

Islamic Republic of Pakistan

Ex-Post Evaluation of Japanese ODA Loan Project

“Balochistan Middle Level Education Project”

External Evaluator: Nobuyuki Kobayashi, OPMAC Corporation

0. Summary

The objective of this project is to increase the number of children enrolled in lower secondary education¹ in the target schools and widen the coverage of technical education by constructing middle schools and Technical Trade Centers and by training teachers, thereby contributing to equal educational opportunity for boys and girls in the Province of Balochistan.

At the time of both the appraisal and the ex-post evaluation, the Pakistan government regarded reducing educational disparity as one of its important policy goals. Solving a bottleneck in lower secondary education and improving access to education for girls was needed particularly in the Province of Balochistan. Thus, the relevance of this project is high as this project has been highly relevant to the country’s educational policy and development needs, as well as Japan’s ODA policy. While the cost of this project decreased due to the depreciation of the local currency against the yen, the completion of the project was delayed significantly because of delays in the procurement process and a longer construction period. Based on the above, efficiency of the project is fair. At the time of the ex-post evaluation, this project upgraded 200 target schools (80 boys’ schools and 120 girls’ schools) to middle schools and the number of students in these schools achieved approximately 80% of the target. While the number of male students reached approximately 60% of the target, the number of female students was almost as planned. Out of an increase in the number of schools providing lower secondary education in the period “before” and “after” project implementation, schools upgraded by this project accounted for approximately 20% in the province. An increase in the number of students in lower secondary education in the project’s target schools accounted for 10% of that in the province for the same period. On the other hand, due to a policy change in the Balochistan government, technical education was conducted in higher secondary education. Formal technical education was not carried out in the target schools. Thus, effectiveness and impact of the project are fair. On sustainability of this project, operation and maintenance responsibilities for facilities and equipment were clearly defined. The technical level was appropriate for the construction of facilities and the provision of equipment. Budget for secondary education had been increasing. As no major problem was found in intuitional, technical, and financial aspects, the sustainability of the project effects is high.

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

¹ In the Pakistan school system, primary education covers from the first to the fifth grade, lower secondary from the sixth to the eighth grade, and higher secondary education from the ninth to the tenth grade. Both primary education and secondary education are conducted in the same school. Primary schools provide primary education, middle schools provide primary education and lower secondary education, and high schools provide all levels: primary education, lower secondary education, and higher secondary education.

1. Project Description



Project site



Target school of this Project
(Nodiz Girl's Middle School)

1.1 Background

The Balochistan province is located in the south-western part of Pakistan and its vast territory accounts for more than 40% of the country. In the mid-1990s, the construction of schools in the Balochistan province was less than other provinces and the number of schools was considered insufficient compared to the number of students. In particular, the number of middle schools was much smaller than that of primary schools and, therefore, lower secondary education became a bottleneck for further education. In 1995, prior to the project's commencement, the number of middle schools was less than 10% of the number of primary schools and many classrooms could not be used for lessons due to the age of the school buildings and the lack of equipment. Lower secondary education was based on a single-sex system in Pakistan. As the number of girls' schools was smaller than that of boys' schools, girls faced constraints in access to lower secondary education. This tendency was remarkable in Balochistan as boys' schools accounted for more than 80% of the middle schools during the mid-1990s. In tandem with the vast territory of the province, an opportunity to have secondary education was slim for girls except in the provincial capital Quetta.

To cope with these challenges, the Pakistani government had an education policy to alleviate regional and gender disparities. In line with the policy objective, this project was designed to be launched in the Balochistan province where these disparities were significant. This project built facilities to conduct secondary education in primary schools in order to upgrade the existing schools to middle schools.

1.2 Project Outline

The objective of this project is to increase the number of children enrolled in lower secondary education in target schools and widen the coverage of technical education by construction of middle schools (80 boys' school and 120 girls' school) and Technical Trade Centers and by

training teachers, thereby contributing to equal educational opportunity for boys and girls in the Province of Balochistan.

Loan Approved Amount/ Disbursed Amount	3,917million yen / 1,510million yen
Exchange of Notes Date/ Loan Agreement Signing Date	August 1996 / March 1997
Terms and Conditions	Interest Rate 2.3% Repayment Period 30 year (Grace Period) (10 year) Conditions for General untied Procurement: (Consulting service is general untied)
Borrower / Executing Agency	The President of the Islamic Republic of Pakistan / Education Department, Government of Balochistan
Final Disbursement Date	November 2011
Main Contractor (Over 1 billion yen)	-
Main Consultant (Over 100 million yen)	Oriental Consultants Co., Ltd. (Japan) /International Consulting Engineers of Pakistan (Pakistan) /National Engineering Corporation (Pakistan) (JV)
Feasibility Studies, etc.	-
Related Projects	-

2. Outline of the Evaluation Study

2.1 External Evaluator

Nobuyuki Kobayashi, OPMAC Corporation

2.2 Duration of Evaluation Study

Duration of the Study: August 2014 – October 2015

Duration of the Field Study: May 9, 2015 – May 18, 2015

2.3 Constraints during the Evaluation Study

The external evaluator could not enter the project area and inspect constructed facilities since security concerns limited the Field Study to Islamabad. For this reason, the judgement regarding the sustainability of the project is based on information regarding institutional, technical, and financial aspects.

3. Results of the Evaluation (Overall Rating: B²)

3.1 Relevance (Rating: ③³)

3.1.1 Relevance to the Development Plan of Pakistan

At the time of appraisal, the Eighth Five-year Plan (FY 1992/93 - FY 1997/98), prioritized tasks in the educational sectors including reduction of gender and regional disparities in education, qualitative improvement of education such as more educational facilities and equipment, a curriculum to meet demand, and expansion and qualitative improvement of technical education for better employment opportunities. In addition, the plan also supported the acceleration of the Social Action Plan (hereinafter referred to as “SAP”). SAP aimed at social development and covered education, poverty alleviation, improvement of sanitary conditions, and women’s empowerment. As the four policy priorities of SAP included basic education, SAP planned for improvement in school environments, teacher training and deployment, and the construction of school buildings.

