Mongolia

## Ex-Post Evaluation of Japanese Grant Aid Project

# "The Project for Improvement of Primary Education Facilities (Phase II) in Mongolia"

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# 0. Summary

This project was implemented in order to ease overcrowded classrooms and to improve learning environments by constructing classrooms and other facilities and providing educational equipment and teaching materials to the ten target schools. The improvement of the learning environment of primary education is relevant to Mongolia's development plan and development needs, as well as to Japan's ODA policy; therefore, its relevance is high. The efficiency of the project was judged to be fair, because the project period significantly exceeded the planned period. This resulted from unintended factors, including the unsuccessful bidding for selected contractors for construction works in the second stage and a subsequent implementation review study to review the original design and the cost estimate. In regards to the effectiveness of this project, although the number of classrooms has increased as planned and overcrowding has eased, it has been observed that many schools received a smaller number of students per classroom than the Mongolian standard (36 students per classroom). This was due to a decrease in the population of school-age children and primary school enrollments in the target area, and the reorganization of school districts and changes in the school year system. In the meantime, less crowded classrooms and better school equipment have improved the learning environment and helped students to be better motivated to attend school and learn and have also helped teachers to prepare for lessons more efficiently. Overall, the effectiveness of the project is found to be fair, considering that it has led to a higher lesson quality and higher academic achievements.

As for the sustainability, each school has adequately appointed staff personnel in charge of the operation and maintenance of facilities/equipment and has well-functioning school committees consisting of parents and local community members. Therefore, there is no problem with schools' operation/management structures. Also, no financial problems have been observed since operation and maintenance expenses of constructed facilities have been sufficiently covered by various funding sources. Facilities and equipment that were improved and provided by the project have been used carefully and very well kept with minor repair work done by each school, indicating no major problem with status of operation and maintenance.

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



Project Locations

Orkhon No. 16 School

## 1.1 Background

Since the 1990s, Mongolia has made it a top priority to develop human resources that are capable of meeting the challenges of democratization and a transition to a market economy, and made the basic education sector a key issue in line with this approach, However, the transition to a market economy plunged the nation into socioeconomic turmoil and contributed to the deterioration of the national financial condition, which impacted on the education sector greatly. The national education budget and number of teachers reduced, educational facilities and materials deteriorated, and dormitories were no longer free of charge. The market economy also altered industrial structures in particular and triggered an acute population flow from rural to urban areas. As a result, urban areas experienced a drastic increase in students and a significant lack of education facilities, which led to teachers having to teach multiple shifts, and a drop in school enrollments. Overall, education had gone from bad to worse<sup>1</sup>. Amid such devastating conditions, improving primary education facilities became an urgent issue.

#### 1.2 Project Outline

The objective of this project is to ease overcrowded classrooms and to improve learning environments by constructing classrooms and other facilities and providing educational equipment and teaching materials to the ten target schools in Darkhan City (Darkhan-Uul Province) and Erdenet City (Orkhon Province).

Grant Limit / Actual	Stage 1: 902 million yen / 861.411 million yen
Grant Amount	Stage 2: 917 million yen / 882.484 million yen
Exchange of Notes Date	Stage 1: June 17, 2002 Stage 2: August 11, 2003, June 27, 2005, (Note: Because the bidding conducted in March 2004 for the second stage construction was unsuccessful and there was not going to be sufficient time for the required work, the budget for the fiscal year 2003 was used only for the detail design and bidding-related tasks and the remaining amount was returned to the national treasury. Subsequently, from January to June 2005, an implementation review study was conducted for the review of the original design and the cost estimate, and in June of the same year, the Exchange of Notes for the second stage was re-signed.)

<sup>&</sup>lt;sup>1</sup> Under the socialist system, human resources development was a top priority issue. Until the 1980s, the country had a high education standard: the enrollment rate in primary education was 98%; the adult literacy rate was 96%. National education budgets were maintained at 14% of Gross Domestic Product (GDP). However, after 1990, the education standard fell due to socioeconomic turmoil caused by the market-oriented economic reforms; the enrollment rate in primary education plunged to 81% and the adult literacy rate plunged to 82.2% in 1994. National education budgets fell to 3.8% of GDP in 1993.

Implementing Agency	Responsible Agency: Ministry of Education, Culture and Science (hereafter the "MECS")
	Implementing agency : Education and Culture Department of Orkhon
	Province, Education and Culture Department of Darkhan-Uul Province
Project Completion	Stage 1: February, 2004
Date	Stage 2: March, 2007
Main Contractor(s)	Stage 1: Obayashi Co., Ltd.
	Stage 2: Kanto Kensetsu Kogyo Co., Ltd.
Main Consultant(s)	Mohri Architect and Associates, Inc.
	Yokogawa Architects and Engineers, Inc.
Basic Design	"Basic Design Study on the Project for Improvement of Primary Education
	Facilities (Phase II) in Mongolia", JICA, Mohri Architect and Associates,
	Inc., Yokogawa Architects and Engineers, Inc., February, 2002
Implementation Review	First Year: January – March, 2005
Study	Second Year: April – June, 2005
Related Projects (if	Technical Cooperation
any)	• Dispatch of education policy advisor (2003-2005)
	• Project formation study (2001)
	• Technical cooperation project, "Strengthening the Planning Capacity for In-Service Teacher Training (2003-2006)
	<ul> <li>Technical cooperation project, "Teaching Methods Improvement Project Towards Children's Development in Mongolia" (2006-2009)</li> </ul>
	• Dispatch of Japan Overseas Cooperation Volunteers (JOCV) in group "Community-based School Rehabilitation Project" (2002-)
	Grant Aid
	• The Project for Improvement of Primary Education Facilities (Phase I) (1999-2001)
	• The Project for Improvement of Primary Education Facilities (Phase III) (2004-2007)
	• The Project for Improvement of Primary Education Facilities (Phase IV) (2008-in process)
	• Grassroots Human Security Aid (Renovation/Enlargement of School Facilities and Dormitories)
	Other Donors
	• ADB "Education Sector Development Program (ESDP)" (1996-2002).
	"Second Education Development Project (SEDP)"(1997-2003)
	• World Bank "Rural Education and Development Project" (2006-2012)
	• Fast Track Initiative (FTI) (2007-2009)

# 2. Outline of the Evaluation Study

# 2.1 External Evaluator

Maki HAMAOKA, Foundation for Advanced Studies on International Development

# 2.2 Duration of Evaluation Study

Duration of the Study: November 2010 – December 2011 Duration of the Field Study: January 17 - February 1, 2011, June 13 - 22, 2011

# 2.3 Constraints during the Evaluation Study (if any)

Nil

## 3. Results of the Evaluation (Overall Rating: $B^2$ )

3.1 Relevance (Rating:  $3^3$ )

The objective of this project has been consistently relevant with the national development plan and education sector plans of Mongolia and development needs at the time of both the ex-ante evaluation (2002) and the ex-post evaluation (2011).

