

Ex-Post Project Evaluation 2011: Package III-5 (Philippines, Indonesia, Kenya)

December 2012

JAPAN INTERNATIONAL COOPERATION AGENCY

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Preface

Ex-post evaluation of ODA projects has been in place since 1975 and since then the coverage of evaluation has expanded. Japan's ODA charter revised in 2003 shows Japan's commitment to ODA evaluation, clearly stating under the section "Enhancement of Evaluation" that in order to measure, analyze and objectively evaluate the outcome of ODA, third-party evaluations conducted by experts will be enhanced.

This volume shows the results of the ex-post evaluation of ODA Loan projects that were mainly completed in fiscal year 2009, and Technical Cooperation projects and Grant Aid projects, most of which project cost exceeds 1 billion JPY, that were mainly completed in fiscal year 2008. The ex-post evaluation was entrusted to external evaluators to ensure objective analysis of the projects' effects and to draw lessons and recommendations to be utilized in similar projects.

The lessons and recommendations drawn from these evaluations will be shared with JICA's stakeholders in order to improve the quality of ODA projects.

Lastly, deep appreciation is given to those who have cooperated and supported the creation of this volume of evaluations.

December 2012
Masato WATANABE
Vice President
Japan International Cooperation Agency (JICA)

Disclaimer

This volume of evaluations, the English translation of the original Japanese version, shows the result of objective ex-post evaluations made by external evaluators. The views and recommendations herein do not necessarily reflect the official views and opinions of JICA. JICA is not responsible for the accuracy of English translation, and the Japanese version shall prevail in the event of any inconsistency with the English version.

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Ex-Post Evaluation of Japanese ODA Loan
“Secondary Education Development and Improvement Project”

External Evaluator: Haruo Ito, ICONS Inc.

0. Summary

The Secondary Education Development and Improvement Project (SEDIP) supported the construction/repair of school facilities, provision of learning materials and textbooks, and teacher training cofinanced by the Asian Development Bank (ADB). The Project’s aim was the quantitative and qualitative improvement of secondary education in 26 poverty-affected provinces.¹ The ex-post evaluation showed that the project’s purpose corresponded with the development policy and needs of the Philippines, and with Japan’s Official Development Assistance (ODA) policy; therefore, the relevance is high. Judging by the results of the beneficiary study and data collected, SEDIP’s effectiveness and impact can be given a fair rating because improvements were observed in the quality of education related to teacher capacity and student test scores, even though the Project’s effects on indicators, such as the net enrolment rate (NER), dropout rate, and completion rate were limited. Efficiency also gets a fair mark since project cost remained within the budget, while project duration slightly exceeded that of the plan. The sustainability of the Project’s effects were given a high rating, as no major problems have been observed in the structural, technical, and financial aspects of the operation and maintenance system.

In the light of the evaluation above, this project is considered satisfactory (B).

1. Project Description

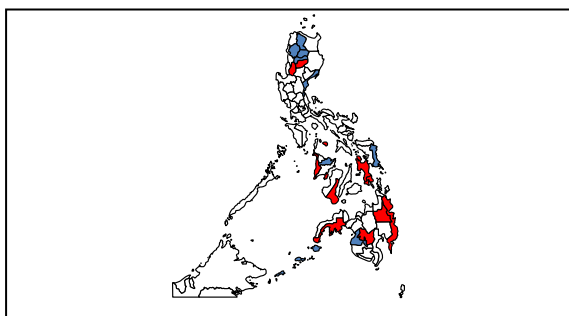


Figure 1. Project Location

Red areas: 15 target provinces
Blue areas: other poverty-affected provinces



Figure 2. School Building Supported by the Project

¹ Provinces targeted by the Social Reform Agenda (SRA) and Philippine Commission to Fight Poverty (PCFP), which define priority issues for social economic development in poverty-affected provinces. The Japan International Cooperation Agency (JICA) supported 15 target provinces; the remaining 11 SRA provinces received textbooks under the ADB loan. In the original plan, 14 provinces were selected as SEDIP target provinces, but the number rose to 15 due to the creation of Zamboanga Sibugay Province (previously a part of Zamboanga del Sur Province).

1.1 Background

The Philippines' standard of education used to be regarded as higher than that of other developing countries in the region.² However, because of the introduction of free basic education in 1988 and high population growth (averaging 2.3% yearly from 1990 to 1995), the access demand for basic education ballooned, resulting in a shortage of school buildings, facilities, and teachers. By 1994, the National Achievement Test (NAT) scores already showed signs of the degradation in the quality of education: only 43.6% of primary school students and 38.9% of secondary school students got passing marks. In addition, when the Asian currency crisis hit, it exposed the Philippines' fragile industrial foundation in the face of international competition. The government reacted by accelerating its efforts to offer free basic education (primary and secondary levels) and expanding the education budget. By enhancing basic education quantitatively and qualitatively, the country hoped to produce quality labor that would help it recover quickly from the currency quagmire and improve its international competitiveness as a buffer against future crises. The Social Reform Agenda (SRA), the key policy agenda under the regime of President Ramos, stressed poverty eradication and the establishment of social justice; in particular, the expansion of basic education was one of the highest priority issues. In that context, the Japanese government extended a yen loan (cofinanced by the World Bank) for the "Primary Education Project in Poverty-Affected Areas" in March 1997 and supported the expansion of basic education in 26 target provinces of the SRA. However, compared to primary education, secondary education continued to lag both in access (NER: primary, 95%; secondary, 64%) and completion (completion rate: primary, 74%; secondary, 52%). Access was much worse in the poverty-affected target provinces, where the NER of secondary education was 46% in 1997. To improve the situation, the government undertook twin measures of budget allocation, based on the education situation in each region: the decentralization to the Division Offices (DOs) and stronger collaboration with Local Government Units (LGUs).

The Project supported the construction/repair of school facilities, provision of learning materials and textbooks, and teacher training cofinanced by ADB. Its goal was the quantitative and qualitative improvement of secondary education in 26 poverty-affected provinces³ of the priority targets of the SRA and Philippine Commission to Fight Poverty (PCFP). SEDIP adopted a bottom-up approach, which included assessing the situation of secondary education in each province, designing a detailed education investment plan, and communicating with LGUs and Parents-Teachers-Community Associations (PTCAs) during implementation. Aside from raising the secondary education standard, the Project also aimed for the sustainable development in both administration and school levels by strengthening the capacities of the DOs and LGUs.

² In the international ranking of educational standards in the NER of primary education in 1989, the Philippines was placed at 106; Thailand, 95; Indonesia, 118; and Malaysia, 102 (UNDP Human Development Report, 1991).

³ This ex-post evaluation covers the whole Program, including the technical assistance from ADB, since the Program improved the quantitative and qualitative aspects of secondary education to raise the standard of secondary education with cofinancing from the ADB.

1.2 Project Outline

The purpose of the Project was to raise the standard of secondary education through quantitative and qualitative improvement by supporting the construction/repair of school facilities, providing learning materials and textbooks, and teacher training. The Project was implemented in 26 poverty-affected provinces of the priority targets of the SRA and PCFP, with cofinancing from ADB.

Loan Approved Amount/ Disbursed Amount	7,210 million yen / 6,477 million yen
Exchange of Notes Date/ Loan Agreement Signing Date	December 1999 / December 1999
Terms and Conditions	Interest Rate: 1.8% (0.75% for consulting service) Repayment period: 30 years (40 years for consulting service); Grace period: 10 years Conditions for procurement: untied and tied (especially, consulting service with bilateral ties)
Borrower /Executing Agency	Government of the Republic of the Philippines /Department of Education (DepED)
Final Disbursement Date	March 2009
Main Contractor	None
Main Consultant	Pacific Consultants International (Japan) TCGI ENGINEERS (Philippines) FILIPINAS DRAVO CORPORATION (Philippines) (Joint venture)
Feasibility Studies, etc.	T/A (ADB, 1995) F/F (ADB, 1997)
Related Projects	Third Elementary Education Project, cofinanced by ADB (1997–2006)

2. Outline of the Evaluation Study

2.1 External Evaluator

Haruo Ito, ICONS Inc.

2.2 Duration of Evaluation Study

Duration of the Study: October 2011–December 2012

Duration of the Field Study: January 4–28, 2012, June 3–9, 2012

2.3 Constraints during the Evaluation Study (if any)

None

3. Results of the Evaluation (Overall Rating: B⁴)

3.1 Relevance (Rating: ③⁵)

3.1.1 Relevance to the Development Plan of the Philippines

The Philippine government declared 1990 to 2000 as “the decade of Education for All (EFA),”

⁴ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁵ ③: High, ②: Fair, ①: Low

following the declaration of EFA in 1990, and formulated the Basic Education Master Plan (1996–2005)—the detailed human resource development plan which includes the achievement of universal primary and secondary education and the provision of quality education. In addition, the SRA stressed poverty eradication and the establishment of social justice, and pinpointed the expansion of basic education as one of the highest priority issues. Furthermore, the Medium-Term Philippine Development Plan (1999–2004) stipulated education as one of the priority development areas.

The Department of Education (DepEd) has boosted the school improvement movement by eliciting wide-range participation from LGUs and the communities under the Schools First Initiative (SFI). In 2005, DepEd and major donors⁶ drafted the Basic Education Sector Reform Agenda (BESRA), which aimed to achieve EFA by 2015 by (1) improving adult functional literacy (mother tongue, Filipino, or English); (2) attaining universal enrolment and eradicating dropout and repetition until Grade 3 of primary education; (3) helping students graduate from primary school, with high enough learning achieved in each grade of basic education; and (4) community involvement for universal basic education. The Project purpose—to improve secondary education quantitatively and qualitatively—is in accordance with these policy contexts.

3.1.2 Relevance to the Development Needs of the Philippines

The Philippine government has been promoting the universalization of basic education since 1998 with its policy of free primary and secondary education. However, NER remained a low 64% for secondary education comparing 95% for primary education. In addition, the results of the National Elementary Achievement Test (NEAT) and National Secondary Achievement Test (NSAT) in 1994 showed that students' learning achievement remained a disappointing 43.6% for primary education and 38.9% for secondary education. The low quantitative and qualitative levels were because of the lack of (1) school facilities, (2) school equipment, materials, and textbooks, and (3) competent teachers; and the obstacles to (1) to (3) were (4) an insufficient budget and inefficient resource allocation.

As previously stated, the Project consisted of many components, of which the construction/repair of school facilities corresponded with issue (1) above; the provision of learning materials and textbooks, with issue (2); and teacher training, with issue (3). The Project's "bottom-up approach" in promoting collaboration with the community through School-Based Management (SBM) and decentralization to the DOs and LGUs is expected to produce relevant school improvement planning in accordance with the community's needs and its local resource mobilization; this corresponds with issue (4).

The Project dealt with the dimensions of educational environment issues in the Philippines holistically, and it can be regarded as relevant to the development needs of the Philippines.

Other projects in place during the same period, such as the Grant Assistance Project: "The Fifth

⁶ DepEd, AusAID, the United Nations Educational, Scientific and Cultural Organization (UNESCO), JICA, Japan Bank for International Cooperation (JBIC), United States Agency for International Development (USAID), World Bank, and ADB.

Education Facilities Expansion Plan” and Expert Dispatching Scheme: “Strengthening of Continuing School Based Training Program for Elementary and Secondary Science and Mathematics Teachers in the Republic of the Philippines,” shared SEDIP’s purpose of improving education facilities and education quality. Meanwhile, regarding other donors, the World Bank has supported primary education and ADB, secondary education. The Australian Agency for International Development (AusAID) also continues to provide educational assistance.⁷ The presence of parallel projects and donor support reflects the urgent need for educational development in the Philippines at the time of the Project’s implementation.

3.1.3 Relevance of Japan’s ODA Policy

The Japanese government published the Country Assistance Program for the Philippines (2000), which it based on the latter’s Medium-Term Philippine Development Plan (2001–2004). The Country Assistance Program espouses the improvement of access to social services, including basic education, for low-income people, further dissemination of primary and secondary education, and improvement of the quality of education.

The targets of Japan’s ODA Policy for the Philippines in its Overseas Development Cooperation Implementation Guideline (JBIC, 1999) were strengthening the economy for sustainable development, overcoming constraints to growth, reducing poverty and regional disparity, human resource development, and strengthening of institutions; the targets corresponded with the components of the Project. The guideline also defined the principle of appropriate self-burden of local cost, and the Philippines’ institutional arrangement to develop the capacities of executing agencies. The Project’s approach of requiring the central and regional governments to shoulder the financial burden was in consonance with the guideline.

Furthermore, the Project’s aim to improve the quantitative and qualitative aspects of secondary education through ADB cofinancing dovetails with the Overseas Development Cooperation Implementation Guideline, which promotes effective collaboration with international organizations by utilizing their strengths.

Since SEDIP is consistent with the country’s development plan and needs, as well as Japan’s ODA policy, its relevance is high.

3.2 Effectiveness⁸ (Rating: ②)

3.2.1 Quantitative Effects (Operation and Effect Indicators)⁹

3.2.1.1 Net Enrolment Rate

As shown in Table 1, the increase in the NER in SEDIP target provinces from project beginning

⁷ Strengthen the implementation of Basic Education Selected Provinces in the Visayas (STRIVE), backed by Aus-AID.

⁸ The sub-rating for Effectiveness is to be set with consideration of Impact.

⁹ Since the Project’s target was almost all secondary schools in the target provinces, the quantitative effects are evaluated based on the macro data of each province.

(2002)¹⁰ to completion (2008) was only 1.5 percentage points and did not reach the target of 2.5 percentage points,¹¹ which was set during the project assessment phase. In addition, the rate of increase matches the national average. Thus, upon project completion, the effects on the NER were limited.