At the time of the ex-post evaluation, the Vision 2025, a long-term national development plan which was approved in 2014, pointed out that enrollment rates were low at all educational levels and that enrollment rate significantly dropped from primary to secondary education and from secondary to higher education. The strategy also mentioned that the enrollment rate for girls was lower than that for boys and recognized gender disparity as a policy issue. The National Educational Policy (2009) emphasized that (1) access to education should be broadened to include all people and (2) the quality of education should be improved in line with the needs of the Pakistan economy. Based on the second priority, the policy aimed at formal technical education to reflect the private sector’s opinion and local needs. Furthermore, the Balochistan Education Sector Plan 2013-2018 had set specific targets on access to education. These targets were to increase the gross enrollment ratio⁴ of lower secondary education from 26% in FY 2010/11 to 32% in 2017/18 and to improve the gender disparity index⁵ for lower secondary education in public schools from 0.57 to 0.62 during the same period. In order to promote the improved access to lower secondary education, the plan also recommended that the ratio of primary schools to middle schools should be 1:3 with an emphasis on girls’ schools.

At the time of both appraisal and the ex-post evaluation, the long-term national development plans and the sector plans recognized closing educational disparities as a crucial policy goal. The Balochistan province is an area where gender and regional disparities were significant in education. As lower secondary education had become a bottleneck in the province, policy actions were strongly demanded. The project

² A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

³ ③: High, ② ¥: Fair, ①: Low

⁴ Gross enrollment ratio is the ratio of total enrollment to the population of the age group that officially corresponds to the level of education.

⁵ Gender disparity index is calculated by dividing gross enrollment ration of girls by that of boys.

implementation in the province was justified for the achievement of the policy goals.

For the above reasons, the implementation of this project has been consistent with the development plan in Pakistan.

3.1.2 Relevance to the Development Needs of Pakistan

At the time of appraisal, the insufficient number of middle schools had been a factor behind the difficulty in advancing to lower secondary education (Sixth to Eighth grades). Access to lower secondary education was particularly difficult for girls. In FY 1994/95, the Balochistan province had 8,011 primary schools (6,791 boys' schools and 1,220 girls' schools), 623 middle schools (531 boys' schools and 92 girls' schools), and 361 high schools (296 boys' schools and 65 girls' schools). Many of the schools could provide education only from the first to fifth grade and, in conjunction with this situation, insufficient number of middle schools caused limited access to lower secondary education. On the availability of middle and high schools, a girls' school was built for every 2,211 km². Such geographical factors make it difficult for female students to commute for lower and higher secondary education.

At the time of ex-post evaluation, access to lower secondary education in the Balochistan province could be improved much further. The data in FY 2013/14 showed that the Balochistan province had 10,585 primary schools (7,807 boys' schools and 2,778 girls' schools), 1,165 middle schools (670 boys' schools and 495 girls' schools) and 783 high schools (550 boys' schools and 233 girls' schools). Compared with the desirable ratio in the Balochistan Education Sector Plan (Middle School: Primary School = 1:3), the ratio remained 1:9 at the time of the ex-post evaluation. On the availability of middle school and high school, a girls' school was built for every 484 km².⁶ Nevertheless, the number of girls' school fell far short of that of boys' school and this suggested girls still had a geographical problem in regards to access to lower secondary education. The net enrolment rate of lower secondary education in FY 2012/2013 reached 14% for the Balochistan province but it was lower than the national average 22% and remained less than one third of Balochistan's net enrolment ratio⁷ of primary education (45%). The net enrolment rate showed an uneasy transition to lower secondary education. Furthermore, it was pointed out that the literacy rate for 10 years old or above in the Balochistan province was lower than the national average in Pakistan and had a significant gender disparity (see Table 1). Educational opportunities in the Balochistan province had a gender disparity and, moreover, they were scarcer than in other provinces.

⁶ In Japan, the total number of middle schools (including national, public, and private schools) was 10,699 in FY 2012 (MEXT "Report on School Basic Survey JFY H24"). There was one middle school per 35km².

⁷ Net enrollment ratio is defined as the ratio of children of official school age who are enrolled in schools to the population of the age group that officially corresponds to the level of education.

Table 1: Literacy Rate by Province (for 10 years old or above)

Province	Male	Female	Total
Pakistan	71%	48%	60%
Punjab Province	71%	54%	62%
Sindh Province	72%	47%	60%
Khyber Pakhtunkhwa Province	70%	35%	52%
Balochistan Province	62%	23%	44%

Source: Pakistan Bureau of Statistics (2014) "Pakistan Social and Living Standards Measurement 2012-13"

Based on the emphasis on better access to lower secondary education at the time of both appraisal and the ex-post evaluation, this project is considered consistent with the development needs of Pakistan.

3.1.3 Relevance to Japan's ODA Policy

At the time of appraisal, a country assistance strategy was not prepared for Pakistan. Nevertheless, in the Official Development Assistance White Paper 1997, which was published by the Ministry of Foreign Affairs of Japan, the country assistance policy regarded the social sector as one of the four priority sectors and emphasized assistance to basic education and better female education at the primary level. This project intended to expand and repair school buildings and provide equipment for basic education. Therefore, this project is considered consistent with the Japanese ODA policy.

3.1.4 Appropriateness of Project Approach

The implementation of this project was divided into three phases. JICA planned to implement each of the next phases after assessing the implementation progress at the end of each phase. There were concerns that insufficient budget allocation for the executing agency (for salaries of teachers, purchase costs of materials) could result in an inadequate soft component, though the ODA loan project would sufficiently complete the hard component. Intensive implementation, therefore, was carefully handled. In particular, the project scope relevant to technical education was conducted on a pilot basis. This decision was based on the fact that the lack of teachers and equipment had led to the suspension in technical education for five years. Upon the reintroduction of technical education, it was necessary to implement this component while assessing the implementation capacity of the executing agency. Therefore, the implementation of this component could continue only if JICA approved the next phase by assessing the performance of technical education (budget allocation, employment of teachers, development and distribution of teaching materials).

