours by school officials to schools with good practices will be effective. For the future, it is desirable to reinforce the linkages between the DEB and the schools and eventually among the schools and to provide opportunities to share their experience or lessons learned, supported by the DEB, towards the improvement of the management and maintenance conditions.

##### **(2) Intensive notification and the enhancement of monitoring activities by the DEB**

As time goes by, repairs and maintenance of school facilities will become more necessary, which



the school cannot take care of on its own. Currently, some schools are not aware of the reporting line to the DEB for extensive damage; therefore prompt support cannot be expected for these schools. In addition, the DEB has only one inspector and cannot implement periodic monitoring. Thus, it is preferable that the Ministry of Education and the DEB let each school know of the reporting line related to management and maintenance and also to increase the number of staff so that periodic monitoring can be implemented by the DEB.

### (3) Budget related to the maintenance of educational facilities

Currently, the expenses for management and maintenance cannot be all covered by the allocation from the Ministry of Education, and so are mostly dependent on funding assistance from the PTA in each school. This is because the budget allocation is low, and its use is also limited to consumable goods, such as notebooks and chalk. Furthermore, there is the major challenge that the allocation from the Ministry of Education cannot easily be included in the budget of each school since the allocation is often behind schedule. Therefore, it is desirable for the Ministry of Education to secure the budget for DEB and facility maintenance and to have a close discussion with financial authorities about the periodic allocation of the budget. .

## **4.3 Lessons Learned**

The Lusaka District has suffered from land issues, such as illegal encroachment and duplicate land ownership registration. This project also had problems related to ownership of the land, which meant that it took almost two years from determining the planned construction site to the start of construction. Accordingly, construction at two sites was excluded from the plan. From this experience, it is necessary for JICA to develop a plan that covers the planning phase and implementation phase in consideration of the special circumstances of each country. In addition, in cases where it takes time to start the implementation of the project after the planning phase, it is desirable for the executing agency to take care of any issues resulting from the time lag when necessary. In other words, it is necessary to respond to the issues in the consideration of the special circumstances that each project faces. (For example, to set up temporary fences in the planned construction area or to prevent forcible entry by involving the local residents at the planning phase of the project.)