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

With regard to the development plan of Mongolia, at the time of the ex-ante evaluation (basic design study), the Mongolian Action Plan for the 21<sup>st</sup> Century (1999) stated the importance of education as a drive to sustainable social and economic development. The Action Plan of the Government of Mongolia for 2000-2005 (1999) that was formulated as implementation plan of the above plan included the construction and the expansion of schools to ease overcrowding in classrooms, and the operation, maintenance and rehabilitation of schools in rural areas as concrete strategies to provide equitable opportunity and access to education. At the time of the ex-post evaluation, the Action Plan of the Government of mongolia for 2008-2012 (2008) focused on the development of public education in line with an international standard,<sup>4</sup> and the improvement of education and school enrollment rates to produce continuously creative and intellectual human resources.

With regard to the education sector policy, the Basic Principle of Education Reform 1997-2005 (1996) placed emphasis on overcoming the shortage of education facilities. The Education Sector Strategy of Mongolia 2000-2005(1999) included the rehabilitation, the extension and the construction of classrooms and dormitories in rural areas and continuous provision of furniture and educational equipment as concrete means for the improvement of school facilities and educational equipment. Afterwards, the Master Plan to Develop Education of Mongolia in 2006-2015 (2006) focused on the improvement of disparities in educational opportunities and the creation of an environment and conditions to provide quality education as objectives of primary and secondary education. This Master Plan maintains the improvement of the environment of primary education as a priority concern, even after it was revised in 2011.

<sup>&</sup>lt;sup>2</sup> A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

<sup>&</sup>lt;sup>3</sup> ③: High, ② Fair, ① Low

<sup>&</sup>lt;sup>4</sup> In Mongolia, a transition to a 12-year general school system has been underway as part of educational reforms to meet international education standards. In the Education Reform Principles issued in 1997, the long-term goal is a 12-year general school system instead of the conventional 10-year system, and as the first phase toward this goal, the Revised Education Law was issued in 2002 which set forth an 11-year general school year system (out of which five years are in primary education and four years in lower secondary education, and a total of nine years are mandatory). In line with this law, an 11-year school system was introduced, with the school age brought down to seven years old from the previous age of eight years old in 2005-2006. In the school year of 2008-09, the school age was further brought down to six years old. The plan is to complete the transition to a 12-year system by 2015.

#### 3.1.2 Relevance with the Development Needs of Mongolia

(1) Sufficient level of education facilities at the time of the basic design study

From the late 1990s to when the basic design study was conducted, there was a drastic increase in school enrollment rates in the target provinces, and hence, the need for the improvement of elementary and secondary education facilities was quite high. As indicated in the table below, between 1995 and 1999, the enrolment rate in general education rose by 17.5% in Darkhan-Uul Province and 32.6% in Orkhon Province, and for 2000/2001, rose by 7.2% and 9.5% respectively. The number of schools, on the other hand, increased from twenty in 1995 to twenty-one in 2000 in Darkhan-Uul, and from twelve to nineteen in Orkhon, far from accommodating the increased demand. Incapable of handling the sudden increase of students, there were many schools in these two provinces that had no choice but to provide a substandard educational environment, such as dividing school hours into three shifts or conducting classes in the hallways, horse stables and meeting halls. There was a desperate need for more classrooms in the target provinces.

#### (2) Demographics of the target area

When comparing the enrollments in general educational schools at the time of the basic design study (2001) and the target year of the first stage (2005), there was a 10.7 % increase in Darhan-Uul Province and a 9.7 % increase in Orkhon Province. A comparison between the general educational enrollment from 2003 (the base year for the second stage when an implementation review study was conducted) and the target year 2007 revealed a 6.4% decrease in Darkhan-Uul Province and a 6.1% decrease in Orkhon Province, indicating a decreasing trend in the number of children enrolled in school during the project (or from 2005 or 2006). As later described in 3.3, the number of students in the target schools has also been on the decrease, resulting in less-than-expected enrollment rates for the target year of the project. However, demographic movements were influenced by socio-economic conditions<sup>5</sup> and vary from year to year (refer to table 2-4)<sup>6</sup>, and this trend is considered to be an unpredictable external factor.

											(In the	ous. per	sons)
		1995	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Total	Number	403.8	470	494.6	510.3	527.9	537.3	557.5	556.9	542.5	537.5	532.1	522.1
Total	Growth rate (%)		16.4%	5.2%	3.2%	3.4%	1.8%	3.8%	-0.1%	-2.6%	-0.9%	-1.0%	-1.9%
Darkhan-	Number	16.6	19.5	20.9	21.4	21.7	22.0	22.2	23.7	22.1	20.6	19.8	19.1
Uul	Growth rate (%)		17.5%	7.2%	2.4%	1.4%	1.4%	0.9%	6.8%	-6.8%	-6.8%	-3.9%	-3.5%
Orkhon	Number	13.5	17.9	19.6	21.0	21.2	21.4	22.3	21.5	20.7	20.1	19.7	19.0
Orknon	Growth rate (%)		32.6%	9.5%	7.1%	1.0%	0.9%	4.2%	-3.6%	-3.7%	-2.9%	-2.0%	-3.6%
Illaanbaatar	Number	121.7	150.0	162.5	169.5	176.0	180	185.6	186.2	185.2	184.3	185.0	184.3
Olaalibaatai	Growth rate (%)		23.3%	8.3%	4.3%	3.8%	2.3%	3.1%	0.3%	-0.5%	-0.5%	0.4%	-0.4%

Table 1: Number of students in full-time general educational schools

Source: National Statistical Office of Mongolia

<sup>&</sup>lt;sup>5</sup> Some Mongolians choose to give birth in accordance with the Tibetan Buddhist calendar, which is said to cause the birthrates to fluctuate greatly depending on the year. Also, due to the nation's recent transition to a market economy, there has been continuous population flows from rural areas into urban areas since the 2000s.