Sufficient budget could not be allocated for technical education at the time of the project's implementation and, moreover, teacher placement, and the development and distribution of teaching materials were unsatisfactory. Based on this performance, it was decided that

assistance to technical education was carried out only in the Phase 1. The final project design is considered appropriate because it assumed that the technical education component was on a pilot basis. A reduction in the technical education component cannot be considered a flaw in the project approach.

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

3.2 Efficiency (Rating: ②)

3.2.1 Project Outputs

For the expansion of lower secondary education (a major component of this project), the output has been achieved as planned (see Table 2). On the other hand, the outputs for the diffusion of technical education and the hostels for female teachers were reduced substantially. While the Japanese ODA loan was supposed to be utilized for infrastructure development of this project, the executing agency was responsible for financing a soft component (teacher salaries and purchases of teaching materials). As the component for the diffusion of technical education was conducted on a pilot-basis, it was agreed at the appraisal that JICA would make a decision as to the continuation of the component by assessing the executing agency's performance during project implementation. At the project implementation phase it was determined that the budget for technical education was small and the placement of teachers and the distribution of teaching materials were inadequate. For this reason, it was decided to reduce the number of school classrooms for home economics and technical education (Technical Trade Centers, hereinafter referred to as "TTC") and the training of teachers for home economic and technical education. As educational projects cannot realize project effects solely based on infrastructure, this scope reduction is considered appropriate. Moreover, the hostels for female teachers were also reduced as a new policy to hire teachers from areas nearby the schools was implemented in 2000. Except for urban areas, Balochistan province has a conservative culture and would find it difficult to accept teachers from outside the local community. In particular, it was difficult for female teachers to stay alone without a family. The consulting service for this project was composed mainly of progress monitoring of the construction works.

Table 2: Project Outputs (Planned/Actual)

Items	Plane (before project implementation)	Actual (at ex-post evaluation)
1. Expansion of Secondary Education	Upgrading schools to middle schools including the construction of class rooms and furniture & the provision of equipment for (200 schools, 80 boys' and 120 girls' schools) ⁸	As planned
2. Diffusion of Technical Education	Construction of TTCs in middle schools and provision of equipment (52 schools, 39 boys' and 13 girls' schools), Training of 208 teachers	Construction of TTCs in middle schools and provision of equipment (10 schools, 6 boys' and 4 girls' schools), Training of 40 teachers
3. Improvement of Primary and Middle Schools	Repair of buildings, furniture & equipment for schools related to (1) and (2) above (252 schools)	Repair of buildings, furniture & equipment for schools related to (1) and (2) above (210 schools)
4. Hostels for Female Teachers	Construction of Hostels for female teachers (25 hostels), furniture & equipment	Construction of Hostels for female teachers (1 hostels), furniture & equipment
5. Consulting Service	International 30M/M National 120M/M	International 30M/M National 324M/M

Source: documents provided by JICA, and questionnaire answers from Education Department, Government of Balochistan



Photo 1: Science Kit (middle school)
(At the Time of Equipment Procurement)



Photo 2: Desks and Chairs (middle school)
(At the time of the Ex-post Evaluation)

3.2.2 Project Inputs

3.2.2.1 Project Cost

The actual project cost was 3,716 million yen compared to the originally planned 4,642 million yen project cost. Since the output of this project was adjusted, the planned project cost was estimated using the actual output. The planned project cost was reduced by 545 million yen and became 4,097 million yen. Even with this adjustment, the actual project cost was lower than planned (91% of the planned project cost). The change of project output was due to the reduction of the project scope related to the dissemination of

⁸ The conditions for upgrading to middle schools include classrooms to accommodate students from the sixth to the eighth grades and the construction of science rooms.

technical education and the construction of hostels for female teachers. In addition, the depreciation of the Pakistan rupee against the Japanese yen was the main reason for the lower actual project cost compared to the planned project cost.

3.2.2.2 Project Period

As shown in Table 3, the planned project period was 70 months from March 1997 (Loan Agreement of the Japanese ODA loan) to December 2002. The actual project period was significantly longer than planned and took 168 months from March 1997 to February 2011 (240% of the planned project period). Even after the completion of the loan disbursement in November 2010, the construction of some schools (seven schools) continued and, therefore, the project completion was in February 2011.

As for reasons behind the delay, the assignment of a project director in the executing agency was delayed until April 1998 and it took a longer time to finalize an internal arrangement to implement the project within the executing agency. Furthermore, the executing agency was unfamiliar with procurement procedures for Japanese ODA loan projects. The consulting service commenced in February 2000 which constituted a 33 months delay from the original schedule. The delay in the commencement of consulting service caused the delay of the construction work and, moreover, the actual construction period was 117 months in comparison to the planned period of 60 months. The construction delay was mainly due to security concerns in the project area, bad weather, contractors' insufficient working capital, and difficult access to project sites.

Table 3: Project Period (Planned and Actual)

Items	Planned	Actual
1. L/A Signing	March 1997	March 1997
2. Civil Works	January 1998 – December 2002	January 2001 – February 2011
3. Procurement of Furniture and Equipment	January 1998 – December 2002	August 2002 – October 2010
4. Teachers' Training	April 1998 – December 2002	December 2002 – August 2003
5. Consulting Service	May 1997 – December 2002	February 2000 – January 2010
6. Project Completion	December 2002	February 2011
7. Overall	March 1997 – December 2002 (70 months)	March 1997 – February 2011 (168 months)

Source: documents provided by JICA and questionnaire answers from Education Department, Government of Balochistan

3.2.3 Results of the Calculations of Internal Rates of Return (Reference only)

Neither the Financial Internal Rate of Return (FIRR) nor the Economic Internal Rate of Return (EIRR) was not calculated for this project at the time of appraisal. Moreover, this project has no financial benefit and estimating economic benefit is difficult due to the lack of information on the recruitment of target school graduates. For these reasons, this ex-post

evaluation does not calculate the internal rate of return.

Although the project cost was within the plan, the project period exceeded the plan. Therefore, efficiency of the project is fair.