Table 1: Net Enrolment Rate: National and Target Province Averages
(public schools only)¹²

	2002 ^{a)}	2008 ^{b)}	2009	2010	(2002–2008)
National	45.6 %	47.1 %	46.9 %	48.1 %	1.5
SEDIP	41.0 %	42.5 %	42.6 %	43.8 %	1.5

Sources: ^{a)}2002: ADB Completion Report; ^{b)}2008–2010: DepEd

3.2.1.2 Dropout Rate

The average dropout rate in SEDIP target provinces upon project completion in 2008 was 10.3%. This means that 4.5 percentage points higher than the rate before the project started. Therefore, effects at the time of project completion could not be confirmed. It was pointed out that repetition rate went up because the availability of free secondary education caused a rapid increase in the number of students, which pulled down the quality of education. The situation was compounded by worsening external conditions, such as the deterioration in the economic status of the households.¹³ Considering the 1.9 percentage-point increase in the national average, it is highly possible that the economic depression during this period exacerbated the dropout rate.

Table 2: Dropout Rate: National and Target Province Averages
(public schools only)

	2002 ^{a)}	2008 ^{b)}	2009	2010	(2002–2008)
National	6.6 %	8.5 %	8.8 %	9.0 %	1.9
SEDIP	5.8 %	10.3 %	9.8 %	10.0 %	4.5

Sources: ^{a)}2002: ADB Completion Report; ^{b)}2008–2010: DepEd

3.2.1.3 Completion Rate

The completion rate in SEDIP target provinces in 2008 was 69.4%, 8.0 percentage points better than the situation before project implementation. On the other hand, since the national average rose 13.6 percentage points, the improvement in the completion rate in SEDIP target provinces cannot be identified as an effect of the Project.

¹⁰ The Project started in 1999, but activities such as school construction and teacher training did not begin until its implementation in 2002 due to the delay in the processing of the requirements.

¹¹ In the project assessment phase, target indicators were defined as follows: (1997: when the project was planned→2006: project completion); NER (46.3%→48.8%); dropout rate, to be decreased 2.5% (6.5%→4.3%); and repetition rate, to be decreased 3% (4.6%→1.6%). The repetition rate was not available for the ex-post evaluation, so the completion rate was examined in its place.

¹² Since the Project's target areas were poverty-affected provinces and interventions in education development were also implemented in other provinces, the statistics could not easily be compared. However, the comparison with the national average is effective in relativizing the progress of the statistics. Therefore, the above statistics are shown as references.

¹³ Division Education Development Plan (DEDP) 2010-2016.

Table 3: Completion Rate: National and Target Province Averages
(public schools only)

	2002 ^{a)}	2008 ^{b)}	2009	2010	(2002–2008)
National	58.6 %	72.2 %	71.4 %	71.2 %	13.6
SEDIP	61.4 %	69.4 %	70.6 %	70.5 %	8.0

Sources: ^{a)}2002: ADB Completion Report; ^{b)}2008–2010: DepEd

3.2.1.4 Student-Classroom Ratio

The results of the beneficiary survey¹⁴ in the ex-post evaluation show a reduction in the student-classroom ratio in the schools where school buildings were constructed by SEDIP. Meanwhile, the target schools of the School Building Program (SBP) had a lower student-classroom ratio (51.8 students) than that of non target schools (57.7 students). In addition, the target schools achieved the national target of 45 students per classroom in 2010 and 2011, after the Project was completed.¹⁵

Table 4: Student-Classroom Ratio Confirmed in the Beneficiary Survey

		2008	2009	2010	2011
SBP	Average	51.8	45.4	44.1	43.1
	Number of responses	67	66	68	69
Non-SBP	Average	57.7	55.7	57.6	57.6
	Number of responses	7	7	7	7

Source: Beneficiary Survey

3.2.2 Qualitative Effects

3.2.2.1 Satisfaction of In-Service Teacher Training (INSET)

SEDIP provided INSET on modern teaching methods (11,067 teachers), classroom management (11,078 teachers), care and use of learning support materials (10,803 teachers), and student-centered assessment tools, practices, and alternative approaches¹⁶ (11,048 teachers); as well as SBM for 829 principals. According to the results of beneficiary survey, the average satisfaction of the participants was very high, ranging from 4.7 to 4.8 (on a five-point scale).

¹⁴ A questionnaire was circulated among the principals and students in 107 SEDIP target schools in the provinces of Ifugao, Benguet, Leyte, and Southern Leyte. The numbers in the tables show the quantity of responses.

¹⁵ In the field study, the indicators also improved with the establishment of new schools, which helped decongest the existing schools.

¹⁶ Student-centered assessment is the process of establishing where individual learners are in their development—the kinds of knowledge, skills, and understanding they have developed and are able to apply to meaningful problems—for the purpose of monitoring individuals' progress through an area of learning and deciding on the best way of facilitating further learning.

Table 5: Average Level of Participant Satisfaction in the SEDIP Training¹⁷

Contents of INSET	Average
In-Service Teacher Training	4.8
School-Based Management	4.8
Care and use of learning support materials	4.7

Source: Beneficiary Survey

During the interview, the participants had positive comments about the contents of the training:

The various kinds of INSET held by SEDIP enhanced my self-confidence as a teacher. I learned teaching methods and lesson planning in the seminars and workshops. (Teacher)

The knowledge and skills that I got from the SBM training are useful to promote the understanding of principal, teachers, students, parents, and community on their respective roles to improve education quality. (Principal)

Continuous cooperation from the LGU and the community established cooperation between the school and other collaborative organizations, and strengthened leadership. The School Improvement Plan (SIP) improved the way the school functioned. (Principal)

3.2.2.2 School-Based Management

SBM training was conducted for principals of SEDIP target schools as an ADB component. School improvement planning and implementation was encouraged in the target schools. The relationship between the school and community became closer, and it accelerated network building and resource contribution, which are necessary for school management. In addition, it is reported that environment improved in 70% of the target schools.¹⁸

In the beneficiary study, the principals gave SBM training a high approval rating: 4.1 to 4.8 on a five-point scale (see Table 6). The implementation of SBM and improvement of school management were thus confirmed. SBM was institutionalized after project completion and was implemented nationwide, with a budget allocation from the DepEd.

¹⁷ The level of satisfaction (five-point scale) with the training held by SEDIP was confirmed by the questionnaire (1: Very Unsatisfied, 2: Unsatisfied, 3: Fair, 4: Satisfied, 5: Very Satisfied).

¹⁸ ADB Completion Report.

Table 6: Responses to the Questionnaire about SBM Practice¹⁹

	Average
1. I involve all teachers in making school policies and planning school programs.	4.5
2. I involve all non-teaching staff in making school policies and planning.	4.1
3. I create an atmosphere wherein school staff can ask questions, share information, clarifying issues, and express disagreement in meetings.	4.8
4. All staff has access to relevant professional development opportunities.	4.7
5. Communication inside the school is made effectively—accurate, relevant, and on time.	4.5

Source: Beneficiary Survey

3.2.2.3 Students' Satisfaction with Teachers

The results of the beneficiary survey questionnaire²⁰ given to students in SEDIP schools show a high level of satisfaction—4.1 to 4.7 (on a five-point scale)—with the teachers' capacity and attitudes. The average score on the teachers' use of teaching aids was somewhat low at 3.8, but it could be blamed on the lack of chemicals in the science laboratories and shortage of time for preparation of experiments.

Table 7: Responses to the Questionnaire about Teachers' Ability²¹

	Average
Teachers are always well prepared.	4.7
Teachers are enthusiastic in teaching.	4.4
Teachers make the lessons easy to understand.	4.1
Teachers give good advice on learning.	4.7
Teachers often use teaching aids (laboratory equipment, science models) during their lessons.	3.8

Source: Beneficiary Survey

3.2.2.4 Students' Satisfaction with School Facilities

Most of the students in SEDIP schools were satisfied with school facilities and teaching materials (see Table 8). Their responses also confirmed that their parents participated in school maintenance activities—a reflection of the effects of SBM.

¹⁹ The questionnaire about the implementation of SBM used a five-point scale (1: Never, 2: Seldom, 3: Sometimes, 4: Often, 5: Always).

²⁰ One hundred students participated in the beneficiary survey: 50 from Benguet Province and 50 from Leyte Province.

²¹ The questionnaire about the students' satisfaction with teachers used a five-point scale (1: Never, 2: Seldom, 3: Sometimes, 4: Often, 5: Always).

Table 8: Responses to the Questionnaire about Students' Satisfaction with School Facilities²²

	Average
We have enough textbooks.	4.0
We have enough classrooms.	4.1
The commute to school is easy.	3.8
School facilities (classrooms, laboratory, library) and furniture are well maintained.	4.2
My parents participate in the maintenance of school facilities.	3.9

Source: Beneficiary Survey

3.3 Impact

3.3.1 Intended Impacts

The results of the analysis by National Education Testing and Research Center (NETRC) confirmed that the NAT²³ scores in SEDIP target provinces were higher than the national average.

Table 9: Comparison of NAT Scores: National and SEDIP Provinces Averages

	2001	2006	2007	2008	2009	2010	2011
National	53.4	44.3	46.6	49.3	46.7	45.6	48.0
SEDIP	53.2	50.9	51.1	53.1	51.1	51.9	54.1
Difference	-0.2	6.5	4.5	3.8	4.4	6.3	6.1

Source: National Education Testing and Research Center

The biggest difference between the national average and SEDIP target provinces scores was in mathematics and science, which SEDIP supported with teaching materials and INSET (see Table 10). It can thus be concluded that SEDIP made an impact.

Table 10: Comparison of NAT Scores per Subject: National and SEDIP Provinces Averages (2011)

	National	SEDIP	Difference
Mathematics	42.0	52.3	10.3
Science	39.4	47.5	8.2
English	46.5	51.3	4.8
Hekasi (Social Studies)	58.9	59.9	1.0
Filipino	52.0	58.9	6.9

Source: NETRC

The beneficiary survey confirmed that from 2008 to 2011, the average NAT score of schools whose teachers had attended INSET was higher than that of schools whose teachers had not (see Table 11). There is a statistically significant difference (10% level)²⁴ in the NAT scores in 2008, which implies a certain trend between INSET attendance and nonattendance.

²² The questionnaire about the students' satisfaction with school facilities used a five-point scale (1: Never, 2: Seldom, 3: Sometimes, 4: Often, 5: Always)

²³ The National Achievement Test is administered to second-year students of secondary schools every March. The subjects of the NAT are Filipino, Araling Panlipunan (Social Studies), English, Science, and Mathematics.

²⁴ The 10% level was applied to examine the significant difference, as the number of samples (100) is small. A certain trend in the NAT scores between INSET attendance and nonattendance was observed.

Table 11: Comparison of NAT Scores: Schools Whose Teachers Have Attended INSET and Schools Whose Teachers Have Not

Year	INSET	No. of schools	Average	Difference
2008	Attended	83	52.3	9.7*
	Not Attended	26	42.6	
2009	Attended	83	52.6	0.4
	Not Attended	26	52.2	
2010	Attended	83	53.8	3.6
	Not Attended	26	50.2	
2011	Attended	83	50.9	8.5
	Not Attended	26	42.4	

Significance: ***0.01, **0.05, *0.1

Source: Beneficiary Survey

3.3.2 Other Impacts

3.3.2.1 Impacts on Natural Environment

All environmental components of the Project abided by the requirements of the Environment Management Bureau of the Department of Environment and Natural Resources. In addition, facility design considered the effects on the environment of the materials it used; the use of lights and air conditioners was minimized. During construction, the technicians of the LGUs and DOs ensured compliance to the environmental requirements through strict monitoring. Waste materials from science laboratories, which could have a negative impact on the natural environment, passed through neutralization tanks provided by the Project. The tanks contained calcic water, in accordance with Environment Hygiene Safety Standards. Impacts on the environment by pollution from science laboratories and effluents from toilets have not been confirmed by the results of the field study. On the other hand, the teachers' lack of knowledge about the proper disposal of chemicals in some experiments was identified.

3.3.2.2 Resettlement and Land Acquisition

The field survey confirmed that no negative impact occurred on the land acquisition and resettlement of the School Building Program.

3.3.2.3. Other Positive and Negative Impacts

(1) Ascending priority of budget allocation to the education sector in LGUs

SEDIP required LGUs to share the cost of school construction, in accordance with the decentralization policy. As a result, the budget allocation of LGUs for the education sector increased (see Table 19) in the area of sustainability. After the Project was completed, the LGUs will continue to support the education sector in, for example, the construction and maintenance of buildings and facilities. In addition, DepEd inked Memorandums of Understanding (MOUs) with LGUs to secure their equity for the construction of new schools after the Project was completed.

(2) Heightened community awareness of education

As a result of the SBM's community participatory school improvement planning, and improved transparency by making the school financial reports public, the relationship between the school, community, and PTCA was strengthened. Moreover, the community's contribution to the school increased, in areas such as the extension of classrooms, provision or repair of toilets, school compound improvement, and repair and cleaning of facilities.

(3) Dissemination of SEDIP programs through institutionalization

SEDIP's Dropout Reduction Program (DORP) and the SBM were institutionalized and disseminated nationwide. Since SBM has been made a national program, the three-year SIP and School Annual Plan (SAP) are now implemented countrywide. The SBM approach established by the Project is also applied by other donors' projects²⁵ and disseminated to other areas.

(4) Synergistic effects with other projects

SEDIP was developed in close collaboration with TEEP, which covers the same provinces and is cofinanced by the World Bank. The improvement in the learning achievement of elementary school graduates is the foundation of quality improvement in secondary education. The products of TEEP target schools can enroll in SEDIP target schools, thereby boosting their learning achievement from elementary to secondary education. This exemplifies the synergistic effect of SEDIP with other JICA projects.

In sum, although the effects of the Project on the net enrollment, dropout, and completion rates were below the expectations of the planning stage, there was a certain degree of achievement by way of a better education environment through facility and equipment support and improved education quality through training that enhanced the teachers' capacity. Therefore, the effectiveness and impact of the Project is Fair.

3.4 Efficiency (Rating: ②)

3.4.1 Project Outputs

3.4.1.1 School Building Program and Provision of School Furniture and Equipment

Facility and equipment support was extended to 833 schools (including the construction 15 new schools)—almost all of the schools in 15 provinces. More buildings, furniture, and equipment were procured than originally planned (see Table 12).