<sup>&</sup>lt;sup>6</sup> Table 2, 3 and 4 show demographic movements of school-age children. Table 2: in Darkhan City where two target schools, Darkhan No. 4 and Od 3 schools are located, Table 3: in Hongol Soum where Darkhan No. 11 school is located, and Table 4: in Erdenet City of Orkhon province where seven target schools are located.

А	lge	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.4	Population	5,682	4,177	3,968	4,835	5,281	5,231	5,121	5,378	5,843	6,461
0-4 years	Growth rate(%)		-26.5	-5.0	21.8	9.2	-0.9	-2.1	5.0	8.6	10.6
5.0	Population	6,975	5,705	5,559	5,946	6,505	6,807	6,629	6,600	6,376	5,480
J-9 years	Growth rate(%)		-18.2	-2.6	7.0	9.4	4.6	-2.6	-0.4	-3.4	-14.1
10.14	Population	9,321	8,363	8,496	8,042	8,152	8,344	7,808	7,631	7,330	6,479
10-14 years	Growth rate(%)		-10.3	1.6	-5.3	1.4	2.4	-6.4	-2.3	-3.9	-11.6

Table 2: School-age population by 5-year age group (Darkhan City of Darkhan-Uul Province)

Source: National Statistical Office of Mongolia

Table 3: School-age population by 5-year age group (Hongol Soum of Darkhan-Uul Province)

А	lge	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.4	Population	706	670	653	631	588	500	511	444	471	572
0-4 years	Growth rate(%)		-5.1	-2.5	-3.4	-6.8	-15.0	2.2	-13.1	6.1	21.4
5.0	Population	732	673	661	628	622	660	642	433	417	572
J-9 years	Growth rate(%)		-8.1	-1.8	-5.0	-1.0	6.1	-2.7	-32.6	-3.7	37.2
10.14 years	Population	785	791	774	757	710	700	655	451	533	526
10-14 years	Growth rate(%)		0.8	-2.1	-2.2	-6.2	-1.4	-6.4	-31.1	18.2	-1.3

Source: National Statistical Office of Mongolia

Table 4: School-age population by 5-year age group (Erdenet City of Orkhon Province)

	U				<u> </u>						
A	Age	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
0.4	Population	5,909	6,073	6,167	6,111	5,674	5,960	5,870	6,420	6,699	7,573
0-4 years	Growth rate(%)		2.8	1.5	-0.9	-7.2	5.0	-1.5	9.4	4.3	13.0
5.0	Population	8,169	8,337	8,524	8,672	8,490	8,123	8,030	7,841	7,091	6,739
5-9 years	Growth rate(%)		2.1	2.2	1.7	-2.1	-4.3	-1.1	-2.4	-9.6	-5.0
10.14	Population	9,662	9,985	10,381	10,477	10,471	10,414	10,142	9,629	8,641	7,970
10-14 years	Growth rate(%)		3.3	4.0	0.9	-0.1	-0.5	-2.6	-5.1	-10.3	-7.8

Source: National Statistical Office of Mongolia

#### 3.1.3 Relevance with Japan's ODA Policy

The Japanese government has placed priority on assistance in four priority areas that include "support for basic human needs (education, health and medical services and water supply)", since policy dialogues on assistance policy were held between Japan and Mongolia through the High-Level Mission on Economic and Technical Cooperation in 1997. With regard to the education sector, the assistance policy included cooperation for the improvement of educational facilities and capacity building of teachers. In light of the above, this project is highly relevant with Japan's ODA policy at the time of the ex-ante evaluation.

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

#### 3.2 Efficiency (Rating: 2)

#### 3.2.1 Project Outputs

Outputs by the Japanese side, namely, construction of primary education facilities in the ten target schools as well as provision of furniture and basic materials, were produced as planned as mentioned below, although there were slight changes in design<sup>7</sup>.

Item		Plan			Actual	
Item	Total	Stage 1	Stage 2	Total	Stage 1	Stage 2
1. Construction of Facilities						
No. of Target Schools	10	4	6			
Classroom	117	60	57			
Students' Toilet (Large)	6	4	2			
Students' Toilet (Medium)	2	2	0			
Students' Toilet (Small)	3	0	3			
Students' Toilet (Extra Small)	2	0	2			
Teachers' Toilet	13	6	7			
2. Provision of Furniture & Equipme	ent (for cla	assrooms)				
Teachers' Desk	117	60	57			
Teachers' Chair	117	60	57	All item	s were pro	cured as
Students' 2-Seater Desk (Large)	1,026	540	486	planned.	1	
Students' 1-Seater Chair (Large)	2,052	1,080	972			
Students' 2-Seater Desk (Small)	1,080	540	540			
Student's 1-Seater Chair (Small)	2,160	1,080	1,080			
Blackboard	117	60	57			
Bulletin Board	117	60	57			
Meeting Table	31	14	17			
Chair	166	84	82			
Cabinet	55	30	25			
3. Provision of Educational Equipme	ent					
Basic Educational Equipment	10	4	6			

Table 5:	Main	outputs
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Outputs by the Mongolian side (securing of land for the project, land preparation work, removal of existing obstacles including buried objects, securing of access road to each project site, securing of space for storage of construction materials and connecting of temporary electrical power, water, and

<sup>&</sup>lt;sup>7</sup> The following changes were made to the initial design after the detailed design.

<sup>(1)</sup> Orkhon No. 18 school: Cancelation of the installation of a coal-run boiler and its accessory facility due to the direct connection of hot water pipes for heating. Installation of hot water service pipes to the building, ② Cancelation of the installation of a water tank due to the connection of the water main, ③ Cancelation of the installation of a fire hydrant and emergency warning equipment, ④ Cancelation of the installation of a sewer water storage tank, and the sewer water main has been connected, (2) Orkhon No. 16 and 17 schools: underground boilers and coal storage were moved to the first floor in other buildings, or underground coal storage was moved to an outside storage area, (3) Adding fire-resistant coatings on steel stair frames, and (4) Change of the rooftop inspection opening to an exterior ladder. The change indicated in (1) has been made because Orkhon province Erdenet City's had improved infrastructure, which had not been included in the original design. (4) Changes were due to the discontinued production of rooftop inspection openings.

sewage lines for construction, connecting of infrastructure to each project site including power lines, heating supply lines, water supply pipes, drainage lines and telephone lines) were produced as planned.