3.3 Effectiveness⁹ (Rating: ②)

The project scope can be divided into three objectives: (1) the expansion of lower secondary education, (2) the diffusion of technical education, and (3) the provision of residence for female teachers. In the actual project cost breakdown (excluding unclassifiable costs such as consulting services, administration costs, and tax), the expansion of lower secondary education accounted for 95.6% of the total cost, the diffusion of technical education for 4.1%, and the provision of female teachers' residences for 0.3%. Based on the actual project cost weighting, judgement was based mainly on the attainment of the targets for the expansion of lower secondary education.



Photo 3: Lesson at K. Zangi Boys' High School
(At the Time of the Ex-post Evaluation)

3.3.1 Quantitative Effects (Operation and Effect Indicators)

Regarding the analysis of the project's quantitative effect, an increase of the prescribed number of students for lower secondary education in the target schools and the actual number of students for lower secondary education in the target schools were chosen respectively for an operation indicator and an effect indicator for (1) the expansion of lower secondary operation. The number of students for technical education in the target school is an effect indicator for (2) the expansion of technical education. The number of users in hostels for female teachers was chosen as an effect indicators for (3) the provision of residence for female teachers.

(1) Expansion of Secondary Education

The target schools of this project were primary schools (80 boys' schools and 120 girls' schools for a total of 200 schools). In order to upgrade these schools to middle schools, this project assumed that the prescribed number of students in lower secondary education would be 100 students for each boys' school and 50 students for each girls' school. The increase of

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

the prescribed number for students was expected to be 14,000 students in total. The construction works of this project were in line with the original plan and the target schools were upgraded to middle schools by the time of the project completion. Therefore, it is concluded that the prescribed number of students increased as planned at the time of appraisal.

Table 4: Number of Students in Lower Secondary Education

		Baseline	Target	Actual		
		FY 1994/95	FY 2002/03	FY 2011/12	FY 2012/13	FY 2013/14
		Baseline Year	2 Years After Completion	Completion Year	1 Year After Completion	2 Years After Completion
Number of Students in Lower Secondary Education	Number of Male Students in Lower Secondary Education (persons)	0	7,300	3,439	3,830	4,513
	Number of Female Students in Lower Secondary Education (persons)	0	5,050	3,688	4,160	4,913
	Total	0	12,350	7,127	7,990	9,426

Source: documents provided by JICA, and questionnaire answers from Education Department, Government of Balochistan

Note: The target for the number of students in lower secondary education is for 174 schools in which data for the number students are available. Time series comparison requires precaution as the actual numbers of students in lower secondary education are: 139 schools (boys' 53 schools and girls' 86 schools) in FY 2011/12, 153 schools (boys' 57 schools and girls' 96 schools) in FY 2012/13, and 174 schools (boys' 73 schools and girls' 101 schools) in FY 2013/14.

At the time of appraisal, the number of students for lower secondary education in the target schools was assumed to surpass the prescribed number of students. In 174 schools (73 boys' schools and 101 girls' schools) where student data were available at the time of ex-post evaluation, the number of students for lower secondary education was 9,426 students (4,513 boys and 4,913 girls) in FY 2013/14 fiscal year (see Table 4). Since the prescribed number of students for 174 schools was 12,350 students in total (7,300 boys and 5,050 girls), the number of students attained 76% of the target (62% for boys and 97% for girls). The number of boys reached approximately 60% of its target and that of girls almost reached its target. The reason that the number of boys was below the target at the time of appraisal was that many boys were engaged in animal husbandry and farming in the rural areas where this project was focused and dropped out of schools.

(2) Diffusion of Technical Education

At the time of appraisal, 4,900 students were expected to have technical education in the TTCs that this project would develop. After completion of the TTCs, 1,369 students (545 boys and 824 girls) participated in classes. The subjects for boys were electrical work, metal

processing, woodworking, and training for use of personal computers and for girls home economics, embroidery, cooking, and training for use of personal computers. The State of Education in Pakistan 2003-2004, an educational policy of the Pakistan government, included the introduction of technical subjects in higher secondary education and selected 1,100 model schools (including 110 schools in Balochistan). Technical subjects were compulsory for students who selected technical courses in these schools. The Balochistan provincial government provided technical education at higher secondary education in line with this national policy after 2006. At the time of the ex-post evaluation, no formal class is taught in the TTCs and, thus, the number of students for technical education has not reached its target.

(3) Securing Residence of Female Teachers

At the time of appraisal, this project aimed to ensure residence for 200 female teachers in 25 hostels. As mentioned in “3.2.1 Output”, however, a policy to recruit teachers from the areas nearby the schools was implemented from 2,000, only one hostel for female teachers was constructed. At the time of the ex-post evaluation the one hostel for female teachers was not used and, thus, the number of users for hostels for female teachers does not achieve its target yet.

3.3.2 Qualitative Effects

At the ex-post evaluation, a questionnaire survey on the status of schools¹⁰ was carried out for managers of the target schools. Out of 200 schools upgraded to middle schools, 58 schools (22 boys’ school and 36 girls’ schools) were selected in consideration of geographical access and other factors (58 valid responses). The samples contained schools in both the north and the south regions in a balanced manner because both regions differ in climate, ethnic groups, and culture.

(1) A Change in the Number of Students at the Target Schools

After the construction of schools and the provision of equipment, most respondents replied that the number of students “Increased”, or “Somewhat Increased” and no one chose “Somewhat Decreased” or “Decreased” (see Table 5). The survey result showed that the beneficiary base was expanding. Better educational opportunities in the accessible area made more students attend schools.

¹⁰ For the sake of fair assessment of effects and impact, the questionnaire survey was conducted across 58 schools upgraded to middle schools, nine schools where TTCs were constructed, and one school which administrated the hostel for female teachers.

Table 5: Change in Number of Students after Construction of School Buildings and Provision of Equipment

		Increased	Somewhat Increased	No Change	Somewhat Decreased	Decreased	No Answer	Total
How has the number of students changed after the improvement of school buildings and equipment?	Number of Respondents (persons)	48	5	1	0	0	4	58
	%	83%	9%	2%	0%	0%	7%	100%

Source: Results of questionnaire survey

Note 1: the question is addressed to all the target school and, thus, the number of students includes all students including those in lower secondary education.