The exchange rate of the Japanese yen to the Philippine peso upon project approval was ¥3.0 to P1.0, but it was later changed to ¥2.2 to P1.0, thus making more pesos available. In addition, the decrease in the prices of teaching materials left residual funds. The original plan involved 22 LGUs but seven were excluded because of their inability to provide equity, leaving 15 LGUs as target

²⁵ Strengthen the implementation of Basic Education Selected Provinces in the Visayas (STRIVE), backed by Aus-AID.

provinces.

Table 12: Plan and Accomplishment of the School Building Program

Component	Plan (No. of Units)	Accomplishment (No. of Units)	Difference
A. New Construction			
1. Classroom	2,198	2,346	148
2. Science Laboratory	320	339	19
3. Home Economics	153	164	11
4. Industrial Arts	117	128	11
5. Library	103	115	12
6. Faculty Room	106	116	10
7. Guidance Center	62	70	8
8. Toilet	1,031	1,100	69
9. Water Supply System	51	58	7
10. Multipurpose Building	0	2	2
B. Repair and Rehabilitation			
Repair	199	230	31
Completion	87	87	0
Replacement	135	135	0
C. Establishment of New School			
Classroom	60	60	0
Science Laboratory	15	15	0
Home Economics	15	15	0
Industrial Arts	15	15	0
Library	15	15	0
Faculty Room	15	15	0
Guidance Room	15	15	0
Toilet	45	45	0
Water Supply System	15	0	-15

Source: JICA internal documents

Table 13: Plan and Accomplishment of School Furniture Procurement²⁶

Component	Plan (No. of Units)	Accomplishment (No. of Units)	Difference
1. Classroom	2,258	2,406	148
2. Science Laboratory	335	354	19
3. Home Economics	168	182	14
4. Industrial Arts	132	143	11
5. Library	118	130	12
6. Faculty Room	121	131	10
7. Guidance Room	77	85	8
8. Multipurpose Facility	0	2	2

Source: JICA internal documents

²⁶ Procurement of desks, chairs, bookshelves for teaching materials, and so on.

Table 14: Plan and Accomplishment of School Equipment Procurement²⁷

Component	Plan (No. of Units)	Accomplishment (No. of Units)	Difference
1. General Sciences	762	968	206
2. Biology	762	968	206
3. Chemistry	741	968	227
4. Mathematics	819	968	149
5. Physics	741	968	227
6. Industrial Arts	762	968	206
7. Technology and Home Economics	762	968	206

Source: Project Completion Report

3.4.1.2 Technical Assistance

The following activities were done under the Technical Assistance of the ADB portion:

(1) Training for school heads

The attendance (more than 800 school heads) far exceeded the target of 650 in the following: education evaluation training (857), learning management, and teaching assistance (836). In all, 738 school heads acquired the capacity to plan and implement the programs.

(2) DORP

DORP was targeted for 180 schools but was implemented in 240. About 1,200 teachers participated in the training.

(3) INSET

The actual number of participants—about 11,000 teachers—surpassed the target of 9,700 for INSET: modern teaching methods (11,067), classroom management (11,078), care and use of learning support materials (10,803), and student-centered assessment (11,048).

(4) High School Innovation Fund (HSIF)

The HSIF, amounting to 71,444,547.67 pesos, was distributed among 351 schools in 15 provinces; the target was 325. Of the total HSIF, 59% went to reading materials to strengthen reading ability. In the field study, it was confirmed that many schools continue the program, using the reading materials that were procured with HSIF.

(5) SBM training

The SBM training (with community participation) drew 829 school heads; the target was 800.

²⁷ Procurement of equipment for science experiments, tools for woodworking, welder for Industrial Arts, and cooking tools and dishes for Home Economics.

(6) Capacity development of LGMs and DOs

Training in making the Division Education Development Plan (DEDP), introduction of the INSET system, and implementation of Monitoring and Evaluation (M&E) were conducted; the Education Management Information System (EMIS) was introduced to the DOs and target schools.

(7) Provision of textbooks

The following were provided to 850 target schools (plan targets in parentheses): 5.9 million textbooks (4.1 million), 46,300 teacher's guides (125,217), and 302,215 reading books (296,603).

3.4.2 Project Inputs

3.4.2.1 Project Cost

The total cost of the Project was 15,032 million yen as of March 2009, and it was within the plan (73% of the planned budget of 20,462 million yen).

Table 15: Plan and Accomplishment of the Project Cost (million yen)

	Plan	Disbursement*	Disbursement rate
Yen loan	7,210	6,477	90%
ADB	6,389	3,525	55% ²⁸
The Government of the Philippines	6,863	5,030	73%
Total	20,462	15,032	73%

Source: Summary from ADB Project Completion Report

*As of March 2009

Meanwhile, the planned amount of the yen loan was 7,210 million yen, but the actual disbursement amounted to 6,477.4 million yen (about 90% of the planned amount) as of March 2009. On the other hand, because of the foreign currency transaction gain, more than 100% of the planned buildings, furniture, and materials were procured, as shown in the Output section.

²⁸ Regarding the ADB portion, the USD 17.4 million allotted for teaching materials, textbooks, reserve fund, interest, and contract management fee was cancelled during the Project. When this amount is deducted, the disbursement rate becomes 90.3%.

Table 16: The Disbursement Rate of Activity Cost under the Yen Loan (million yen)

	Plan	Disbursement*	Disbursement rate
School Building	3,673	3,571	97%
Furniture procurement	351	269	77%
Equipment procurement	1,630	1,100	68%
Consulting service	1,548	1,535	99%
Reserve fund	8	0	0%
Total	7,210	6,477	90%

Source: Project Completion Report

*As of March 2009

3.4.2.2 Project Period

The Project was planned to start in December 1999 and to be completed in December 2006, but the implementation period was extended to September 2008, bringing the total to 105 months (25% longer than planned).

Initially, Batch 1 was scheduled in 2000 and Batch 2, in 2002. The lessons learned from Batch 1 would be used to improve the quality of Batch 2. However, due to the delay in implementation, both Batches were started in 2002. The school building program was delayed 96.9% and project procurement, 71.7% (see Table 17).

Table 17: Plan and Actual Construction and Procurement Period

		Planned period (No. of Days)	Actual (No. of Days)	Delay (No. of Days)	Actual/planned (%)
Construction Period	Batch 1	88	164	76	185.8
	Batch 2	78	160	82	205.3
	Overall	82	161	79	196.9
Procurement Period	Batch 1	112	179	67	159.8
	Batch 2	112	201	89	179.6
	Overall	112	192	80	171.7

Source: Project Completion Report

The reasons for the delay in construction were as follows: securing the budget from the LGUs, change in the country's leadership (central government) in 2004 because of the national election, inadequate monitoring and management of the LGU staff, insufficient technical support from the Division Offices, and higher cost of building materials. The delay was also partly attributed to the fact that negotiation to decrease the equity of LGUs was invoked because TEEP, which was already being implemented at the time, reduced its LGU equity from 25% to 10%.

The delay of in the procurement of furniture and equipment was due to rebidding, a change in the DepEd's procurement system, change of divisions in charge, increase in the number of target schools, and a delay in the bidding process of the DepEd's Bids and Awards Committee (BAC).

To address the delay in the implementation, the Project created a Project Financial Management Team (PFMT) and supported the National Project Management Office (NPMO) at the central and provincial levels. In addition, the Project organized a campaign for LGUs to encourage them to

shoulder the equity. It took four-and-a-half years to disburse the first 50% of total expenses and another year-and-a-half to disburse remaining 50%. Despite the delays, it can be said that the Project was able to minimize the loss of efficiency.

3.4.3 Economic Internal Rates of Return (EIRR) (Reference)

The Project’s EIRR was not calculated during its assessment; it was done in the report of the Impact Evaluation of TEEP (2011). It is estimated that if a student worked for 20 years after graduation from a SEDIP school, the EIRR would be 16.2%. This is higher than hurdle rate of the Philippines’ National Economic and Development Authority (NEDA), which only accepts a project if its IRR is greater than 15%. Furthermore, 20 years of working after graduation from secondary schools is an acceptable gauge of the EIRR. Therefore, SEDIP’s cost efficiency is considered secure for project implementation.

Table 18: Project EIRR (used as reference)

Programs	Horizon	EIRR (%)
TEEP	20 years	18.6
	10 years	15.9
TEEP+ SEDIP	20 years	16.2
	10 years	11.9

Source: Impact Evaluation of TEEP (2011)

Although the project cost was within the plan, project duration slightly exceeded the planned period. Therefore, project efficiency is Fair.

3.5 Sustainability (Rating: ③)

3.5.1 Structural Aspects of Operation and Maintenance (O/M)

At the national level, the Physical Facilities and Schools Engineering Division (PFSED) of DepEd has the responsibility to provide assessment and advice for the O/M of school facilities and develop necessary specification of school facility. PFSED is also tasked with monitoring and assessing school operation and maintenance.

The Schools Division Superintendents (SDSs) and Physical Facility Coordinators (PFCs) in DOs are responsible for the implementation of regular school monitoring and the school maintenance plan; they report to the DepEd. However, due to the increase of secondary schools and shortage of DO staff, it was confirmed in the interview that DOs have difficulty in regularly monitoring all school facilities. The results of questionnaire in the beneficiary study²⁹ show that only 61.8% of SEDIP schools are regularly monitored by DO staff.

At the school level, there is a program called “Brigada Eskwela,” in which the LGUs, PTCAs, nongovernmental organizations, and other people concerned undertake the repair and cleaning up of

²⁹ The questionnaire about the state of school facility maintenance used a five-point scale (1: Never, 2: Seldom, 3: Sometimes, 4: Often, 5: Always); the responses of 4 (often) and 5 (always) were summed up. The respondents were 102 principals from SEDIP target schools.

schools during the third week of May, just before the opening of classes. It was observed that some schools involved the PTCAs in school maintenance since some PTCA members were skilled workers and carpenters. The implementation of SBM accelerated bottom-up education development planning with community participation, school-based management led by the principal, and the allocation of a portion of the LGU budget for the education sector. In addition, efforts were made to institutionalize good practices in the education administration system.

It can be concluded that the necessary institutionalization was done for the O/M of school facilities regarding structural management, although regular monitoring by DOs is only partially satisfactory.

3.5.2 Technical Aspects of Operation and Maintenance

NPMO developed and distributed the O/M manual to all target schools. A workshop on how to use the O/M manual was conducted for 340 participants (school principals, supply officers, and property custodians) from 15 target provinces. Each participating school developed a school maintenance plan as the workshop's output and submitted it to their DOs.

It was confirmed that certain schools have not utilized teaching equipment, such as electronic devices, logic circuits, welding machines, and can sealers, due to the teachers' lack of knowledge and training. The field study found that no INSET has been organized after the Project was completed. Some teachers who had attended INSET quit the profession or were transferred to other schools. Thus, the schools that they left had difficulty in practicing O/M. Therefore, the technical aspects of O/M are a little problematic.

3.5.3 Financial Aspects of Operation and Maintenance

DepEd has allocated 950 million pesos for the School Based Repair and Maintenance Scheme (SBRMS)³⁰ for both primary and secondary schools; the funds are coursed through DOs in accordance with the DepEd Ordinance of 2008. The SBRMS is given to a school when the DO accepts the application, and PFC monitors the repair and maintenance. It was found that the Leyte province office prioritizes SEDIP schools to provide SBRMS for facility maintenance.

It is prescribed that LGUs shoulder the construction of school facilities. The LGU provides Special Education Funds (SEF) to primary and secondary schools for their O/M. The expenses of each LGU level in Leyte Province are shown in Table 19. The expenses of Municipalities and Sub-Districts are largest and tend to increase. It was pointed out that TEEP and SEDIP targeting of primary and secondary schools spurred the increase in LGU spending and forged cooperation between LGUs, Dos, and schools.

³⁰ The target is primary and secondary schools, and the unit annual amount is not more than 100,000 pesos per school.

Table 19: Expenses for Primary and Secondary Education of LGUs (Leyte Province; unit: Philippine peso)

LGU	2006–2007	2007–2008	2008–2009
Province	3,401,901	4,949,476	3,800,515
Municipality, District	6,965,562	32,333,310	50,415,957
Barangay (village, barrio)	622,970	280,450	628,670
Total	10,990,433	37,563,236	54,845,143

Source: Leyte Province Division Report Card (DRC)

At the school level, the O/M budget is mostly dependent on the Maintenance and Other Operating Expenses (MOOE) provided by DepEd to each school. The LGUs' infrastructure funds (Educational development assistance and school building program of DPWH), as well as funds from NGOs, PTCAs, School Alumni Associations, commercial and industrial establishments, and philanthropic organizations, were also used for O/M.

Table 20 and 21 below show the average annual incomes and expenditures of O/M budgets. From 2008 to 2010, incomes exceeded expenses; income and expenditure of ordinary operation and maintenance cost at school level are accurately balanced.

It can thus be concluded that the financial aspects of O/M do not have any problem.

Table 20: Average Annual Income for O/M

	2008	2009	2010
DepEd (MOOE)	338,117	421,573	387,204
LGU	184,105	156,385	144,200
PTCA	43,381	63,867	64,388
NGO, other organizations	25,250	21,833	21,500
Community	17,650	12,664	12,282
Total	608,503	676,322	629,574

Source: Beneficiary Survey

Table 21: Average Annual Expenditure for O/M

	2008	2009	2010
Facility	448,695	458,663	451,721
Furniture	41,506	47,511	42,707
Teaching materials	35,775	41,591	32,058
Total	525,976	547,765	526,487

Source: Beneficiary Survey

3.5.4 Current Status of Operation and Maintenance

School facilities are generally well maintained. The beneficiary survey also confirmed that many facilities were frequently used. On the other hand, water supply systems have some problems: the usage and maintenance of water supply systems were poor, and some schools do not use the toilets due to the lack of water supply.

Overall, the sustainability of the Project's effects is considered high, as no major problems have been observed in the structural, technical, and financial aspects of operation and maintenance systems.