#### 3.2.2 Project Inputs

#### 3.2.2.1 Project Cost

The project cost borne by the Japanese side was lower than the planned cost. The actual grant cost was 1,788 million yen against the planned cost of 1,856 million yen (equal to 96% of the planned cost). The difference between the planned cost and the actual cost was caused by design changes and the difference between the ceiling cost of the tender and the contract cost for the construction works. For this ex-post evaluation, only the costs of the Japanese side were compared since the actual cost borne by the Mongolian side was not available.

#### 3.2.2.2 Project Period

The project period was significantly longer than planned. The actual project period was 64 months against the planned period of 37 months (173% of the planned period).

In the first stage, the actual period was 20 months against the planned period of 18.5 months. The difference was due to the fact that the detail design took eight months against the planned 6.5 months, since the procedure to change the detail design took time. The second stage took 44 months against the planned period of 18.5 months. This is due to: (1) the project being stopped only after the detailed design and bidding procedure by the consultant because of unsuccessful bidding to a select contractor, (2) following (1), an implementation review study had to be conducted from January to June 2005 in order to review the original design and the cost estimate, and (3) although the work was contracted in December 2005, construction works did not start until March 2006, a three-month delay to avoid severely cold winter. These factors, including unintentional ones, resulted in a total actual project period of 44 months for the second stage.

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

#### 3.3 Effectiveness (Rating: 2<sup>8</sup>)

- 3.3.1 Quantitative Effects
- 3.3.1.1 Results from Operation and Effect Indicators

After the overcrowded conditions were alleviated through this project,<sup>9</sup> the learning environment was significantly improved at the entire target schools compared to prior to the project; hence, the initial

<sup>&</sup>lt;sup>8</sup> Effectiveness is scored also in the light of factors regarding Impact.

<sup>&</sup>lt;sup>9</sup> The alleviation of the overcrowded condition refers to 36 students per classroom at maximum according to the Mongolian standard and two shift classes. The Orkhon No. 17 school, where twelve classrooms were constructed by this project, has maintained two shifts by using three classrooms of the existing school that are too old to use.

purpose of the project was achieved to a certain extent. On the other hand, at most of the target schools, both the school enrollment rate and the number of students per classroom were below the initial estimate. While the school enrollments at two of the target schools turned out to be 98% of the initial goal for that year, thus almost reaching the goal, five schools only had 50-70% of the initially expected number of students compared to the initial targets, and one school only had 36%. Considering that the project should have resulted in the appropriate number of students per improved classroom, the effectiveness of the project is limited, though external factors such as demographic movements were partially to blame (see Table 6).

ture		e	Target ye Target Ye	Target ear for the S ear for the S	tage 1: 2005 tage 2: 2007								Numbe	r of Stude	ents						
Prefec	School	Stag	Projected Enrollment	# of clrm after the project	Projected # of students per clrm	# of clam in use	# of students (2004- 2005)	# of students per clrm	# of students (2005- 2006)	# of students per clrm	# of students (2006- 2007)	# of students per clrm	# of students (2007- 2008)	# of students per clrm	# of students (2008- 2009)	# of students per clrm	# of students (2009- 2010)	# of students per clrm	# of students (2010- 2011)	# of students per clrm	Ratio to the initial target
Uul	Darkhan No. 4	2	1,436	21	68	20	$\searrow$	$\sum$	$\backslash$	$\sum$		$\sum$	1,036	52	1,076	54	1,098	55	1,121	56	82%
khan-	Darkhan No.11	2	678	13	52	13	$\searrow$	$\square$	$\backslash$	$\square$	$\backslash$	$\square$	373	29	395	30	373	29	341	26	50%
Dar	Darkhan Od-3	2	439	8	55	8	$\square$	$\square$	$\square$	$\square$		$\square$	n.a.	$\square$	286	36	279	35	266	33	61%
	Orkhon No. 2	2	899	13	69	13	$\searrow$	$\sum$	$\setminus$	$\sum$		$\sum$	563	43	556	43	513	39	569	44	63%
	Orkhon No.3	1	3,023	45	67	45	3,528	78	3,327	74	3,448	77	3,332	74	3,302	73	2,069	46	1,936	43	64%
-	Orkhon No.6	1	739	12	62	10		$\square$	$\square$	$\square$		$\square$	495	50	543	54	584	58	602	60	98%
rkho	Orkhon No.7	1	1,259	17	74	17	$\square$	$\square$		$\square$		$\square$	1,061	62	1,088	64	986	58	986	58	78%
0	Orkhon No.16	1	1,329	20	66	18	4,351	218	803	45	805	45	719	40	640	36	515	29	428	24	36%
	Orkhon No.17	1	793	12	66	15									830	55	994	66	973	65	98%
	Orkhon No.18	1	694	12	58	12	611	51	604	50	536	45	507	42	490	41	474	40	482	40	69%

Table 6: Secular change of the number of students

clrm: classroom

Note 1: The number in bold shows the result of the target year.

Note 2: The number of classrooms in use means classrooms currently used to give lessons.

Note 3: Orkhon No.17 school belonged to Naram Complex by the year 2007/2008 and became an independent school. The number of students per classroom was calculated according to each situation.

Below are the factors that may have caused fewer enrollments compared to the estimate.

#### ① Accuracy of school statistics

At the time of the basic design study, the number of students enrolled for the target year was calculated based upon the numbers reported to the Education and Culture Department of the respective target provinces by each target school every year. Interviewing school staff during this ex-post evaluation, however, revealed that the student numbers reported during the basic design study were larger than actual numbers. Although MECS's instruction has successfully made them report accurate student numbers for the last two to three years prior to this ex-post evaluation, such poor accuracy in basic information has become a major cause for discrepancies between the target and the actual number of students, and at the same time, a constraint on this evaluation. As a matter of fact, in the past schools tended to report larger number than the actual enrollment, as budgets are allocated to each school according to the number of students.

#### 2 Impact of school district reorganization and changes in the school system

Some school districts were combined and expanded due to the district reorganization and it was found that a significant number of students switched to some non-target schools with better facilities or downtown schools with kindergartens attached (i.e. Orkhon-3, 16, 18 schools).