Note 2: The sum of the percentages does not add up to 100 due to rounding.

(2) Change of Educational Environment

Approximately 30 percent of the schools responded that the number of classrooms was “Enough” for all students and slightly less than 70% of total respondents answered “Not Enough” or “Not at All” (see Table 6). Schools responding that the number of desks and chairs was “Enough” for all students accounted for slightly less than 30%, those that answered “Not Enough” surpassed 60%, and those that chose “Not at All” reached 10% (see Table 6). While an increase in the number of students in the target schools is desirable in terms of expanding the beneficiary base, the number of classrooms, desks, and chairs is considered insufficient. This project aimed to improve the educational environment by increasing the number of classrooms and supplying school furniture. However, the improvement of educational environment resulted in an increase in the number of students and the increase of classrooms and the further provision of school furniture is still needed at the time of the ex-post evaluation.

Table 6: Number of Classrooms and Number of Desks and Chairs

		Enough	Not Enough	Not at all	Total
Does your school have classrooms to accommodate all students?	Number of Respondents (persons)	19	36	3	58
	%	33%	62%	5%	100%
Does your school have enough desks and chairs for all students?	Number of Respondents (persons)	15	37	6	58
	%	26%	64%	10%	100%

Source: Results of questionnaire survey

Note: The question was addressed to the target schools and, thus, the number of students includes all students which includes those in lower secondary education.

3.4 Impacts

3.4.1 Intended Impacts

(1) Contribution to the Diffusion of Lower Secondary Education in the Balochistan province

The middle schools upgraded by this project accounted for slightly less than 40% of the total increase of middle schools in the Balochistan province over the FY1994/95 to FY2013/2002 period (see Table 7). In the same period, the middle schools upgraded by this project accounted for approximately 60% of the increase of boys' schools and approximately 30% of that of girls' schools. Moreover, the schools upgraded by this project are equivalent to about 20% of the increase in the number of schools to provide lower secondary education (the sum of middle and high schools). In the same period, the schools upgraded by this project are equivalent to 20% of the increase in boys' schools and 20% of girls' schools.

In FY 2013/14, the number of students for lower secondary education was 184,484 students (98,928 boys and 85,556 girls) in the Balochistan province and the number of students for lower secondary education had doubled between "before" and "after" the project implementation. The male-to-female ratio (at lower secondary education, the number of boys to the number of girls) was reduced from 3.9 times in FY 1994/95 to 1.2 times in FY 2013/2014. The number of students in the target schools of this project accounted for about 10% of the increase in the number of students for lower secondary education. The number of students in the schools upgraded by this project was equivalent to slightly less than 20% of the increase of boys and slightly less than 10% of girls at the corresponding education level. According to the executing agency, the percentage of students in the target schools of this project over total students was smaller than that of schools upgraded by this project over total schools since the project's emphasis on the improvement of access in rural areas resulted in fewer students per school for this project.

In the Balochistan province, the number of students in lower secondary education doubled from "before" to "after" project implementation and the male-to-female ratio became more balanced. Since about 20% of the schools providing lower secondary education and about 10% of the students benefitted from this project, it is inferred that this project contributed to the expansion of lower secondary education in Balochistan to some extent.

Table7: Contribution to Diffusion of Lower Secondary Education in the Balochistan Province

	Unit	FY 1994/95	FY 2013/14	Increase in province	Increase from this project	% of this project
Middle Schools	No. of Schools	623	1,165	542	200	37%
Boys' Schools	No. of Schools	531	670	139	80	58%
Girls' Schools	No. of Schools	92	495	403	120	30%
Middle Schools and High Schools	No. of Schools	984	1,948	964	200	21%
Boys' Schools	No. of Schools	827	1,220	393	80	20%
Girls' Schools	No. of Schools	157	728	571	120	21%
Number of Students in Lower Secondary Education	No. of Students	90,432	184,484	94,052	9,426	10%
Boys	No. of Students	72,089	98,928	26,839	4,513	17%
Girls	No. of Students	18,343	85,556	67,213	4,913	7%

Source: Questionnaire answers from Education Department, Government of Balochistan

Note: The percentage of this project shows the ratio of the increase from the project over the increase in the Balochistan province.

3.4.2 Other Impacts

(1) Diffusion of Higher Secondary Education

After the project implementation, some of the target schools under this project increased the number of classrooms and, then, these schools were upgraded to high schools¹¹. Out of the 200 schools upgraded from primary schools to middle schools by the time of the ex-post evaluation, 31 schools were upgraded further to high schools. While the number of high schools in the Balochistan province was 361 schools (296 boys' schools and 65 girls' schools) in FY1994/95, the number increased to 783 schools (550 boys' schools and 233 girls' schools) in FY2013/14. The target schools under this project accounted for nearly 10% of the increase of high schools in the province. This result is also due to substantial efforts by the Balochistan government to expand higher secondary education but it is concluded that this project also contributed to the increase of high schools in the province to some extent.

(2) Impacts on the Natural Environment, Land Acquisition and Resettlement

According to the questionnaire answers from the executing agency, there was no negative impact on the natural environment and environmental permission was not required prior to the construction works. Since three or four classrooms were constructed for each primary school, the required areas were small and the new classrooms were built adjacent to the existing school buildings in most of the target schools. It is also unlikely that this project's small scale construction work negatively affected the natural environment. The land needed for the construction of schools was government-owned or donated from residents¹². No

¹¹ The condition for upgrading to a high school includes the increase of classrooms to accommodate students at the ninth and the tenth grades.

¹² The lands were donated mostly from individuals and partly from communal lands administrated by residents.

information on the size of the land acquired by donation could be obtained. Based on the questionnaire answers from the executing agency and interviews with relevant personnel, resettlement was not required.

This project has to some extent achieved its objectives. Therefore effectiveness and impact of the project are fair.