4. Conclusion, Lessons Learned, and Recommendations

4.1 Conclusion

SEDIP supported the construction/repair of school facilities, provision of learning materials and textbooks, and teacher training cofinanced by the ADB. The Project's aim was the quantitative and qualitative improvement of secondary education in 26 poverty-affected provinces. The ex-post evaluation showed that the project's purpose corresponded with the development policy and needs of the Philippines, and with Japan's ODA policy; therefore, the relevance is high. Judging by the results of the beneficiary study, SEDIP's effectiveness and impact can be given a fair rating because improvements were observed in the quality of education related to teacher capacity and student test scores, even though the Project's effects on indicators, such as the NER, dropout rate, and completion rate were limited. Efficiency also gets a fair mark since project cost remained within the budget, while project duration slightly exceeded that of the plan. The sustainability of the Project's effects were given a high rating, as no major problems have been observed in the structural, technical, and financial aspects of the operation and maintenance system.

In the light of the evaluation above, this project is considered satisfactory (B).

4.2 Recommendations

4.2.1 Recommendations for the Executing Agency

(1) Repair of water facilities

In many target schools where SEDIP provided the water supply system, it was observed that water pumps, tanks, and pipes had broken down. Insufficient maintenance of water supply made the inability to use water in toilets and laboratories. DepEd should require DOs to scrutinize and report the current maintenance situation of each target school for maintenance work.

(2) Effective use of teaching materials

Teaching materials were procured based on the needs of each target school surveyed by school-mapping. However, some teaching materials have not been fully utilized due to a shift in the emphasis of curriculum content.³¹ An inventory of unused teaching materials and their redistribution according to the requirements of each school are needed for the effective utilization of the materials. Moreover, DepEd or DOs should continue to provide training on the O/M of teaching materials for newly appointed teachers.

4.3 Lessons Learned

³¹ For example, in the Industrial Arts, information processing has a higher priority than woodworking and metalworking. Thus, there are cases wherein the equipment for woodworking and metalworking are not utilized.

(1) Use equity to generate LGU ownership

LGUs continuously provide financial support for the sustainable operation and maintenance of facilities in the Project's target schools. One of the lessons learned is that requiring LGUs to share the cost burden of the School Building Program encouraged them to increase their ownership and gave them the incentive to allocate a budget for the education sector.

(2) Plan for continuous teaching material usage and teacher training on maintenance

Some schools had difficulty with O/M of teaching materials because the teachers who attended INSET quitted their profession or were transferred to other schools. Therefore, periodic training for newly assigned teachers and the corresponding budget allocation for the training have to be planned from the beginning of the project so that teaching materials will be continuously maintained after the project.

(3) Strengthen quality control on the procurement process of teaching materials

Some of the teaching materials procured during the Project were of low quality; for instance, test tubes, microscopes, and generator models broke down after several uses, making it difficult to maintain the teaching materials. The quality of the procured materials spells the difference between the success and failure of the future maintenance. Therefore, it is critical to secure the quality of procured materials by strengthening the procurement process, such as designing tender documents in order to exclude low-quality items and confirm the quality of procured materials.

(4) Encourage facility maintenance through community participation

The Project applied the community participatory approach for school maintenance. SBM training, one of SEDIP's components, strengthened the relationship between the community and the school, and encouraged networking and the contribution of resources for school management and maintenance. School buildings and toilets built by the Project are well maintained, mainly by the community. Therefore, the promotion of community participation through SBM can be regarded as an effective approach to managing and maintaining hardware.

Comparison of the Original and Actual Scope of the Project

Item	Original	Actual
<p>① Output</p> <p>1. School Construction and Repair</p> <p>2. School furniture</p> <p>3. School equipment</p> <p>4. Distribution of textbooks and teacher's guides</p> <p>5. Principal training</p> <p>6. Drop-out Reduction Program (DORP)</p> <p>7. INSET</p> <p>8. High School Innovation Fund (HSIF)</p> <p>9. SBM training</p>	<p>1. 650 schools in 14 provinces</p> <p>2. 650 schools in 14 provinces</p> <p>3. 650 schools in 14 provinces</p> <p>4. 850 schools in 26 provinces</p> <p>5. 650 principals</p> <p>6. 180 schools</p> <p>7. 9,700 teachers</p> <p>8. 325 schools</p> <p>9. 800 principals</p>	<p>1. 833 schools in 15 provinces</p> <p>2. 840 schools in 15 provinces</p> <p>3. 968 schools in 15 provinces</p> <p>4. 850 schools in 26 provinces</p> <p>5. Student assessment (857), the learning management program and instructional support to teachers (836)</p> <p>6. 240 schools</p> <p>7. Modern teaching methods (11,067), classroom management (11,078), care and use of learning support materials (10,803), and student-centered assessment (11,048).</p> <p>8. 351 schools</p> <p>9. 829 principals</p>
<p>② Project Period</p>	<p>December 1999 to December 2006 (85 months)</p>	<p>December 1999 to September 2008 (106 months)</p>
<p>③ Project Cost</p> <p>Foreign currency</p> <p>Local currency</p> <p>Total</p> <p>Yen loan</p> <p>Exchange rate</p>	<p>5,471 million yen</p> <p>14,991 million yen (4,997 million pesos)</p> <p>20,462 million yen</p> <p>7,210 million yen</p> <p>1.0 Philippine Peso = 3.0 yen</p> <p>(As of January 1999)</p>	<p>4,691 million yen</p> <p>10,341 million yen (4,536 million pesos)</p> <p>15,032 million yen</p> <p>6,477 million yen</p> <p>1.0 Philippine Peso = 2.28 yen</p> <p>(Dec. 2009 to Sep. 2008)</p>

The Republic of Indonesia

Ex-Post Evaluation of Japanese Technical Cooperation Project
“Regional Education Development and Improvement Program (REDIP)”

External Evaluator: Haruo ITO, ICONS Inc.

0. Summary

The Regional Education Development and Improvement Program (REDIP), which aims to establish and extend school-based management with community participation in the decentralized educational administration system (REDIP model), was implemented in three districts/cities in North Sulawesi and Central Java where the REDIP model had already been implemented (hereinafter referred to as REDIP 2¹ target districts) as well as in two districts in Banten province (hereinafter referred to as new target districts). The project has been highly relevant with the country’s development policy and needs.

At the time of the project completion, though some indicators were not achieved, school- and proposal-based activities (for improving the quality of education) was implemented by using a block grant based on the REDIP model. At the time of the ex-post evaluation, on the other hand, a part of REDIP approach has been implemented in the PSBM² of Indonesian government using the BOS³, the national program supported by the World Bank. However, some important elements of the REDIP model are not fully implemented after the project completion as regards enhancement of the cooperation among schools including Islamic junior secondary schools (MTs) and the school-based management with community participation. It is therefore evaluated that the original objectives, establishment of the REDIP model and its integration into the existing educational system, have not been completely achieved. In the meantime, positive impacts, such as application of the REDIP model to the REDIP-G⁴ and REDIP-P⁵ and influence on the national BOS program, have been identified. The project’s effectiveness/impact as a whole is evaluated as fair.

Project efficiency also receives a rating of fair; though the project period was

¹ The program was based on the “REDIP model,” which was developed and experimentally introduced in Phase 1 and Phase 2 of the REDIP development study (1999–2004). In this report, the program (2004–2008) to be evaluated is referred to as “REDIP,” the first phase of the development study is referred to as “REDIP 1,” and the second phase is referred to as “REDIP 2.”

² Participatory School-Based Management

³ Aiming at nine year’s free compulsory education, direct subsidies are allocated according to the number of students in each school. Both public and private Junior secondary schools as well as Islamic junior secondary schools are targeted, and the amount of grants is 710,000 rupiah per student.

⁴ REDIP-G is the program that is being implemented since 2005 through an initiative of the Indonesian Government, based on the REDIP model. “G” stands for “government.”

⁵ REDIP-P is the program that is being implemented through an initiative of the provincial education office, based on the REDIP model. “P” stands for “province.”

within the plan, the project cost exceeded the plan.

The sustainability of the project effects is fair. In the PSBM program with the BOS fund, the structural aspect of counterparts faces some challenges as community participation for the school planning has been limited; and the financial aspect also faces some issues as budget allocation is not enough for activities for improving the quality of education.

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

1. Project Description



Project Locations



Subject Teacher Support Program: MGMP

1.1 Background

The Republic of Indonesia (hereinafter referred to as Indonesia) nearly achieved universal primary education in the early 1990s, though enrollment in junior secondary education remained low (in 1993, the net enrollment ratio [NER] was 93.5% for primary education and 40.2% for junior secondary education).⁶ The government had taken various measures to improve enrollment and instructional quality through the enforcement of compulsory junior secondary education by the year 2003. However, the economic crisis that occurred in 1997 affected the education sector, which saw a decrease in the enrollment rate and a rise in the dropout rate because higher school expenses (transportation fees and cost of uniforms and learning materials) increased the financial burden on families. The Government of Indonesia promoted initiative of each school and community through reflecting the socio-cultural diversity of the various regions and the needs of individual schools in the makeup of educational administrations by decentralizing⁷ the entire educational administration system. However, due to the lack of sufficient preparation for this transition process, the local educational administration was

⁶ "Current Situation and Trends in Reform of Education and Human Resource Development in Indonesia," Ministry of Foreign Affairs, Japan

⁷ The structure of county administrative in Indonesia is; Provinces> districts and cities> sub-district (Kecamatan). Districts and cities are the same administrative level.

not appropriately functioned as seen in a steep decline in the budget allocation granted to schools, the stagnation of school management, and the complexities of roles and responsibilities among educational officers, principals, and teachers.

As a support to the Indonesian educational administration, the Japanese government implemented Community Participation in Strategic Education Planning for School Improvement (COPSEP, 1997–1998) and Regional Education Development and Improvement (REDIP 1 and 2, 1999–2004) as pilot project designed to develop a participatory school-based management model (REDIP model). As a result, an increase in the number of junior secondary students, a decrease in dropouts, improvement in school and classroom management by principals and teachers, and an enhancement of student motivation were identified. The project was implemented in September 2004, for a period of 4 years, in response to requests by the Indonesian government for expansion of the REDIP model through a) a strengthening of the planning and management capacity of local educational administrators; and b) an extension of the REDIP model to low secondary-enrollment areas.

1.2 Project Outline

Overall Goal		Junior secondary education in the target districts/cities ⁸ is improved both quantitatively and qualitatively.
Project Objective		REDIP model (school-based management with community participation) is established and extended in the educational administration system at the junior secondary level in the target districts/cities.
Outputs	Output 1	Tools for dissemination of the REDIP model are developed and used in target and non-target provinces.
	Output 2	(In target provinces continued from REDIP 2) District and sub-district education officers, school personnel, community members and other concerned parties are trained to manage the REDIP model independently in the Brebes and Pekalongan districts in Central Java province and the Bitung city in North Sulawesi province.
	Output 3	(In new REDIP target districts/provinces) A REDIP-type regional educational administration model is developed and adapted to the socio-economic conditions of Serang ⁹ and Pandeglang districts in Banten province.
Inputs		Japanese Side: 1. Experts: 9 persons 2. Trainees received: 17 persons 3. Equipment: 2.89 million yen 4. Local cost: 781 million yen

⁸ Target districts continued from REDIP 2 are Brebes and Pekalongan districts in Central Java province and Bitung city in North Sulawesi province. New REDIP target districts are Serang and Pandeglang districts in Banten province.

⁹ Serang district was divided into Serang city and Serang district in 2009. Both were targeted by REDIP.

	<p>5. Others (incl. dispatch of related missions)</p> <p>Indonesian Side: Counterparts: Ministry of National Education (MONE), Provincial, District/City Education, and Culture Office personnel (Dinas P&K): total of 23 persons 1. Land and Facilities, Project Office, Utilities 2. Local Cost: Block grant of 275 million yen</p>
Total cost	885.71 million yen
Period of Cooperation	September 2004 – September 2008
Implementing Agency	MONE Dinas P&K (provincial, district/city education and culture office) in the target provinces
Cooperating Agency in Japan	Tokyo Institute of Technology
Related Projects	<ul style="list-style-type: none"> - In-country training program (COPSEP) (1997–1998) - Development study: The Regional Education Development and Improvement Program 1 (REDIP 1) (1999–2001) - Development study: The Regional Education Development and Improvement Program 2 (REDIP 2) (2002–2005) - Technical cooperation: “The Program for Enhancing Quality of Junior Secondary Education (PELITA)” (2009–2013)

1.2.1 REDIP model

The following chart describes the structure of the REDIP model and its four components:

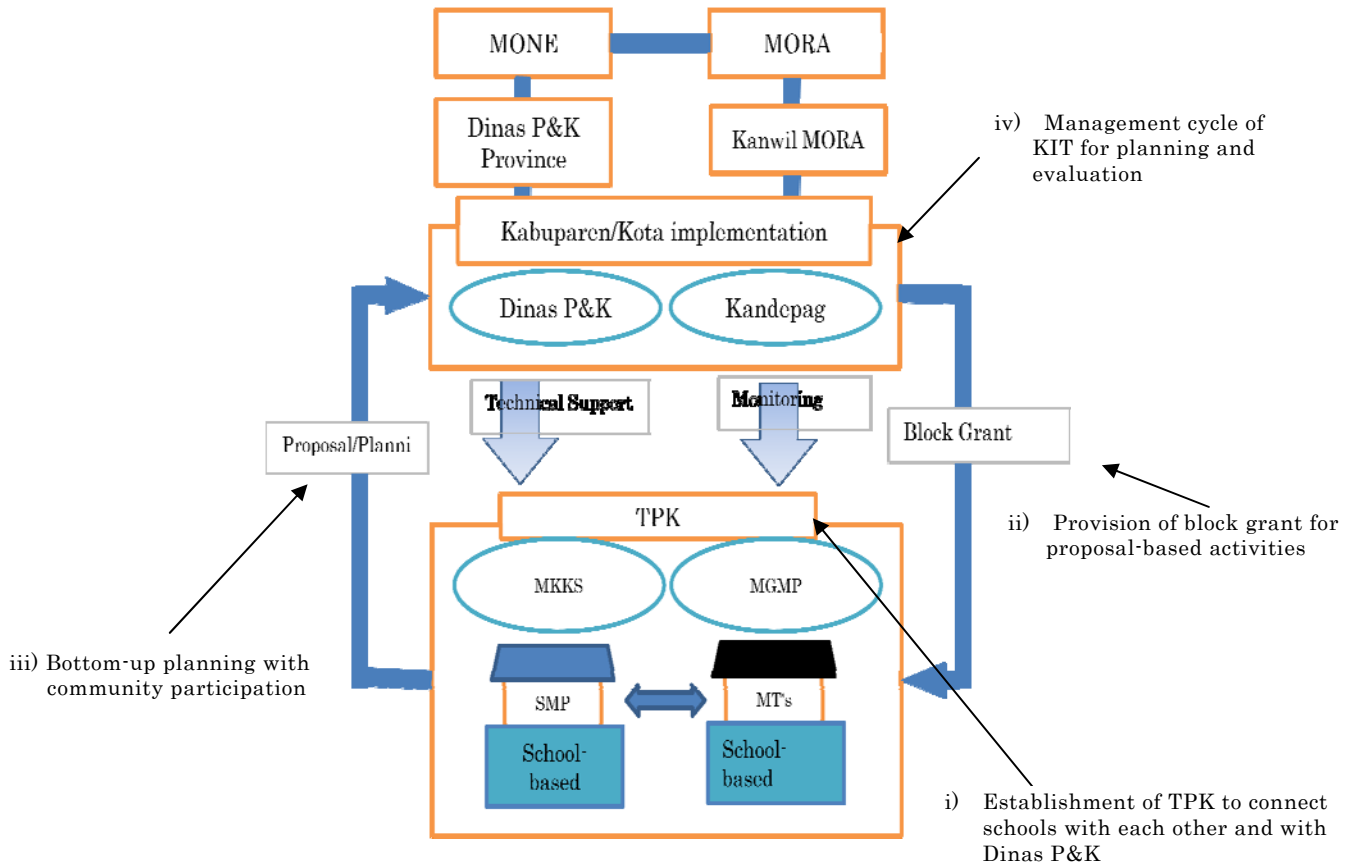


Figure 1: The Four Components of the REDIP Model

The components of the REDIP model; i) to establish each Kecamatan SMP Development Team¹⁰ (TPK, which is in charge of promoting cooperation between junior secondary schools (SMPs) and MTs, determining the educational needs of sub-districts, proposing planning activities, implementing activities, providing technical support to schools, and monitoring activities); ii) TPKs and Schools submit proposals based on community needs, have them approved by the Kabupaten/Kota Implementation Team (KIT,¹¹ which is in charge of promoting cooperation between Dinas P&K and Kandepag, proposal assessment and monitoring and evaluation of activities) and receive a block grant as a budget for proposed activities; iii) schools and TPKs are able to propose activities based on their own needs and priorities and to implement the submitted

¹⁰ TPK membership consists of Sub-district Governor's Office, Sub-district Education Office (UPTD), principals, teachers, members of school committees, community/religious leaders, and village heads.

¹¹ KIT consisted of members from Dinas P&K and the District/City Development Planning Board.

activities using block grants (approximately 300,000 yen/year for each school). For example, target TPKs and schools implemented activities that strengthened the relationship between schools and communities (sport and art events), teacher training, improving enrollment rates, preventing dropout, and school management; iv) KIT is in charge of managing the project cycle, planning, implementation, and evaluation of school and TPK activities.

Block grants from the project were provided as seed money (start-up funds) intended to induce future budget allocations for the project by districts and cities. District governments and the Japan International Cooperation Agency (JICA) entered into a mutual agreement regarding financial contributions, and the continuous provision of block grants was expected to continue even after completion of the project. In addition to the block grants, the project introduced a matching-fund system; the expenses of school activities were also collected from the community by TPKs and schools based on the needs of school activities.

Indonesian field consultants¹² were hired by the project to provide technical support for the TPKs and the schools and to help them develop proposals and financial and activity reports. It was planned that the roles and responsibilities of these field consultants would be transferred to supervisors¹³ of Dinas P&K and to local facilitators (TPK members and principals with full understanding of REDIP) who would support the supervisors by the end of the project.

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement of Overall Goals

It is difficult to establish a causal relationship between the effects of the project (REDIP model) and the indicators of the project's overall goals, which included improvement of the enrollment ratio, a reduction in the dropout rate, and improvement in students' national examination scores. The results of an end-line survey,¹⁴ however, indicated an improvement in teacher capacity and school management. Other confirmed impacts included the following: REDIP-G was launched with funding from the Indonesian Government; the project had a positive effect on Indonesian basic education policy; financial management of national school grants, accountability, and transparency of the financial report system were improved; and collaboration and cooperation between Dinas P&K and the Provincial Religious Affairs Office (the subordinate organization of

¹² Through a technical transfer, the project hired field consultants to support schools, TPKs, and the Education and Culture Office.

¹³ Dinas P&K and the District Religious Affairs Office assigned supervisors to oversee school management and curriculum implementation.

¹⁴ November 2007

the MORA) was stimulated.

1.3.2 Achievement of Project Objective

In REDIP 2 target districts, many indicators of the project objective were achieved: regional educational administrators acquired planning and management capacity and target districts/cities allocated 100% of the budget for proposed activities in the last year of the project; Dinas P&K personnel, supervisors, and replacement personnel were trained in order to be capable of implementing REDIP on their own; and target schools and TPKs implemented the proposed activities. A number of indicators of the project objective in the new target areas were also achieved: TPKs were established in all the target sub-districts; all target schools utilized the REDIP model; and Dinas P&K personnel and supervisors acquired the capacity to implement REDIP on their own. Therefore it was judged the project purpose had potential to be achieved.

1.3.3 Recommendations

The following actions were recommended for the remaining period of cooperation (short-term basis):

- ① Develop a feasible and realistic exit strategy to support the self-sustainment of project activities in Banten province.
- ② Transfer knowledge and skill from field consultants to supervisors and local facilitators for the continuation of proposal-based activities in schools and TPKs.
- ③ Enable target provinces to coordinate and facilitate efforts to promote the REDIP model in other districts.
- ④ Share the effectiveness of the REDIP model with related educational authorities and other development partners through workshops, seminars, and/or donor meetings.

The following actions were recommended for the period after the project implementation (long-term basis):

- ① Establish REDIP networking (REDIP forum) to share good practices, strategies, and challenges among key stakeholders from different regions and administrative levels (district, provincial, and national) in order to continue REDIP.
- ② Set quality standards for each output of the REDIP model to ensure quality of proposal-based activities.
- ③ Strengthen national strategy/policy for improving school-based management and monitoring function of the REDIP model at the central level.

2. Outline of the Evaluation Study

2.1 External Evaluator

Haruo ITO, ICONS Inc.

2.2 Duration of Evaluation Study

Duration of Study: October 2011 to December 2012

Duration of Field Study: November 19 to December 13, 2011; April 1–7, 2012

2.3 Constraints during Evaluation Study

It is difficult to extract the genuine effects of the project (REDIP) for the purposes of the evaluation since, as a successor project to REDIP, the Program for Enhancing Quality of Junior Secondary Education¹⁵ (PELITA) continues to support participatory school management through technical transfers from JICA Experts and field consultants hired by the project in Serang district and Pandeglang district in Banten province.

3. Results of the Evaluation (Overall Rating: C¹⁶)

3.1 Relevance (Rating: ③¹⁷)

3.1.1 Relevance to Development Plan of Indonesia

Indonesian development policy gives high priority to the education sector. Equal opportunity, quality improvement, and improvement of management efficiency in junior secondary education were targeted by Indonesian broad guidelines of state policy (Garis-Garis Besar Haluan Negara: GBHN) and the National Development Plan (PROPENAS: 2000–2004) which describes, in detail, the implementation of GBHN. In addition, the Decentralization Law enacted in May 1999 promoted the decentralization of regional educational administration and aimed for the development of a regional educational administration model incorporating school-based management with community participation in order to improve management efficiency. Thus, at the time of its launch, the project was in line with the national development policy. Furthermore, at the time of the project's completion, the National Education Development Strategic Plan (2005–2009) proposed equal opportunity, quality improvement, and improvement of management efficiency in junior secondary education. Therefore, the project has been

¹⁵ The program has been implemented for the past four years—since December 2008—in order to strengthen central and regional educational administration and capacity of schools for nationwide extension and implementation of participatory school-based management and lesson study. Participatory school-based management has been continuously supported in districts and cities in Banten province, where REDIP was implemented.

¹⁶ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

¹⁷ ③ High, ② Fair, ① Low

evaluated as successfully maintaining consistency with the development plan of Indonesia.

3.1.2 Relevance to Development Needs of Indonesia

North Sulawesi, Central Java, and Banten province, the project's target areas, were experiencing educational problems that included low enrollment rates, low teacher quality, and lack of community participation in school management. In particular, Banten province, the new target area, had gained its independence from West Java province in 2001 and was hampered by a weak regional educational administration and an NER that was lower than the national average¹⁸. The province was thus confirmed as an area of high need among the target provinces of REDIP 2, and the Government of Indonesia requested support for its regional educational administration.

At the completion of the project in 2008, the gross enrollment rate in junior secondary education in the target area remained at 91.8% in Banten province, 98.7% in North Sulawesi province, and 99.1% in Central Java province; these figures indicated that the enrollment rate in these provinces was lower than the national average of 95%. Due to the economic disparity in the country, the poorest 12% of the population was not staying in school until Grade 6, and there was a 37% gap between the NER of the rich and the poor at the junior secondary level (National Statistics, 2007). These statistics demonstrated the pressing need for improvement in both educational access and quality.

The project supported not only secular junior secondary schools but also Islamic schools that operate under the aegis of the Ministry of Religious Affairs (MORA). Banten province is home to a high number of the country's Islamic schools, and the ex-post evaluation indicated a strong need for improvement in access to and quality of those that were not receiving sufficient support from MORA.

3.1.3 Relevance to Japan's ODA Policy

Japan's Official Development Assistance (ODA) policy for Indonesia (2004) identified the education sector as a key area in need of assistance and put emphasis on the improvement of regional educational administration, the quality of education (teacher quality and school management), and access to education. JICA's ODA Strategy for Indonesia was formulated following Japan's ODA policy for Indonesia in 2005; it gave priority to secondary education with the aim of improving the same areas. The project is also relevant to Japanese ODA's upper-level policies such as Basic Education Growth and Initiatives (BEGIN), which strives for improvement in the quality of education through

¹⁸ Only the gross enrollment rate in 2007 was obtained. The average was 88.8% in Banten province compared to the national average 92.5% at that time.

improvement of school management.

Accordingly, the project has been highly relevant with the country's development plan, development needs, and Japan's ODA policy; therefore, its relevance is high.

3.2 Effectiveness and Impact¹⁹ (Rating: ②)

3.2.1 Effectiveness

3.2.1.1 Project Output

1) Output 1

Both REDIP 2 and new target provinces: Tools for dissemination of the REDIP model are developed and used in target and non-target provinces.

Output 1 was achieved by the end of the project.

Indicator 1-1 was the number of newsletters containing information about the contents and outputs of the project that were distributed in target and non-target provinces; the result is shown in Table 1.

Table 1: Number of Distributed Newsletters

		Number of Publications
Target Areas	North Sulawesi	248
	Central Java	2,121
	Banten	1,661
Non-target Areas	REDIP-G	895
	South Minahasa fistrict, North Sulawesi province	600
	Central Java REDIP-P	595
	Banten province REDIP-P	90
	Serang fistrict REDIP	230
	Pandeglang province REDIP	195

Source: Final Evaluation Report

Indicator 1-2 concerns the checklists for proposal review in each province; the checklists were constructed according to the individual situation in each province and were used for proposal review.

Indicator 1-3 concerns the action plan for localization for each target district; REDIP Mandiri²⁰ guidelines were completed in Brebes and Pekalongan district and

¹⁹ Sub-rating for effectiveness is to be put with consideration of impact.

²⁰ Mandiri is Indonesian; its meaning is "independent."

Bitung city in 2008. The action plan was not completed in the new REDIP target districts.

Indicator 1-4 addresses the number of provinces/districts/non-districts in which the REDIP model was introduced. REDIP-G and REDIP-P, which were developed through application of the REDIP model, are implemented with the central and provincial budgets in non-target districts and cities. Technical support for REDIP-G and REDIP-P is described in “3.2.2.3 Other Impacts.”

Table 2: Provinces/Districts/Sub-districts That Introduced the REDIP Model

Program	Province	District/ City	No. of Target Sub-Distri cts	Target Schools	No. of Target Schools
REDIP-G	West Java	Bogor	8	All secondary schools except very high-level and Islamic schools in additional target sub-districts	84
		Bekasi	7		98
	Banten	Tangerang	8		121
REDIP-G subtotal		23 (out of 99)			303
REDIP-P	Central Java	Rembang	4	Two Main/Central schools in each sub-district	8
		Tegal	2		4
		Semarang	2		4
		Sragen	2		4
		Blora	2		4
	Banten	Lebak	5	SMP, MTs, all public and private junior secondary schools	48
REDIP-P Subtotal			17		72
REDIP Mandiri	Banten	Serang	5	SMP, MTs, all public and private junior secondary schools	36
		Pandeglang	6		27
	North Sulawesi	Tomohon	5		20
District Subtotal REDIP			16		3
Grand total			56		458

Source: Final Evaluation Report

2) Output 2

REDIP 2 target provinces: District and sub-district education officers, school personnel, community members, and other concerned parties are trained to manage the REDIP model independently in Brebes and Pekalongan district in Central Java province and Bitung city in North Sulawesi province.