In addition, most schools expected to have students in both primary schools (1st-4th grades in the 10-year system) and lower-secondary schools (5th-8th grades in the 10-year system) at the time of the basic design study. However, not only in the project's target schools but also in the entire target area, classroom allocation changed from the initial plan because of the changes to the school system implemented from the year 2005/2006 (from the 10-year system to an 11-year system), followed by school consolidations. For example, four schools out of the ten target schools expected to have students in both primary (1<sup>st</sup>-5<sup>th</sup> grades in the 11-year system) and lower-secondary (5<sup>th</sup>-8<sup>th</sup> grades in the 10-year system) programs, but it turned out that they only had students in the primary program (1<sup>st</sup>-5<sup>th</sup> grades in the 11-year system). In these cases, the numbers of students they expected for lower-secondary programs is almost equivalent to the differences between the target numbers and the actual numbers.

#### 3.3.2 Qualitative Effects

According to the answers to the questionnaires, the usability or the practicality of school facilities is judged to be almost good (except for some complaints about desks and chairs being too heavy to move, or too weak).<sup>10</sup> In the interviews with school principals and teachers, as well as in focus group discussions during the site visit,<sup>11</sup> schools built through this project developed good reputations for providing bright and warm atmospheres even during winter and a comfortable environment that motivate students to learn, and large blackboards for better usability and easier viewing.

1401	e n obdonnej	of belieoof fuelin	lities	
	Very Good	Good	Poor	Very Poor
Brightness (Daylight)	7	3	0	0
Classroom Size	7	3	0	0
Desks for Students	3	4	2	1
Chairs for Students	2	5	2	1
Desks for Teachers	3	6	1	0
Chairs for Teachers	3	4	3	0
Blackboard	6	4	0	0
Bulletin Board	5	4	1	0

Table 7: Usability of school facilities

Source : Result of the questionnaires

Note: The above result is the answers from the respective ten target schools.

Newly provided school equipment is also being utilized effectively and contributing to an increase in

<sup>&</sup>lt;sup>10</sup> Desks and chairs were made to Mongolian standard specifications at the time of project planning, but they are now made lighter, and desk heights are adjustable.

<sup>&</sup>lt;sup>11</sup> The focus group discussions were organized in each target school (ten target schools) in January 2011 during the field survey. A total of 105 people participated in the discussions including teachers, staff, parents and students.

students' enthusiasm for learning. Specifically, in math classes, various shaped rulers are useful for drawing shapes on the blackboards, or even simply showing differently shaped rulers makes teaching easier. And in another class, it was confirmed that using a map of Mongolia actually promotes students' interest in the subject.

This project has somewhat achieved its objectives; therefore, its effectiveness is fair.

## 3.4 Impact

#### 3.4.1 Intended Impacts

The following impacts were confirmed through the result of the questionnaires distributed to the target schools, interviews with principals and teachers during the field survey and the focus group discussions organized as a beneficiary survey of this ex-post evaluation.

3.4.1.1 Change in motivation for school attendance and learning (decrease in absences/tardiness)<sup>12</sup> It became more convenient to commute to school because students now attend schools closer to their homes, taking less time to commute and eliminating the need to take buses early in the morning or late at night. This has led to less absences and a decrease in incidences of students arriving late. The trend is particularly significant at four schools built in the Ger area (Od-3 school in Darkhan-Uul Province, No. 16, 17, 18 schools in Orkhon Province). Other positive changes have been also recognized, including that, "students find schools to be fun places, and thus they do not skip or refuse to go to school anymore," and, "improved sanitary conditions reduced absences from sickness."

#### 3.4.1.2 Improved quality of classes and academic performance<sup>13</sup>

With teachers' rooms and heating equipment improved by this project, teachers' working shifts decreased from three shifts to two or even one, which has provided teachers with more time to explore better teaching methods or prepare for their classes. In addition, school equipment provided by this project is well utilized to enhance their teaching. Such improvements in the teaching environment have led to improvements in teaching content, which in turn boosts students' academic performance. These positive effects are clearly demonstrated by the fact that teachers and students of the target schools have been awarded various province- or nation-wide academic prizes as shown in the table below.

 $<sup>^{12}</sup>$  This impact was not expected at the time of the basic design study and was added and examined for this ex-post evaluation.

 $<sup>^{13}</sup>$  This impact was not expected at the time of the basic design study and was added and examined for this ex-post evaluation.

	· ·
School	Award Content
Darkhan No. 4	• Awarded by the province in 2007, 2008 and 2009 for excellent academic results
	• First prize in 2010 at a national academic contest
	• More than twenty teachers won prizes including the highest prize in a
	national teaching competition. Topics awarded were history, society,
	chemistry, biology, Mongolian language and physics
Darkhan Od-3	• Awarded by the nation in 2009 and 2010 as a school that achieved the
	objective "to achieve $90 - 100$ % of the initial target in regard to the
	preparation of classes"
Orkhon No. 2	• In a national presentation competition, a chemistry teacher won the first
	prize in 2009 and a special award in 2010
Orkhon No. 7	• A mathematics teacher won third prize in a national teaching competition
Orkhon No. 16	• Several teachers won prizes in 2011 in competitions: first prize in
(Orkhon	Mongolian language, third prize in Mongolian characters and third prize in
Complex)	history.
	Selected as one of best twenty schools in top-level management

Table 8: Schools awarded by the nation or province

Source: Answers to the questionnaires, result of the focus group discussions

#### 3.4.1.3 Enhanced school life through more extra-curriculum activities

Shorter commute times and reduced shifts have given more time for after-school club activities, and supplemental study and homework time (particularly for students with no heat at home). As an indication of this effect, it should be noted that Orkhon No. 6 school (Bayan-Undur Complex school) and Orkhon No. 16 (Orkhon complex school) were chosen as "the school with most flourishing club activities of the year" by MECS for the year 2008/2009 and 2010/2011 respectively.

# 3.4.1.4 Utilizing school facilities for community activities

At the time of the basic design study, the school facilities targeted by this project were expected to have the indirect effect of serving communities with insufficient infrastructure or public facilities. Four out of the ten target schools have been confirmed as being utilized for various events in the community, residents' meetings, and voting stations.

# 3.4.1.5 Ripple effects on neighboring schools

According to the Education and Culture Department of Orkhon Province, improvements brought by this project have had a ripple effect on surrounding schools. As the educational environment of target schools improved, their teachers and students have become more enthusiastic and worked harder. This change also had positive effects on other schools, boosting the competitiveness of the entire province. This ripple effect has resulted in, for example, an increase in national academic awards given to schools in the province.<sup>14</sup>

<sup>&</sup>lt;sup>14</sup> In the national contest in the year 2010/2011, fourty seven teachers and students participated in competion of thirteen subjects from Orkhon Province. Three of them won the highest award, three won prizes for excellence and three won third prize.