3.5 Sustainability (Rating: ③)

3.5.1 Institutional Aspects of Operation and Maintenance

At the time of the ex-post evaluation, the executing agency Education Department, Government of Balochistan (hereinafter referred as “EDGOB”) had ultimate responsibility for the facilities and equipment provided by this project. EDGOB has three divisions: Development (policy, planning, investment, etc.), Schools (human resource matters in schools), and General. The development division was engaged in management of the facilities and equipment. Each school carried out Operation & Maintenance (hereinafter referred to as “O&M”) activities of the facilities and equipment and janitors directly conducted these activities under the supervision of a principal. Repair works of classrooms and school buildings which could not be implemented by schools were commissioned to external contractors.

From FY 2014/15, EDGOB has implemented a new scheme for procurement of equipment and teaching materials and regionally established cluster groups¹³ in which high schools, middle schools, and primary schools have participated. The group consists of teachers, principals, and members of parent teacher school management committees. Principles who participate in the groups have undergone introductory procurement training conducted by EDGOB. On repair works of classrooms and school buildings, district governments decide on the requests from schools and the Communication and Works Department, Government of Balochistan procures the repair works.

Since 2011, the target schools have employed 792 staff (616 teachers and 176 other staff). In the questionnaire survey for the upgraded middle schools, 60% of respondents replied that the number of teachers “Increased” or “Somewhat Increased” (see Table 8). Thus, it is concluded that the number of teachers is growing.

¹³ The cluster group consists of neighboring schools within the same district. A high school plays a leading role and primary and middle schools (10 schools or so) participate in the group.

Table 8: Number of Teachers after the Completion of the Project

	Increased	Somewhat Increased	No Change	Somewhat Decreased	Decreased	No Answer	Total
Number of Respondents (persons)	22	14	11	2	2	7	58
%	38%	24%	19%	3%	3%	12%	100%

Source: Results of questionnaire survey

Note: The sum of the percentages does not add up to 100 due to rounding.

The responsibility of O&M for the facilities and equipment is clearly defined and the number of teachers who play a vital role in sustaining the project effects in the education sector is increasing. Therefore, in terms of institutional aspects, no problems which could jeopardize sustainability was found.

3.5.2 Technical Aspects of Operation and Maintenance

The procurement of construction works and equipment has been procured domestically as planned. The procurement of school buildings was conducted by each school and that of materials and equipment was organized into several packages and Pakistan companies bid on these procurements. Routine maintenance of school buildings (cleaning, painting, minor repairs) conducted by janitors did not require special technical skills and maintenance manuals were not prepared for school buildings. Based on the questionnaire answers from EDGOB and interviews with the staff of the executing agency, spare parts and consumables for the equipment provided by the project were locally purchasable and the technological level of the equipment for science room and technical education was appropriate. At the time of the ex-post evaluation, usage and maintenance manuals for the science room equipment were made and these manuals were utilized for preparation of classes. Thus, it is considered that there were few technical difficulties in repair works of school buildings and use and maintenance of the equipment.

On the recruitment of teachers after FY 2014/15, external institutions have been assessing the abilities (subject knowledge, pedagogy, psychology, general knowledge) of applicants for teacher positions and after FY 2012/13, a degree in the educational field was a prerequisite for the recruitment of new teachers. On training of newly recruited teachers, there is a rule that all teachers must undergo training for school management. Furthermore, assessments to identify the training needs of each teacher was carried out every few years and training on topics such as school management, subject knowledge, and pedagogy was conducted in line with the same survey results. According to EDGOB staff, however, teachers with long professional experience tended not to actively participate in such training.

The interviews confirmed that routine maintenance of school buildings did not require special technical skills and that equipment with an appropriate technological level was

procured. Thus, in terms of technological aspects, problems which could jeopardize the sustainability of the project's effects were not found.

3.5.3 Financial Aspects of Operation and Maintenance

The budget expenditure for secondary education of the Balochistan province has increased more than the inflation rate since FY 2010/11 (see Table 9). In the current budget, the growth of both allocation and expenditure for staff salary was on the rise. Among the current budget items, expenditure of non-salary items including facility repair increased significantly in FY 2011/12 and has levelled off since then. According to EDGOB staff and a researcher in the institute to analyze the educational budget (Institute of Social Policy Science), the reason behind the flat expenditure of non-salary items is that the Communication and Works Department procured repair works and cumbersome procedures disabled procurement within a fiscal year. The development budget which can be used for construction of school buildings increased significantly in FY 2013/14 and this suggested that the lack of classrooms, which was caused by the increase in the number of students, and large-scale repair would be addressed.

In FY2014/15, the budget allocation for secondary education was PKR 14,628 million (current budget PKR 10,703 million and development budget PKR 3,925 million) which was a 4% increase from FY 2013/14. The Balochistan government aimed at improving educational access and increasing the gross enrolment rate in lower secondary education in line with the Balochistan Education Sector Plan 2013-2018 and, therefore, the budget is expected to increase in the future. In addition, aid agencies are stepping up their support for the education sector in the Balochistan province. The Global Partnership for Education (GPE)¹⁴ will provide USD 34 million to this sector by 2018 and the EU will provide EUR 30 million by 2020.

¹⁴ GPE is an international organization to promote education in development countries to which Japan has also contributed capital.

Table 9: Budget for Secondary Education in the Balochistan Province

Unit: million PKR

	2010/11		2011/12		2012/13		2013/14	
	Alloca- tion	Expendi- ture	Alloca- tion	Expendi- ture	Alloca- tion	Expendi- ture	Alloca- tion	Expendi- ture
Budget for Secondary Education	6,345	6,487	9,345	9,869	7,094	11,670	14,113	17,093
Year on Year Change	—	—	47%	52%	-24%	18%	99%	46%
Current Budget	6,154	6,304	8,840	9,364	6,652	11,337	9,369	13,618
Year on Year Change	—	—	43.6%	48.6%	-24.7%	21.1%	40.8%	20.1%
Current Budget (Salary)	5,977	6,140	7,540	8,274	6,319	10,607	7,956	12,995
Year on Year Change	—	—	26%	35%	-16%	28%	26%	23%
Current Budget (Non-salary)	177	164	1,300	1,090	334	731	1,413	623
Year on Year Change	—	—	634%	566%	-74%	-33%	323%	-15%
Development Budget	191	183	505	505	442	333	4,744	3,475
Year on Year Change	—	—	164%	176%	-12%	-34%	973%	944%
Consumer Price Index	152.78		169.99		179.94		194.74	
Year on Year Change	—		11%		6%		8%	

Source: Institute of Social Policy Science (2014) "Public Finance of Education in Pakistan"

Note: The budget for secondary education is the sum of the current budget and the development budget.