Training for district education officers was led by the project’s field consultants in the REDIP 2 target provinces in order to attain self-sustainable implementation of the REDIP model. On the other hand, even though training sessions were successfully carried out, those officers still had difficulties in managing REDIP activities without support from field consultants at the time of project completion as described in 3.2.1.2 Achievement of Project Objectives.

Indicator 2-1 is the number of trainings related to planning and implementation of REDIP-type educational administration for regional educational administrators; these were accomplished as described in Table 3.

Table 3: Number of Trainings Conducted and Their Contents

Year in the Program	Number of trainings	Contents
Year 1	24	Three were for emergency relief for the earthquake in Aceh.
Year 2	8	Technical exchange activity among districts is counted as one occurrence.
Year 3	25	Includes meetings of REDIP Mandiri (9 times) and REDIP-G (2 times).
Year 4	26	Includes REDIP Mandiri (15 times), REDIP-G meeting (1 time), and SISTTEMS mission (1 time).

Source: Project Completion Report

In addition, Table 4, which shows the results of an evaluation carried out by field consultants, indicates that high-quality training was conducted, enabling regional educational administrators to implement proposal-based activities on their own.

Table 4: Results of Field Consultant Evaluation of Capacity of Regional Educational Administrators²¹

	Brebes	Pekalongan
Understand REDIP very well	4.4	4.5
Able to facilitate process of creating School Improvement Plan	4.2	3.2
Able to facilitate creation of proposals for Block Grants by schools and TPK	4.0	4.0
Able to encourage communication between schools and other stakeholders in education sector	4.0	3.7
Able to monitor REDIP activities	4.3	4.0
Able to facilitate process of implementing activities and creating financial reports	4.2	3.8
Average	4.2	3.9

Source: End-line-survey data by REDIP Expert Team (2007)

Indicator 2-2 concerns the percentage of block grant proposals that were approved at the first review by KIT; the percentage was 60% in Bitung city and 95–98% in Brebes and Pekalongan district; thus, the indicator for quality of proposals written by TPKs and target schools was almost achieved. The reason for the low rate of approval in Bitung city is that educational administrators inspect proposals in a stricter fashion than do those in other districts and cities. Most of the revised proposals were approved after re-submission.

Regarding Indicator 2-3, the percentage of the total project cost covered by district budget allocation increased year by year and reached 100% in the last year of the project in all target districts and cities. This figure, shown in Table 5, demonstrates that the REDIP model became financially self-sustainable in the Education Offices of REDIP 2 target districts and cities.

Table 5: Total Amount and Percentage of District/City Budget in Total Proposal-Based Project Budget

(Unit: million rupiah)

	Year 1	Year 2	Year 3	Year 4
Bitung	578.00 100%	664.70 100%	425.60 100%	800.40 100%
Brebes	4,120.92 46.4%	2,300.00 60.8%	3,050.00 80.7%	3,650.00 100%
Pekalongan	2,494.54 40.0%	1,496.97 60.1%	2,131.60 81.0	2,561.25 100%

Source: Final Evaluation Report

²¹ Five-point scale evaluation by field consultant (1: do not agree at all, 5: strongly agree)

3) Output 3

New target districts/provinces: A REDIP-type regional educational administration model adapted to socio-economic conditions in Serang and Pandeglang districts in Banten province is developed.

Development of the REDIP model was proposed as a goal for the new target districts, but some indicators of schools' capacity for proposal writing were not achieved. Therefore, it cannot be said that the REDIP model was developed in the new target districts during the project period.

Indicator 3-1 considers inter-school activities at the sub-district level as proof of the establishment of TPK activities in the new target districts. The indicator was achieved, since the TPKs organized Principal's Working Groups (KKKS)²² and Subject Teacher Support Programs (MGMP)²³ for all primary schools in the sub-districts.

Indicator 3-2 measures the implementation status of proposal activities at school level by the number of activities that stimulate communication between schools and parents; these activities include home visits and socialization. As described in Table 6, all data at the time of the end-line survey exceeded that of the base-line survey more often in the target groups than in the control group of schools without a REDIP model. This result demonstrates that the project has an effect on promoting teachers' home visits, parents' school visits, and communication between schools and parents.

Indicator 3-3 shows the percentage of the block grant activity proposals that were approved at the first review by KIT. The average of 68%, as shown in Table 6, is evaluated as low. A field survey confirmed that the capacity for proposal creation varies among sub-districts and that problems still remain.

²² KKKS is the system designed to promote school enrollment and dropout reduction through the interschool exchange of information about school management.

²³ MGMP is an activity meant to improve quality of education by implementing interschool teacher training.

Table 6: Percentage of Proposals Approved at First Review

District	Sub-District	Percentage
Serang	Taktakan, Serang	60%
	Bojonegara, Puloampe, Kramatwatu	60%
	Padarincang, Ciomas, Tunjung Teja	80%
	Waringinkurung, Mancak, Anyar	60%
	Tirtayasa, Carenang, Cikande	20%
Pandeglang	Pandeglang, Mandalawangi	80%
	Karangtanjung, Cimanuk, Cipeucang	100%
	Seketi, Menes	70%
	Jiput, Labuan	60%
	Panimng	85%
Average		68%

Source: Final Evaluation Report

3.2.1.2 Achievement of Project Objectives

Project objective: the REDIP model (school-based management with community participation) is established and extended in the educational administration system at the junior secondary level in the target districts/cities.

- 1) Indicator 1: the percentage of district education officers (KIT/school supervisors) who are capable of managing REDIP-related functions without support from field consultants

Indicator 1, which concerns the capacity of KIT members and school supervisors, was not completely achieved in the REDIP 2 target districts/cities; this is shown in Tables 7 and 8.

Table 7: Percentage of KIT Members Capable of Managing REDIP Service Without Support from Field Consultants

		No. of KIT members	No. of KIT Members Capable of Managing REDIP activity	Percentage	Target
REDIP 2 target districts	Bitung	7	4	57%	60%
	Brebes	6	4	67%	
	Pekalongan	6	3	50%	
New target districts	Serang	6	4	67%	40%
	Pandeglang	6	3	50%	

Source: Final Evaluation Report

Table 8: Percentage of Supervisors Capable of Managing REDIP Service Without Support from Field Consultants

		No. of supervisors	No. of Supervisors Capable of Managing REDIP activity	Percentage	Target
REDIP 2 target districts	Bitung	13	8	61%	60%
	Brebes	10	4	40%	
	Pekalongan	4	2	50%	
New target districts	Serang	14(6) ²⁴	14(6)	57% (100%)	40%
	Pandeglang	5	3	60%	

Source: Final Evaluation Report

- 2) Indicator 2: Percentage of block grant funding for proposal-based activities disbursed by District/City government increases year by year.

As shown in Table 9, 100% of the government's budget allocation was achieved in REDIP 2 target provinces as planned, but sufficient budget was not allocated in the new target districts/cities as the figure remained between 20–27%.

Table 9: Percentage of Block Grant for Proposal-Based Activities Disbursed by District/City²⁵

		Year 1	Year 2	Year 3	Year 4
REDIP 2 target districts	Bitung	100%	100%	100%	100%
	Brebes	46.4%	60.8%	80.7%	100%
	Pekalongan	40.0%	60.1%	81.0%	100%
New target districts	Serang	—	0%	3.9%	26.7%
	Pandeglang	—	5.3%	8.8%	22.9%

Source: Final Evaluation Report

- 3) Indicator 3: Percentage of schools and TPKs that implement proposal-based activities as planned reaches at least 80% in REDIP 2 target districts and 60% in the new target districts.

At the completion of the project, the percentage of schools and TPKs that implemented proposal-based activities as planned reached approximately 100% in both REDIP 2 target districts and new target districts.

²⁴ Includes 8 supervisors from the District Office of the Ministry of Religious Affairs. Among these, 2 are capable of managing REDIP-related functions. Numbers shown in parentheses indicate number of personnel from District Education Office.

²⁵ Regarding Year 4 in Serang district and Pandeglang district, JICA did not provide support funds since Year 4 marked the end of the project. Therefore, the percentage of district cost-sharing was calculated according to the JICA fund of the previous year.

- 4) Indicator 4: TPK is established at all pilot sub-districts in Serang and Pandeglang district.

At the time of project completion (May 2008), a TPK was established in all pilot sub-districts, including 12 sub-districts (of 28 total) in Serang district, 2 sub-districts (of 6 total) in Serang city, and 10 sub-districts (of 35 total) in Pandeglang district.

- 5) Indicator 5: REDIP model is introduced to all schools in the new target districts.

At the time of project completion (May 2008), all schools (103 in Serang district, 41 in Serang city, and 107 in Pandeglang district) in the pilot sub-districts implemented proposal-based activities as a result of the introduction of the REDIP model.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

Overall goal: Junior secondary education in the target districts/cities is improved both quantitatively and qualitatively.

- 1) Indicator 1: Net Enrollment Ratio (NER): Enrollment rate and dropout rate in junior secondary education is improved.

As indicated in Tables 10 and 11, an improvement in both NER and the dropout rate was observed, but it is difficult to confirm the causal relationship between these improvement and the effects of the project. As school improvement activities such as KKKS, which are reinforced by the project, continue at the school level, the future achievement of the indicator is expected.

Table 10: NER at National Level and in Target Provinces

		2008	2009	2010
National average		71.60%	73.62%	74.52%
REDIP 2 target districts	Bitung	81.56%	84.15%	85.65%
	Brebes	70.83%	68.41%	73.02%
	Pekalongan	68.57%	74.70%	74.19%
New target districts	Serang	68.31%	68.17%	73.28%
	Pandeglang	54.09%	54.27%	58.35%

Source: Statistics Indonesia, MONE

Table 11: Dropout rate at National Level and in Target Provinces²⁶

		2008	2009	2010
National average*		3.94%	2.49%	2.06%
REDIP 2 target districts	Brebes	1.94%	2.04%	2.54%
	Pandeglang	2.06%	2.06%	2.15%
New target districts	Serang	1.67%	1.71%	1.93%
	Pekalongan	2.10%	2.17%	2.03%

Source: Beneficiary study²⁷

*MONE

- 2) Indicator 2: Key indicators to assess the improvement of quality of education (academic performance of students, teaching skills and school management, etc.) is improved

Table 12 demonstrates that the results of the beneficiary study for school principals show a high degree of satisfaction on the teacher capacity for lesson management. The survey for teachers also indicated that teachers' involvement in classroom activities is more dynamic if they have experience with REDIP activities; this is demonstrated in Table 13. There was a statistically significant difference (5% level) between the teachers who had experience with REDIP and those who did not in use of education materials, lesson planning, group work, and assessing student understanding.²⁸ This result suggests the positive effects of MGMP on the development of teacher capacity.

Table 12: Results of the Questionnaire on the Ability of Teachers to the School Principals

Questions	Average score ²⁹
Satisfied with teachers' capacity	3.8
Satisfied with attitude of teachers in lessons	3.9

Source: Beneficiary Study

Size of sample: 109

²⁶ Beneficiary study did not cover North Sulawesi province; therefore, results from the Bitung district are not included.

²⁷ In the beneficiary study, 103 schools (26 in Brebes district, 25 in Pekalongan district, 35 in Serang district, and 25 in Pandeglang districts) were selected from the target areas by random sampling.

²⁸ It is presumed that mainly teachers hired after the project's completion are included.

²⁹ Average of five-point scale evaluation by principals regarding teacher capacity (1: do not agree at all, 2: do not agree, 3: fair, 4: agree, 5: strongly agree)

Table 13: Results of the Questionnaire on the Attitude of Teachers toward Lessons

Questions	Experience with REDIP	Average Score ³⁰	Significant Difference
I use teaching-learning materials (e.g., maps, globes, models, skeletons, photos, picture cards) in my lessons.	No	2.6	**
	Yes	3.5	
I prepare lesson plans.	No	3.9	**
	Yes	4.7	
I design seating arrangements before class (for group work, pair work, or individual work).	No	3.5	
	Yes	3.9	
I develop teaching aids such as worksheets, models, or charts to be used in my lessons.	No	3.8	
	Yes	3.6	
I check the degree of student understanding at the end of lessons.	No	4.0	*
	Yes	4.4	
I periodically evaluate student understanding.	No	4.0	
	Yes	4.2	
I review my lessons and my teaching after class.	No	4.0	
	Yes	4.2	

Source: Beneficiary study

**1% level significant difference

*5% level significant difference

Size of sample: Teachers without REDIP experience: 41; Teachers with REDIP experience: 174; Total 215

The results of the interview indicated that school accountability was enhanced and cooperation from community was promoted as a result of increasing the communication between schools and communities through participatory bottom-up planning, which was a component of the REDIP model. As described in Table 14, the results of the beneficiary survey show that teachers displayed positive attitudes toward school management in REDIP target schools.

Table 14: Results of Teacher Questionnaire Survey About School Management

Questions	Average
Principal shows leadership in school management (making school policies, planning, meetings, etc.).	4.5
Principal encourages teachers and school staff to participate in school management.	4.4
I am involved in making school policies and planning.	3.9
I actively participate in school meetings by, for example, asking questions, sharing information, clarifying issues, and expressing disagreement.	4.0
Teacher training is recognized as one of the highest priorities in my school.	4.0
I meet with other teachers regularly to share and discuss instructional ideas and materials in school.	4.0

Source: Beneficiary study

Size of sample: 212 persons

³⁰ Average of five-point scale self-evaluation about engagement in class (1: do not agree at all, 2: do not agree, 3: fair, 4: agree, 5: strongly agree)

Regarding academic performance of students, the improvement in the national exam results of the target schools was confirmed, though a causal relationship between that improvement and the project effects is not clear. It can be presumed that teacher capacity development activities such as MGMP have made some contribution to the improvement of national exam results in the target districts. However, other donors also support improvement of education quality; therefore, the improvement cannot be considered a direct impact of the REDIP model.