#### 3.4.2 Other Impacts

There was no land acquisition and resettlement for this project. No impact on the natural environment due to the construction of school facilities was reported.

In light of the above, in addition to indirect impacts expected at the time of the basic design study, various impacts such as the change in motivation for school attendance and learning, improved quality of classes and academic performance, and a ripple effect on neighboring schools have been also confirmed.

#### 3.5 Sustainability (Rating: ③)

- 3.5.1 Structural Aspects of Operation and Maintenance
- (1) System at School Level

Staff personnel in charge of facility/equipment operation and maintenance are assigned to each school, and conduct routine check-ups, simple repairs and maintenance, as well as regular reporting to the principal on operations and maintenance. For serious failures that the school is unable to handle, the Construction Department of the provinces or city heating company (for heating equipment) will take necessary measures upon request from the school. Schools may also directly contract the repair work to private repair companies in the area or in Ulaanbaatar City.

## (2) Function of School Committees

Each school has a school committee comprising of school staff, local residents, parents and students. There is no rule for the number of members or composition, and thus they vary by school. Tasks of school committees include the approval of school management strategies, plans, policies and financial reporting, annual evaluations of school operations, auditing school operation reports, coordinating various opinions on education, making proposals for improvement plans, and auditing school administration.

There is an established school-wide operation and maintenance system in which daily operations and maintenance work of school facilities and equipment are supported not only by the school, but also with the participation of parents and the local community.

#### 3.5.2 Technical Aspects of Operation and Maintenance

There is no problem in the operation and maintenance of school facilities/equipment from technical aspects since they have been appropriately maintained except for serious failures that are technically too difficult to repair for the target schools. Most repair works have been done without trouble by technical staff at each school. (For details of facility failure, please see 3.5.4 Current Status of Operation and Maintenance)

School facilities and classroom furniture are maintained by teachers, staff and parents. At most target

schools, there has been some minor failure of doors, windows, furniture (desks and chairs), or cracks in the walls. In most cases, they have been repaired by school staff and parents during summer vacations.

#### 3.5.3 Financial Aspects of Operation and Maintenance

There is no concern with regard to financial aspects of the operation and maintenance of facilities constructed by this project, since the national budget for the education sector has been constantly secured. Operation and maintenance costs have also been constantly secured by finding various financial sources in addition to the ordinary budget in the target two provinces, and necessary costs have been maintained at the level of individual schools by collecting a certain contribution from parents as necessary.

#### (1) Budget of MECS

The national budget and the budget for the education sector under the jurisdiction of MECS are indicated in the table below. The education budget has been occupying 12-17% of the national budget and it has been increasing every year along with the recent rapid economic growth. The annual expenditure of MECS is approximately 1.5 billion Tg for the renewal of educational facilities and equipment. For the fiscal year 2010, 1.05 billion Tg was allocated to renovate 201 educational facilities, with 840 million Tg expended for the renovation of dormitories and kindergartens. The renovation/renewal budget for schools and kindergartens increased to 920 million Tg for the fiscal year 2011.

							(In mil. Tg)
	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
1. National Budget	615,771.3	752,486.4	764,597.1	1,237,008.0	1,747,310.5	2,466,774.4	2,321,599.6
2. Budget for the Education Sector	105,550.5	132,528.0	136,935.9	181,099.5	216,034.5	348,023.4	361,599.6
3. Gross Domestic Product (GDP)	1,461,169.2	1,910,880.9	2,266,505.5	3,715,000.0	5,464,300.0	6,130,300.0	6,482,000.0
Ratio of the Budget for the Education Sector to the National Budget	17.1%	17.6%	17.9%	14.6%	12.4%	14.1%	15.6%
Ratio of the Budget for the Education Sector to the GDP	7.2%	6.9%	6.0%	4.9%	4.0%	5.7%	5.6%

Table 9: National budget and budget for the education sector

Source: MECS

(2) Budget for the Education and Culture Department of the Target Provinces

In both provinces, large parts of the provinces' budget for education go to salaries and social insurance. These expense items constitute 60-70% and 70-80% of the provinces' education budget in Darkhan-Uul Province and Orkhon Province respectively.

												(	In mil.	Tg)
	2003	/2004	2004/2005		2005/2006		2006/2007		2007/2008		2008/2009		2009/2010	
Item	Amount	Ratio(%)	Amount	Ratio(%)	Amount	Ratio(%)	Amount	Ratio(%)	Amount	Ratio(%)	Amount	Ratio(%)	Amount	Ratio(%)
1. Salary	1,368	49.4	1,670	49.3	1,874	50.1	2,443	51.9	3,771	49.6	6,316	63.6	6,834	62.9
2. Insurance	359.1	13.0	435.8	12.9	493.2	13.2	655.8	13.9	995	13.1	631.9	6.4	657.8	6.1
3. Electricity	63.7	2.3	66.5	2.0	63.2	1.7	68.7	1.5	66.7	0.9	83.5	0.8	85.2	0.8
4. Heating	448.9	16.2	469.5	13.8	647.4	17.3	737.8	15.7	803.7	10.6	930.2	9.4	1,220.4	11.2
5. Water Supply & Treatment	47.2	1.7	65.8	1.9	70.7	1.9	77.4	1.6	117.2	1.5	118.1	1.2	112.9	1.0
6. Current Renovation	131.5	4.7	198.8	5.9	90.3	2.4	91.1	1.9	65.2	0.9	83.9	0.8	52.8	0.5
7. Food	212.1	7.7	247.3	7.3	287.7	7.7	385.1	8.2	342.3	4.5	494.8	5.0	676.5	6.2
8.Other	139.1	5.0	236.6	7.0	216.8	5.8	249.1	5.3	1,446.0	19.0	1,279.7	12.9	1,218	11.2
Total	2,769.5	100.0	3,390.2	100.0	3,743	100.0	4,708	100.0	7,607	100.0	9,939	100.0	10,858	100.0