The results of the questionnaire survey also confirm a similar tendency in the current budget of the upgraded middle schools (see Table 10). The schools which replied that staff salary "Increased" or "Somewhat Increased" for the past three years accounted for 96%. More than 80% of the schools replied "No" or "Not Frequently" for a delay in salary payment (see Table 11). As mentioned in "3.5.1 Institutional Aspects of Operation and Maintenance", the number of teachers increased in the target schools. Nevertheless, an increase of salary in the current budget did not cause a delay in salary payment and, thus, it is presumed that an adequate amount was allocated for salary. The budget allocation for non-salary items was PKR 725,000 (approximately JPY 880,000) per school in FY 2013/14 and PKR 507,000 (approximately JPY 620,000) per school in FY 2014/15¹⁵ and this budget amount is considered adequate for routine maintenance at the schools. The schools which answered "No Change" for maintenance budget in the past three years exceeded 80% and, as explained above, this result is likely to reflect unsmooth budget expenditure due to cumbersome procurement procedures.

¹⁵ The amount is calculated by dividing the budget allocation by the number of schools providing secondary education (total of middle and high schools: 1,948 schools). The exchange rate is JPY 1.22/PKR at the end of May 2015.

Table 10: Budget in Target Schools for the Last Three Years

		Increased	Somewhat Increased	No Change	Somewhat Decreased	Decreased	No Answer	Total
Salary	Number of Respondents (persons)	26	24	8	0	0	0	58
	%	45%	41%	14%	0%	0%	0%	100%
Maintenance Budget	Number of Respondents (persons)	5	1	47	0	3	2	58
	%	9%	2%	81%	0%	5%	3%	100%

Source: Results of questionnaire survey

Table 11: Delay of Salary Payment (at the Ex-post Evaluation)

	Very Frequently	Frequently	Not Frequently	Never	Total
Number of Respondents (persons)	1	9	29	19	58
%	2%	16%	50%	33%	100%

Source: Results of questionnaire survey

Note: The sum of the percentages does not add up to 100 due to rounding.

The budget for secondary education is on the rise and salaries are also increasing without causing a delay in salary payments in more than 80% of the schools. Although the researcher and EDGOB staff pointed out a slower expenditure for repair works, the change of the development budget suggests that countermeasures for the lack of classrooms and large-scale repair have been enhanced. Thus, no problem which could jeopardize the sustainability of the project was found in terms of financial aspects.

3.5.4 Current Status of Operation and Maintenance

From the results of the questionnaire survey, all upgraded middle schools (58 schools) replied that they used school buildings constructed by this project every day. On damages to the facilities, some pointed out that windows and doors were broken (three schools) and paint had peeled off (one school). Some schools could not use water supply systems due to problems such as exhausted water sources and a broken pump (one school). Facilities for supplying electricity and toilets were quoted as insufficient items in their schools. Out of 42 schools which answered the question regarding the provided equipment, 26 schools replied that they used the science room equipment the most and 7 schools mentioned that they did not use the equipment. Reasons offered for not using the equipment included the lack of teachers in charge, equipment broken by flood, and obsolete equipment.

For O&M of the TTCs, no teacher was assigned and no formal class was conducted because budget was not allocated for the TTCs at the time of the ex-post evaluation. Nevertheless, out of nine schools which participated in and replied to the survey, eight

schools used the constructed school buildings due to the lack of classrooms. The equipment for home economics, cooking, sewing/embroidery, electrical works, metal processing and wood works were not used but some schools still used equipment with a variety of use such as personal computers at the time of ex-post evaluation. Regarding the hostel for female teachers, the building was not used at the time of the ex-post evaluation and sanitary facilities such as toilets were damaged and in need of repair.

Some school buildings and equipment in the earlier phase of the project were constructed or placed in the first half of the 2000s and showed aging and obsolescence but the school buildings and most of the equipment in demand were presumably in usable conditions.

No major problems have been observed in the institutional, technical and financial aspects of the operation and maintenance system. Therefore sustainability of the project effects is high.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The objective of this project is to increase the number of children enrolled in lower secondary education in the target schools and widen the coverage of technical education by constructing middle schools and Technical Trade Centers and by training teachers, thereby contributing to equal educational opportunity for boys and girls in the Province of Balochistan.

At the time of both the appraisal and the ex-post evaluation, the Pakistan government regarded reducing educational disparity as one of its important policy goals. Solving a bottleneck in lower secondary education and improving access to education for girls was needed particularly in the Province of Balochistan. The relevance of this project is high as this project has been highly relevant to the country's educational policy and development needs, as well as Japan's ODA policy. While the project cost of this project decreased due to the depreciation of the local currency against the yen, the completion of the project was delayed significantly because of delays in the procurement process and a longer construction period. Based on the above, efficiency of the project is fair. At the time of ex-post evaluation, this project upgraded 200 target schools (80 boys' schools and 120 girls' schools) to middle schools and the number of students in these schools achieved approximately 80% of the target. While the number of male students reached approximately 60% of the target, the number of female students was almost as planned. Out of an increase in the number of schools providing lower secondary education in the period "before" and "after" project implementation, schools upgraded by this project accounted for approximately 20% in the province. An increase in the number of students in lower secondary education in the project's target schools accounted for 10% of that in the province for the same period. On the other hand, due to a policy change in the Balochistan government, technical education was conducted in higher secondary education. Formal technical education was not carried out in the target schools. Thus, effectiveness and impact of

the project are fair. On sustainability of this project, operation and maintenance responsibilities for facilities and equipment were clearly defined. The technical level was appropriate for the construction of facilities and the provision of equipment. Budget for secondary education had been increasing. As no major problem was found in intuitional, technical, and financial aspects, the sustainability of effects induced by this project is high.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

(1) To Widen the Role of the Cluster Groups

Procurement of repair works takes a long period and, therefore, the schools tend to ignore minor damages on the infrastructure and wait for large-scale repair works. Repair works of school buildings needs to be made through the Communication and Works Department and the department is required to assess the current situation of facilities, define the scope of repair works, and prepare cost estimates. As the cumbersome procedures do not allow timely implementation of repair works, preventive maintenance to reduce life cycle cost is not conducted. For long-term sustainability after project completion, adequate budget allocation and its efficient use should be encouraged. It is desirable for EDGOB to widen the role of the cluster groups to include not only procurement of teaching materials and goods but also planning and procurement of repairs and services. The training on procurement for head teachers in the groups should be continued. Advanced training courses on procurement and financial management for head teachers should be introduced.