Table 15: National Exam Results in REDIP Target Districts and National Average³¹

		2008	2009	2010
National average*		6.47%	5.95%	6.26%
REDIP 2 target districts	Brebes	6.84%	6.99%	7.02%
	Pekalongan	6.25%	6.44%	6.60%
New target districts	Serang	6.57%	7.26%	7.03%
	Pandeglang	6.77%	7.24%	7.49%

Source: Beneficiary study

*MONE

3.2.2.2 Current Situation of the REDIP Model After the Project Completion

Since the project completion, the continuous provision of block grants from target districts/cities to TPKs and schools has not been accomplished due to budget constraints of the target districts/cities and resultant higher budget priority placed on school infrastructure. In addition, assessment of proposals and monitoring of activities by KIT has not been implemented due to transfer of the education administrators who received training. The function of connecting Dinas P&K to schools, which was expected to be undertaken by TPK also stops. In sum, the four REDIP model components has not fully functioned at the time of the ex-post evaluation. Therefore, it is evaluated that the project objective (establishing the REDIP model) has not been accomplished because some indicators of project outputs and purposes were not achieved at the time of project completion and the function of the REDIP model has been also limited at the time of ex-post evaluation.

Activity cycle based on the REDIP model has not continued in REDIP 2 target districts/cities, but school-based management activities introduced by the project has been carried out through Participatory School-based Management (PSBM) with the BOS fund. JICA confirmed with Indonesian government and other donors that after the project completion, the REDIP model is considered to be integrated into the PSBM policy under the BOS project rather than remaining the REDIP model itself. In fact, a part of REDIP

³¹ Beneficiary study did not cover North-Sulawesi Province; therefore, results from Bitung District are not included.

approach such as participatory school-based management and accounting methods have been applied to the management of BOS.

Though school activities carried out by REDIP has still continued with using BOS fund, schools have not enough budget to maintain REDIP activities because most part of the BOS fund is allocated to the schools' operational costs including teachers' salary. Since the application of BOS fund does not require the proposal writing of REDIP model which composes of the dialed planning with community participation, the school-based management with community participation which is an important element of the PSBM policy and focusing in the REDIP model has not been promoted by the BOS implementation.³²

The function of TPK, strengthening cooperation among schools (including MTs) and between schools and Dinas P&K has transferred to the Sub-district Education and Culture Office (UPTD). The TPK's proposal-based activities with block grants, community participation and involving of MTs, all of which are focused in REDIP, has been decreased. Above all, the REDIP approach is considered not being fully integrated in the PSBM policy under the BOS. Therefore, the project purpose "the REDIP model is extended in the educational administration system" was not achieved at the time of the ex-post evaluation.

3.2.2.3 Other Impacts

(1) Dissemination of REDIP to non-target districts

REDIP-G and REDIP-P, developed by the initiative of Indonesian side through application of the REDIP model, have been carried out since 2005 in non-target districts. REDIP-G was launched in 126 schools in nine sub-districts in three districts (Bogor, Bekasi, and Tangerang district) near Jakarta in 2005 by the Directorate General of Primary and Secondary Education Management (DGPSEM) of MONE by utilizing the outputs of this project. The project supported to the dissemination of the REDIP-G by providing inputs such as strengthening capacity of stakeholders and supporting development of guidelines. While REDIP supports Islamic schools as well, REDIP-G supports only secular secondary schools³³. The other difference from the project is that REDIP-G uses a system that requires submission of only four-year school plan instead of a proposal. There were 415 REDIP-G target schools in the four cities between 2009 and 2012. REDIP-G changed its name to PSBM/REDIP-G³⁴ at the second year of its

³² The REDIP model and the PSBM guidelines developed by REDIP are applied to not only to PELITA but to The project for the "Integrated Program for Junior Secondary Education Improvement in South Sulawesi" and the "Technical Support for Strengthening the Regional- Based Education Management (Maluku)"

³³ REDIP-G supported Islamic schools during 2005-2006.

³⁴ PSBM/REDIP-G is currently called the School-based Quality Improvement Program (PPMBS).

implementation. PSBM (Participatory School-Based Management) is the secondary school development with community initiatives specified in the national, district, and city mid-term development plans. The field survey in the REDIP-G target districts confirmed that the project contributed to the promotion of PSBM in the aspects of supporting bottom-up community participatory planning and securing budget transparency and accountability. The budget for REDIP-G is continuously secured by MONE and a part of the project's cost is borne by districts/cities.

On the other hand, with the aim of an expansion of REDIP model at the province level, Dinas P&K province (education and culture office at the provincial level) of the target province has implemented REDIP-P by using its own budget. It started after an information-sharing workshop to introduce REDIP to the provincial governments. The project's local consultants also provided technical assistance to regional staff of REDIP-P.

Table 16: Implementation Situation of REDIP-P (As of 2011)

Province		Target Districts	No. of District
REDIP 2 target districts	North Sulawesi	Sitaro North Minahasa Minahasa (from 2010) Bltem (from 2010)	1 1 1 1
	Central Java	Implemented in Blora, Rembang, Semarang, Sragen and Tegal district from 2007 to 2009, but has not been implemented since 2009	
New target districts	Banten	Lebak (implemented by district budget from 2010)	5

Source: Results of Ex-post Evaluation.

The North Sulawesi district Education Office used funds from the provincial budget to launch REDIP-P in the four new districts by utilizing the outputs of the REDIP model established in Bitung city. The North Sulawesi Education Office provides block grants not only to schools but also to UPTD³⁵ and is expected to allocate budget funds continuously to the project. Banten province has implemented REDIP-P based on this project's REDIP experience in 45 new schools in Lebak district that have been funded through the provincial budget since 2007, and by the district budget since 2010. Banten province also planned to start REDIP-P in South Tangerang district in 2010, but the project's initiation has been delayed because the budget has not yet been approved. The Provincial Education & Culture Office pointed out that the current educational budget gives priority to infrastructure, making it rather difficult to allocate funds to REDIP-P at

³⁵ REDIP-P also requires the establishment of TPKs, but some districts do not establish them, leaving the task to UPTD.

present. In Central Java province, REDIP-P was implemented in Blora, Rembang, Semarang, Sragen, and Tegal districts from 2007 to 2009, but it has not operated since that time due to the budget shortage.

(2) Impact on school operation fund of other donors

Some positive impacts of the project on the BOS program has been found. As previously indicated, the elements of REDIP approach has been applied to the BOS accounting. The BOS Daerah (BOSDA)³⁶, in which districts and cities allocate the counterpart funds to each school based on the amount of BOS coming from central budget in order to secure self-sustainability of the project, was also introduced in some areas. Moreover, Variable BOSDA³⁷, in which each school receives flexible amount of fund according to the necessity of school, has been trialed by applying the concept of REDIP model's block grants. However, BOS program does not necessarily intend to promote participatory school based management as previously mentioned, and BOSDA/Variable BOSDA which apply the part of REDIP model is introduced only limited areas of Indonesia.

(3) Impact on Islamic schools (Madrassa)

Before the project's inception, Madrasa was dependent mainly on contributions from the community to cover its operating costs. Some Madrasa staff who received the project's assistance pointed out that proposal-based activities during the project improved their education materials, equipment, and teacher capacity. This practice of supporting all types of schools equally has a positive impact on the elimination of vertically divided administrative functions between Dinas P&K and the District Religious Affairs Office. The positive impact is also identified that the Ministry of Religious Affaire has allocated REDIP model's block grants to 24 MTs in Banten province since 2011.³⁸

As seen above, the part of REDIP approach has been implemented as PSBM using BOS. However, some important elements of REDIP activities are not fully implemented after the project completion in terms of enhancing the cooperation among schools including MTs and school-based management with community participation . It is therefore evaluated that the project objectives, establishment of the REDIP model and

³⁶ BOSDA (BOS Daerah) is not a project, but school-based management program with using matching funds from districts under the condition of receiving central BOS fund.

³⁷ Variable BOSDA is designation of the programs which allocate the grants according to schools' needs similarly as the REDIP model. The project's Japanese consultant was engaged to the World Bank to prepare guidelines of Variable BOSDA, and the REDIP calculation formula of block grants was applied to the process of the Variable BOSDA.

³⁸ PELITA progress report 6.

its integration into the existing educational system, have not been accomplished. On the other hand, positive impacts are observed such as application of the REDIP model on the Indonesian government's REDIP-G and REDIP-P and the national BOS program. In light of the above, the project's effectiveness/impact is fair.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

Inputs	Plan	Actual Performance
(1) Experts	<ul style="list-style-type: none"> ● Leader/Educational Development Planning ● Educational Management ● Educational Statistics ● Local Community Development ● Teacher Training ● Economic and financial assessment 	<ul style="list-style-type: none"> ● Leader/Educational Development Planning ● Deputy-Leader/Community Development ● Educational Management and Micro-Planning (1-1) ● Educational Management and Micro-Planning (1-2) ● Educational Management and Micro-Planning (2-1) ● Educational Management and Micro-Planning (2-2) ● Educational Statistics/Impact Analysis ● School Management ● Training Planning (total 9 persons)
(2) Trainees received	About 5 people/year	Total: 17 people
(3) Equipment		Digital video cameras, digital cameras, computers, projectors (total 2.89 million yen)
(4) Total Project Cost	650 million yen	885.71 million yen* *provided by JICA
(5) Total Local Cost		Block grant 275 million yen** **Final Evaluation Report

Source: Project Completion Report

3.3.1.1 Project Cost

At 136% of the projected cost, the actual project cost was higher than planned. Confirmed reasons for this increase were rising contract costs for managing proposal-based activities in Central Java, the organization of a workshop for the purpose of sharing the results of project activities, and the support of REDIP-G implementation by the Indonesian Government. However, detailed information on these cost overruns was not obtained in this ex-post evaluation.

In addition, project funds were also used for emergency relief efforts in earthquake-affected areas of Sumatra Island and central Java by applying the REDIP

approach. Community participatory planning and cooperation between community and school staff for the whole project cycle promoted the rehabilitation of school facilities, the supplying of equipment, and the provision of counseling services and helped accelerate the resumption of classes.

3.3.1.2 Period of Cooperation

The period of cooperation was as planned (100% of the initial plan).

As indicated by the above, the project period was within the plan, but the project period was higher than the plan; therefore, the efficiency of the project is fair.

3.4 Sustainability (Rating: ②)

3.4.1 Related Policy toward the Project

The Mid-Term Development Plan (RPJM 2010–2014) gave priority to the following goals: strengthening decentralization of education policy; securing transparency, efficiency, and accountability by introducing a reliable budget management system; and strengthening PSBM. Thus, the PSBM (bottom-up activities for improving the quality of education) through introducing the REDIP approach functions as a viable method for achieving the overall goals of the national development policy in the education sector (RPJM). In addition, the development strategy plan (RENSTER: 2011–2016) of the REDIP target provinces/cities describes the progress made by bottom-up school management with community participation and quality improvement which are components of the REDIP model; the benefits include the improvement of educational equipment, the improvement of living standards and health conditions, community participation, and development of teacher capacity. Therefore, the consistency between project objectives and the government policy is still high.

Meanwhile, REDIP-G has been implemented outside of the REDIP target provinces, and the part of the REDIP approach has been applied in the national BOS program. However, those various programs are not synthesized under the national PSBM policy and the future expansion strategy of REDIP approach was also not clearly confirmed in the ex-post evaluation. The government of Indonesia needs to form the clear policy of application of the REDIP approach to the PSBM.

3.4.2 Institutional and Operational Aspects of the Implementing Agency

School-based management introduced by REDIP has still continued by using BOS fund. However since proposal writing with community participation (bottom-up approach) is not required to the BOS implementation, the school-based management with

community participation which is an important element in PSBM has not really been promoted under the BOS. Regarding KIT, its functions was transferred to the Education and Culture Office after the project completion, and administration of other programs including BOS and facilitation for schools are still implemented by former KIT members. However, original functions of KIT in REDIP 2 target districts remains insufficiently because members of the Religious Affairs Office are not included in the activities and KIT original members were transferred after the project's completion. Regarding KIT established in Dinas P&K of the new target provinces, human resources from the Education and Culture Office and the Religious Affairs Office are continuously deployed in Banten province where PELITA, the successor project to REDIP, is implemented. The functions of TPK, which is expected to establish connections between schools and Dinas P&K, have partially ceased since block grants were no longer distributed to TPK after the project ended. However, original TPK activities such as MKKS, MGMP, and interschool activities have been transferred to UPTD and continue to be implemented by using the funds from BOS. However, the community and MT members who are originally TPK members are not incorporated in the UPTD's activities. Therefore, the activities for enhancing PSBM such as strengthening the relation between educational administrations and community, and cooperation among schools including MTs have been limited.

3.4.3 Technical Aspects of the Implementing Agency

The technical aspect of KIT members has some issues, although the situation is different in each district. In Bitem district in the North Sulawesi and Pekalongan district in Central Java province, former KIT members became resource personnel for other programs including the BOS, and continue to provide facilitations for writing school action plan and learning accounting by school staff and sensitizations of stakeholders. In Brebes district, on the other hand, the technical skills of counterparts has not remained due to the personnel transfers of REDIP related members. In addition, it is pointed out that Dinas P&K of new target districts where PELITA is implemented faces a lack of human resources and needs further capacity development of KIT members who are in charge of proposal-based activities. Consequently, proposal appraisal and monitoring implementation face dependence on the local consultants hired by the project. Regarding technical aspect of TPK, interschool and school-based management activities such as sports event, art festival, KKKS and MGMK are still continued by TPK members as REDIP activities using BOS fund. Thus, the improved capacity of educational managers in UPTD and school principals contributes to the continuation of the school-level activities. Regarding the capacity of school level, it can be evaluated that the capacity of school committee is maintained since participatory planning of annual

activates, transparent accounting and securing accountability are still implemented at BOS program. In the central level, MONE and MORA assigned PSBM resource personal including educational administrators, field consultants, KIT/TPK members and school staff who have had experience of the REDIP and PELITA. The positive effects of the resource personals are expected.