Table 10: Education budget of Orkhon Province

Source: Education and Culture Department of Orkhon Province

														(	In mi	1. Tg)
Itom	2003/2004		2004/2005		2005/2006		2006/2007		2007/2008		2008/2009		2009/2010		2010/2011	
nem	Amount	Ratio(%)														
1. Salaries	1,181	62.0	1,438.5	59.8	1,512.5	58.7	2,127.7	63.0	2,981.1	65.0	4,744.5	69.3	4,743.6	69.7	5,110.6	68.6
2. Social Insurance	311.7	16.4	379.8	15.8	399.3	15.5	563.4	16.7	787.0	17.2	474.4	6.9	521.8	7.7	562.2	7.5
3. Electricity	29.7	1.6	30.7	1.3	33.2	1.3	33.2	1.0	43.6	0.9	50.9	0.7	46.3	0.7	56.3	0.8
4. Heating	281.9	14.8	373.3	15.5	433.4	16.8	433.7	12.9	505.4	11.0	506.1	7.4	477.7	7.0	517.7	7.0
5. Water Supply & Treatment	45.2	2.4	62.8	2.6	74.8	2.9	74.8	2.2	106.0	2.3	107.3	1.6	120.9	1.8	129.2	1.7
6. Current Renovation	9.5	0.5	37.3	1.5	37.3	1.4	15.9	0.5	21.6	0.5	27.9	0.4	13.6	0.2	39.1	0.5
7. Food	11.4	0.6	18.9	0.8	22.2	0.9	32.5	1.0	35.8	0.8	42.5	0.6	41.4	0.6	33.1	0.4
8.Other	33.529	1.8	63.680	2.6	61.846	2.4	93.707	2.8	107.552	2.3	895.143	13.1	842.128	12.4	999.264	13.4
Total	1,903.7	100.0	2,404.9	100.0	2,574.6	100.0	3,374.9	100.0	4,588.1	100.0	6,848.8	100.0	6,807.4	100.0	7,447.3	100.0

Table 11: Education budget of Darkhan-Uul Province

Source: Education and Culture Department of Darkhan-Uul Province

Costs for current renovations allocated as facility maintenance (and repair) costs, on the other hand, do not take up very much of the ordinary budget. In Darkhan-Uul Province, less than 1% has been allocated since the project completion (after 2007). In Orkhon Province, nearly 6% had been allocated for facility maintenance in the year 2004/2005 but the budget for current renovation has been a decreasing trend every year. According to the target provinces' Education and Culture departments, old and decrepit schools and kindergartens are given priority for national budget allocations distributed for facility renovation/renewal, and relatively new facilities, such as ones targeted by this project, have little chance of receiving the budget. The Education and Culture Department of the target provinces, therefore, has been receiving funds other than from the national budget to cover extra budgetary repair costs if necessary.<sup>15</sup>

<sup>&</sup>lt;sup>15</sup> Various sources include special budget funds from the Minister of Education, Culture and Science, City budget, donations from factories (copper plants in the case of Orkhon Province, steel plants in the case of Darkhan-Uul Province), and investment from the World Bank or the Asian Development Bank (in the case of Darkhan-Uul Province).

#### (1) School Budget

Each school first applies for its budget to the Education and Culture Department of the province, and then the Education and Culture Department submits it to MECS for compilation. There has been no change in the breakdown of expense items of seven target schools in Orkhon Province; with approximately 60% for salaries, wages and supplementary costs, and 10% for social insurance, totaling 70% for each school. A uniform 0.5% is allocated for current renovations (maintenance). The table below shows the budget for Orkhon No. 3 school as an example (the amount varies by school, but the ratio is the same.)

(In mil. Tg)															
Item		2004/2005		2005/2006		2006/2007		2007/2008		2008/2009		2009/2010		2010/2011	
		Amount	Ratio(%)												
1	Salaries	106.2	61.3%	113.0	61.3%	141.3	61.3%	167.9	61.3%	214.5	61.3%	272.2	61.3%	306.8	61.3%
2	Insurance	17.3	10.0%	18.4	10.0%	23.0	10.0%	27.4	10.0%	34.9	10.0%	44.3	10.0%	50.0	10.0%
3	Electricity	2.5	1.5%	2.7	1.5%	3.3	1.5%	4.0	1.5%	5.1	1.5%	6.4	1.5%	7.3	1.5%
4	Heating	17.2	9.9%	18.3	9.9%	22.8	9.9%	27.1	9.9%	34.7	9.9%	44.0	9.9%	49.6	9.9%
5	Water Supply & Treatment	3.7	2.2%	4.0	2.2%	5.0	2.2%	5.9	2.2%	7.5	2.2%	9.6	2.2%	10.8	2.2%
6	Current Renovation	0.9	0.5%	1.0	0.5%	1.2	0.5%	1.5	0.5%	1.9	0.5%	2.4	0.5%	2.7	0.5%
7	Food	12.6	7.3%	13.4	7.3%	16.7	7.3%	19.9	7.3%	25.4	7.3%	32.2	7.3%	36.3	7.3%
8	Training	3.2	1.8%	3.4	1.8%	4.2	1.8%	5.0	1.8%	6.4	1.8%	8.2	1.8%	9.2	1.8%
9	Other	9.8	5.6%	10.4	5.6%	13.0	5.6%	15.4	5.6%	19.7	5.6%	25.0	5.6%	28.2	5.6%
	Total	173.4	100.0%	184.5	100.0%	230.7	100.0%	274.2	100.0%	350.1	100.0%	444.3	100.0%	500.8	100.0%

Table 12: School budget (Orkhon No. 3 School)

Source: Education and Culture Department of Orkhon Province

In the case of Darkhan-Uul Province, labor expenses make up 40-70% of the overall budget while 0.5-3% is set aside for maintenance.<sup>16</sup>

According to the answers to the questionnaires and interviews, eight out of ten target schools do not have a sufficient maintenance budget, and each school saves on other expense items to finance facility repair works, or collects small amounts of money (about 1,000-2,500 MNT) from parents as a school building maintenance fee (for walls, doors and/or equipment) to cover maintenance and minor repair costs of classroom equipment. In cases when it is necessary to allocate extra maintenance costs, schools have been able to manage extra budgetary repair works by appropriating other expenses or resources, as mentioned earlier. Thanks to these financing efforts, there have not been any cases where necessary repairs have been delayed because of the unavailability of the maintenance budget. We can therefore expect that there will not be any major financing problems with facility operations and maintenance unless some serious failures occur.