(2) To Prepare a Maintenance Manual for School Buildings

Preventive maintenance requires a maintenance manual to establish inspection points of building, assessment standards, and a checklist but such a manual had not been prepared by the time of the ex-post evaluation. As mentioned above, school managers tend to disregard minor damages on infrastructure and wait for major repairs. One reason for this is that no maintenance manual has been prepared for buildings. It is desirable for EDGOB to prepare a maintenance manual on buildings which can be used easily by members of cluster groups. The preparation of a manual would help cluster groups plan maintenance, implement preventive measures and presumably contribute to the efficient use of maintenance budgets in conjunction with the wider role of the cluster group in procurement of building repairs.

(3) To Organize Training Cluster for Teachers

Proper teacher trainings need to be carried out to ensure effectiveness in imparting knowledge to the students. Nevertheless, some teachers with long working experience do not actively participate in the in-service training provided. Efforts should be made to motivate

teachers for self-improvement after their recruitment but such efforts have not been implemented yet in the Balochistan province. On the other hand, training clusters for teachers were regionally formed in the Punjab province and this arrangement created an environment in which teachers stimulate each other. In this scheme, mentors are assigned to the clusters and they assess the ability of participating teachers, and play an advisory role for the improvement of teachers' abilities. It is desirable for EGDOB to organize similar training clusters for teachers in the Balochistan province, stimulate motivation for self-improvement, and assess and enhance teachers' capacity.

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

(1) Assessing a Component to Enhance Monitoring Capacity.

This project carried out the construction and repair of school buildings and the provision of furniture and equipment in more than 200 schools in the vast areas of Balochistan province. At the time of appraisal, however, assessment of the monitoring scheme did not focus on an appropriate organizational set-up for the monitoring, selection of indicators, and frequency of data collection. This project monitored only progress of outputs and rarely assessed project effects during the project implementation stage. For the improvement of project effects, it is desirable to track project effects and feed the results back to the project during the project implementation. There was significant room for improving the monitoring scheme. Although a school database¹⁶ was under operation in the Balochistan province at the time of appraisal, it was difficult to identify target schools and collect essential data (i.e. location, timing of assistance, number of students and teachers) after the project completion. For an education project to support target schools over a wide area, it is desirable to assess the executing agency's monitoring scheme at appraisal for a smoother PDCA cycle and, if necessary, add a component to the project's scope to enhance their monitoring capacity (such as implementation of a data base and operational support).

(2) To Assess Stepwise Project Implementation

Due to the lack of teachers and equipment, technical education in the Balochistan province had been suspended for five years prior to the appraisal. Upon the reintroduction of technical education, it was necessary to implement the project and simultaneously assess the implementation capacity of the executing agency. In considering the project's sustainability at the time of appraisal, therefore, it was decided to divide implementation of technical education

¹⁶ The database in the Balochistan contains individual school data including the number of students and teachers and the status of facilities such as school yard and libraries.

component into three phases and make a stop-or-go decision by assessing the performance after each phase. Assistance for technical education was carried out only in the phase one because during project implementation it was confirmed that a sufficient budget for technical education was not available. For a project which develops infrastructure in multiple sites, in order to identify a sustainable project scope it is desirable to assess the current budget allocation and, if the current budget allocation is difficult to predict in the long run, it is desirable to examine a stepwise project implementation at the time of appraisal.

Comparison of the Original and Actual Scope of the Project

Item	Plan	Actual
1. Project Outputs	<p>(1) Expansion of Secondary Education: Construction of class rooms and furniture & equipment for upgrading to middle schools (200 schools, 80 boys' and 120 girls' schools)</p> <p>(2) Diffusion of Technical Education: Construction of TTCs in middle schools and provision of equipment (52 schools, 39 boys' and 13 girls' schools), Training of 208 teachers</p> <p>(3) Improvement of Primary and Middle Schools: Repair of buildings, furniture & equipment for schools under the components (1) and (2) above (252 schools)</p> <p>(4) Hostels for Female Teachers: Construction of Hostels for female teachers (25 hostels), furniture & equipment</p> <p>(5) Consulting Service International: 30 M/M National: 120 M/M</p>	<p>(1) Expansion of Secondary Education: Same as left</p> <p>(2) Diffusion of Technical Education: Construction of TTCs in middle schools and provision of equipment (10 schools, 6 boys' and 4 girls' schools), Training of 40 teachers</p> <p>(3) Improvement of Primary and Middle Schools: Repair of buildings, furniture & equipment for schools under the components (1) and (2) above (210 schools)</p> <p>(4) Hostels for Female Teachers: Construction of Hostels for female teachers (1 hostels), furniture & equipment</p> <p>(5) Consulting Service International: 30 M/M National: 324 M/M</p>
2. Project Period	March 1997 – December 2002 (70 months)	March 1997 – February 2011 (168 months)
3. Project Cost		
Amount paid in Foreign currency	412 million yen	174 million yen
Amount paid in Local currency	4,230million yen (1,400 million PKR)	3,542million yen (1,807 million PKR)
Total	4,632million yen	3,716 million yen
Japanese ODA loan portion	3,917million yen	1,510 million yen
Exchange rate	1 PKR = JPY 3.02 (As of December 1995)	1 PKR = JPY 1.96 (Average between January 1997 and December 2010)