#### 3.5.4 Current Status of Operation and Maintenance

Interviews and site visits revealed that each school building is cleaned daily, and educational materials provided by this project are well organized and stored in designated spaces. Furthermore, there are slogans and illustrations posted on hallways and walls, and physical exercise spaces set up in hallways

<sup>&</sup>lt;sup>16</sup> In the case of three target schools in Darkhan-Uul Province, the breakdown ration differs by year and by school.

for students to get enough exercise during the winter when it is too cold to play outside. This leads us to conclude that the school facilities improved by this project have been well and carefully managed and maintained.



Physical exercise space in hallways (Darkhan Od-3 School)



Toilets cleanly maintained even 7 years after the completion of the project (Orkhon No. 16 school)

As mentioned above, target schools check on facility and equipment conditions on a regular basis, and conduct regular maintenance and minor repair works. School facilities and equipment have been well maintained except for the following:

At the time of the ex-post evaluation, four schools were found to have leaky roofs, one school had a failure with a water heater, and three schools had out-of-order toilets. None of these problems is causing major damage to the functioning of the school.

Regarding the four schools with leaky roofs, two schools in Darkhan-Uul Province built during the second stage still had a valid five-year waterproof warranty, and thus the roofs were repaired by a contractor from July to August 2011. The other two schools with leaky roofs in Orkhon Province had been built during the first stage and completed in 2004, and have not had their roofs repaired completely, although the schools have taken various measures including repainting the ceilings and replacing vinyl sheets. Because the warranties for these schools have expired, the Mongolian side continues to take care of the problems in these two schools. Despite remedial measures taken by schools, the Education and Culture Department and contractors in the target province, failures with water heaters and toilets have not yet been rectified. Currently, they are contacting an appropriate contractor in Ulaanbaatar City, and continuing their repair.

No major problems have been observed in the operation and maintenance system; therefore, the sustainability of the project effect is high.

- 4. Conclusion, Lessons Learned and Recommendations
- 4.1 Conclusion

This project was implemented in order to ease overcrowded classrooms and to improve learning environments by constructing classrooms and other facilities and providing educational equipment and teaching materials to the ten target schools. The improvement of the learning environment of primary education is relevant to Mongolia's development plan and development needs, as well as to Japan's ODA policy; therefore, its relevance is high. The efficiency of the project was judged to be fair, because the project period significantly exceeded the planned period. This resulted from unintended factors, including the unsuccessful bidding for selected contractors for construction works in the second stage and a subsequent implementation review study to review the original design and the cost estimate. In regards to the effectiveness of this project, although the number of classrooms has increased as planned and overcrowding has eased, it has been observed that many schools received a smaller number of students per classroom than the Mongolian standard (36 students per classroom). This was due to a decrease in the population of school-age children and primary school enrollments in the target area, and the reorganization of school districts and changes in the school year system. In the meantime, less crowded classrooms and better school equipment have improved the learning environment and helped students to be better motivated to attend school and learn and have also helped teachers to prepare for lessons more efficiently. Overall, the effectiveness of the project is found to be fair, considering that it has led to a higher lesson quality and higher academic achievements.

As for the sustainability, each school has adequately appointed staff personnel in charge of the operation and maintenance of facilities/equipment and has well-functioning school committees consisting of parents and local community members. Therefore, there is no problem with schools' operation/management structures. Also, no financial problems have been observed since operation and maintenance expenses of constructed facilities have been sufficiently covered by various funding sources. Facilities and equipment that were improved and provided by the project have been used carefully and very well kept with minor repair work done by each school, indicating no major problem with status of operation and maintenance.

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

#### 4.2 Recommendations

- 4.2.1 Recommendations to the Executing Agency
- (1) Improving the accuracy of basic data

During the ex-post evaluation, it was found that school enrollment figures reported to the consultant at the basic design study may have been larger than actual figures. For the last two to three years, MECS has strengthened its supervision to determine and report accurate numbers of registered students. It is recommended that this trend is continued, as the availability of such basic data is crucial for accurately identifying development needs, planning for suitable aid programs, and making appropriate evaluations before and after the project.

#### (2) Remedial measures for leaky roofs

Despite repeated repair efforts on the part of the schools, leaky roofs of two schools in Orkhon Province have not been completely repaired, partially due to difficulties in identifying the exact locations of the leaks. In consideration of this situation, it is recommended that the Mongolian side (Education and Culture Department and schools) take necessary measures as soon as possible, with technical assistance (such as identifying the causes of failure, effective repair methods and materials) sought from specialized contractors with expertise.

# Column 1 : Involvement of Japan Overseas Cooperation Volunteers in enhancing school education

A Japan Overseas Cooperation Volunteer (JOCV, Field: Youth Activity) has been dispatched to Orkhon No. 6 school to help students who are unwilling to attend school or study by teaching them the joy of creation through arts and craft lessons so that they have something to look forward to at school. For example, he taught students how to make ornaments using readily available materials (recycled paper), displayed works made by students on a bulletin board provided by this project, and as a school club activity, taught them about the history of paper, and initiated a number of other activities. On "Teachers Day" this year, he was chosen as the "most favorable teacher". This is a good example of a synergetic effect of an effective JOCV activity enhancing school education at the schools built by the grant aid provided by Japan.



Students' works displayed on a bulletin board provided by this project



Students' works individually kept

**Column 2: Effectiveness of the linkage between a technical cooperation project and a grant aid** In addition to the improvement in learning environments by this project, JICA's technical cooperation project called the "Teaching Methods Improvement Project Towards Children's Development in Mongolia" (2006-2009) has developed school materials, which were distributed to schools nationwide through provincial education and culture departments, and contributed to improving the quality of school education (the materials developed by the above project were printed and distributed nationwide, by taking advantage of the collateral fund for food aid).<sup>17</sup> Comments from school teachers who utilize these materials include: "We've received 27 science textbooks. I find them all very useful, and use them every day", "These materials changed our teaching method, and children understand better", and, "I have taken the training based on this textbook. The textbooks were distributed to every teacher, and so we all have our own to use every day, which is very convenient." Overall, comments indicate positive effects they have on lessons.

# **Column 3: Thanks from Mongolia**

Improvement of school facilities implemented by this project also nurtured appreciation and friendship toward Japan among involved parties in the target provinces, and teachers and students of target schools has been keeping the schools well with appreciation in their hearts. Following the Great East Japan Earthquake in March 2011, a fund-raising was initiated by teachers, parents and students of ten schools built by this project, to show their condolences and goodwill toward Japan.

<sup>&</sup>lt;sup>17</sup> Collateral funds are funds produced through the sale of products bought by the recipient country through a loan or grant aid.