3.4.4 Financial Aspects of the Implementing Agency

Target districts/cities secured 100% of their budget allocation for REDIP during the project cooperation period. However, district funds have not been allocated since the project's completion in 2008 due to the lack of budget in each target districts/cities; thus, the proposal activities based on the REDIP model are not implemented. Currently some REDIP model activities are still being implemented with funding from BOS and donations from the community. In new target districts, securing necessary fund from each districts/cities also has been difficult due to lack of district budget. However, the financial sustainability has been ensured because it is agreed that the REDIP approach would be promoted as part of the Indonesian PSBM through implementing BOS and BOSDA, in which districts/cities allocate the counterpart funds to each school based on the amount of the national budget in order to secure self-sustainability of the program. However, schools-based management activities focused in REDIP has been restricted due to the limitation of budget allocation because the most of the BOS fund is allocated to the school operational costs including teachers' salary. Though Variable BOSDA, in which each school receives BOS fund according to the necessity of school, has been implemented, its application areas in Indonesia has still been limited.

As seen above, some problems have been observed in the structural, and financial aspects regarding PSBM implementation in the target districts/cities of the project; therefore, sustainability of the project effects is fair.

4. Conclusion, Lessons Learned, and Recommendations

4.1 Conclusion

The Regional Education Development and Improvement Program (REDIP), which aims to establish and extend school-based management with community participation in the decentralized educational administration system (REDIP model), was implemented in three districts/cities in North Sulawesi and Central Java where the REDIP model had already been implemented (hereinafter referred to as REDIP 2 target districts) as well as in two districts in Banten province (hereinafter referred to as new target districts). The project has been highly relevant with the country's development policy

and needs.

At the time of the project completion, though some indicators were not achieved, school- and proposal-based activities (for improving the quality of education) was implemented by using a block grant based on the REDIP model. At the time of the ex-post evaluation, on the other hand, a part of REDIP approach has been implemented in the PSBM of Indonesian government using the BOS, the national program supported by the World Bank. However, some important elements of the REDIP model are not fully implemented after the project completion as regards enhancement of the cooperation among schools including Islamic junior secondary schools (MTs) and the school-based management with community participation. It is therefore evaluated that the original objectives, establishment of the REDIP model and its integration into the existing educational system, have not been completely achieved. In the meantime, positive impacts, such as application of the REDIP model to the REDIP-G and REDIP-P and influence on the national BOS program, have been identified. The project's effectiveness/impact as a whole is evaluated as fair.

Project efficiency also receives a rating of fair; though the project period was within the plan, the project cost exceeded the plan.

The sustainability of the project effects is fair. In the PSBM program with the BOS fund, the structural aspect of counterparts faces some challenges as community participation for the school planning has been limited; and The financial aspect also faces some issues as budget allocation is not enough for activities for improving the quality of education.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

- ① As PSBM programs, REDIP-G and REDIP-P based on the REDIP model and BOSDA and Variable BOSDA based on the BOS program has been implemented without sufficient coordination. Those programs (approach) should be synchronized for the effective PSBM implementation.
- ② PSBM resource personal has been assigned by the MONE and MORA. However, the concrete plan of its utilization for promoting the PSBM policy should be developed.

4.2.2 Recommendations to JICA

For the purpose of integration of REDIP approach to the PSBM through use of BOS, JICA should conduct continuous monitoring to ensure that experience and lessons learned from the implementation of the REDIP model is refracted to the effective implementation and nationwide dissemination of national programs such as the BOSDA (allocating the matching fund from districts and cities) and Variable BOSDA (allocating the block grants based on the schools' needs).

4.3 Lessons Learned

- ① The difficulty in organizational sustainability for newly established KITs and TPKs under the auspices of the project was already stated even at the development study stage (REDIP 1 and 2). Projects need to scrutinize whether or not the project inputs (in this case, block grants) constitute a precondition for sustaining newly established organizations. If they do, then institutionalization of project activities as routine tasks of existing organizations in addition to utilization of the organizations should be considered in order to secure sustainability of the project effect.
- ② Various approaches for promoting the PSBM policy has been implemented by Indonesian government and other donors after introducing the REDIP model. The REDIP project was obviously aiming to provide inputs to these approaches, and the PELITA, the successive project of the REDIP, tries to integrate the REDIP approach into PSBM policy using BOS fund. In the similar projects, the proactive coordination not only with local government but also with central government and other donors which may affect the project effect is necessary at the phase of both planning and implementation. Such coordination would contribute to enabling coherent cooperation within the country.

The Republic of Kenya

Ex-Post Evaluation of Japanese Technical Cooperation Project
“The project on Strengthening of Mathematics and Science in Secondary Education
(SMASSE), Phase 2”

External Evaluator: Haruo Ito, ICONS Inc.

Kazuyoshi Inokuchi, Mitsubishi UFJ Research and Consulting Co., Ltd

0. Summary

The project was carried out in Kenya for the purpose of strengthening mathematics and science education through In-Service Education and Training (INSET) (the Kenya component) and supporting the dissemination of the project approach to 33 other African countries (the WECSA¹ component). The relevance of the project is evaluated as high because its purpose is relevant to Kenyan development policy and the needs of the education sector. The goal of the Kenyan component, which was to ensure that the “quality of mathematics and science education at the secondary level is strengthened in Kenya through INSET for teachers” was mostly achieved by the end of the project period in 2008. The project’s overall goal, that the “capacity of young Kenyans in mathematics and science is upgraded,” has also been accomplished. In the WECSA component, the goal of ensuring that “ASEI-PDSI² lesson are practiced in teacher training institutions and secondary schools in member countries” and the overall goal of ensuring that the “quality of mathematics and science education at the secondary level in member countries is strengthened” have also been achieved. Accordingly, the effectiveness and impact of the project are rated as high. The efficiency of the project receives a rating of fair because the actual costs exceeded those proposed in the original plan. The sustainability of the project’s effects was given a fair rating because the organizational structure and the capacity of regional trainers are insufficient in the Kenyan component, and because the necessary budget has not been secured in the

¹ Currently, 33 African countries and 1 African region are registered as Strengthening of Mathematics and Science Education in Western, Eastern, Central, and Southern Africa (SMASE-WECSA) members: Ghana, Lesotho, Malawi, Mozambique, Rwanda, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe, Botswana, Burundi, Niger, Nigeria, Senegal, Cameroon, Ethiopia, Sierra Leone, Burkina Faso, Gambia, Zanzibar, Angola, South Sudan, Mali, Benin, Namibia, Republic of the Congo, Cote d'Ivoire, Egypt, Madagascar, Mauritius, Seychelles, South Africa, and Sudan (as of November 2011). SMASE-WECSA was started as a regional conference in 2001, and then referred to SMASSE-WECSA. Since 2003, SMASSE-WECSA has renamed as SMASE-WECSA according to the participation of West Africa.

² ASEI-PDSI stands for “Activity, Student-centred, Experiment, Improvisation/Plan, Do, See, Improve.” The ASEI-PDSI approach was chosen by discussion between SMASSE counterparts and Japanese experts; the approach provides the direction and methodology necessary to improve lessons so that they promote scientific and logical thinking and develop real knowledge through the active participation of pupils in the lessons.

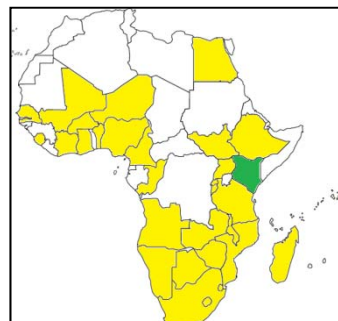
WECSA component.

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

1. Project Description



ASEI-PDSI Lesson in Chemistry



SMASE-WECSA Member Countries

1.1 Background

The National Development Plan of the Republic of Kenya has set a goal of entering the ranks of industrial nations by altering its industrial structures by the year 2020. Because mathematics and science education in both primary and secondary schools in Kenya were only mediocre, the improvement of basic academic ability in these two subjects was highlighted as an urgent issue. Given those circumstances, the Japanese government initiated a project called “Strengthening of Mathematics and Science in Secondary Education (SMASSE), Phase 1” between July 1998 and June 2003 in nine target districts of Kenya; the project aimed to support secondary education in these subjects, a goal that had been neglected by other aid organizations. As a result, the INSET system was established at both the central and regional levels, and its effectiveness and financial sustainability were confirmed. Since other countries requested dissemination of the project activities (ASEI-PDSI) among other African nations that were also faced with stagnation in mathematics and science education, the SMASE-WECSA (a regional cooperation network) was established in 2001. The secretariat of SMASE-WECSA is the SMASSE project.

Based on the results of Phase 1, the project “Strengthening of Mathematics and Science in Secondary Education (SMASSE), Phase 2,” which is composed of support for INSET in Kenya (the Kenyan component) and for the strengthening of regional cooperation networks (the WECSA component) was implemented.

1.2 Project Outline

Overall Goal		(Kenyan component) Capability of young Kenyans in mathematics and science is upgraded. (WECSA component) Quality of mathematics and science education at the secondary level in member countries is strengthened.
Project Objective		(Kenyan component) Quality of mathematics and science education at secondary level is strengthened in Kenya through INSET of teachers. (WECSA component) ASEI-PDSI lessons are practiced in teacher training institutions and secondary schools in member countries.
Output(s)	Output 1	(Kenyan component) A system of training for district trainers in mathematics and sciences will be strengthened at the national INSET center. (WECSA component) Trainers for ASEI-PDSI-based INSET will be produced in member countries.
	Output 2	(Kenyan component) A system of INSET in mathematics and science will be established in the districts. (WECSA component) SMASSE national INSET center will be consolidated as a resource center for mathematics and science in Africa.
	Output 3	(Kenyan component) Role of SMASSE national INSET center and district INSET centers as resource centers will be strengthened. (WECSA component) SMASSE national INSET center will function as secretariat of SMASE-WECSA.
Inputs		Japanese Side: 1. Experts: Long-term: 6 persons, Short-term: 5 persons 2. Training in Japan: 105 persons 3. Training in third countries: 206 persons 4. Third-country training from WECSA member countries: 913 persons 5. Equipment: 17.1 million yen 6. Local Cost: 293,729,000 Kenyan shillings (KSh) 7. Others (incl. dispatch of related missions) Kenyan Side: 1. Assignment counterpart personnel 2. Building training centers, project office, electricity and water supply 3. Local expenses (214,000,000 KSh)
Total cost		1.69 billion yen
Period of Cooperation		July 2003 to December 2008
Implementing Agency		Ministry of Education (MoE) (during the project period: Ministry of Education, Science, and Technology)
Cooperation Agency in Japan	Ministry of Education, Culture, Sports, Science, and Technology, Hiroshima University	

Related Projects (if any)	Projects for Strengthening of Mathematics and Science in Secondary Education in other countries
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This project consisted of two different components: the Kenyan component, which supported the implementation of activities inside of Kenya, and the WECSA component, for mathematics and science education in other African countries in the SMASE-WECSA network.

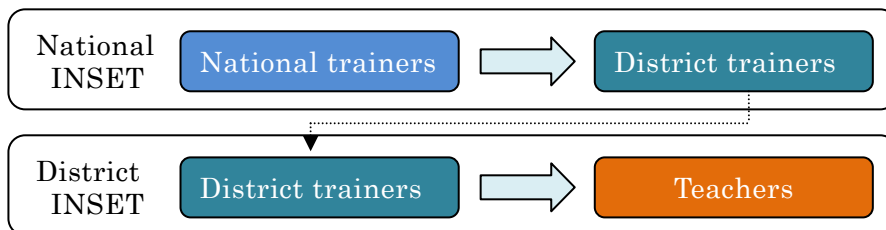
The project components are outlined as follows:

(1) Kenyan component

The Kenyan component is aimed at improving pupils’ future performance in mathematics and science by using INSET to improve teachers’ lesson practice in the field of mathematics and science education.

① Structure of INSET

INSET for secondary education occupies two levels of the cascading training system: “national INSET” at the Centre for Mathematics, Science and Technology Education in Africa (CEMASTE³) and “district INSET.” The purpose of the former is training of district trainers, and the one of the latter is retraining of mathematics and science teachers (see Figure 1). The development of INSET curriculum and teaching materials and the monitoring of national INSET are carried out by CEMASTE³ with support from Japanese experts. The District Planning Committee (DPC⁴) is in charge of planning and management (including accounting) for district INSET. However, installation of the district INSET centers and development of the district INSET system were carried out by CEMASTE³ and Japanese experts.



Source: Mid-term review report of project phase 3

Figure 1: INSET System

³ Promotion of mathematics and science education, technical exchange for establishment of the INSET system, and providing TCTP for WECSA member countries, especially SMASSE Kenya, are implemented by CEMASTE³. CEMASTE³ was established in January 2005; it was not in existence at the time of the initiation of the second phase.

⁴ There are 76 DPCs, 108 district INSET centers, and 488 persons affiliated with the district INSET. (CEMASTE³: Handbook on Management of District SMASSE Programmes 2008)

② Budget and operational costs of INSET

The operational cost for district INSET is covered by a portion (200 KSh/pupil) of the grant from MoE to schools under the free secondary education program, called the SMASSE fund. The DPC (represented by DEO) collects the grant and administers it as a fund for district INSET.

③ INSET plan after project completion

After the completion of SMASSE Phase 2, the plan is for district INSET to continue mainly through DPCs supported by CEMASTEAs in the Kenyan initiative.

(2) WECSA component

The WECSA component is aimed at promoting mathematics and science education in other African countries and maintaining a partnership among WECSA member countries by providing the Third Country Training Program (TCTP) in Kenya, sending both Kenyan and Japanese experts to support member countries, and holding SMASE-WECSA regional conferences in order to share Kenyan experience regarding the improvement of mathematics and science education through INSET.

The WECSA activity components are summarized as follows:

① TCTP

TCTP in Kenya receives participants from WECSA member countries and is planned and implemented by national trainers from CEMASTEAs with the support of Japanese experts in regard to the development of INSET materials and INSET implementation and evaluation.

② Technical support to WECSA member countries

Japanese experts and their Kenyan counterparts are dispatched according to requests from WECSA member countries to provide technical support in establishing the INSET system, developing teaching materials and INSET programs, and evaluating both INSET and the project.

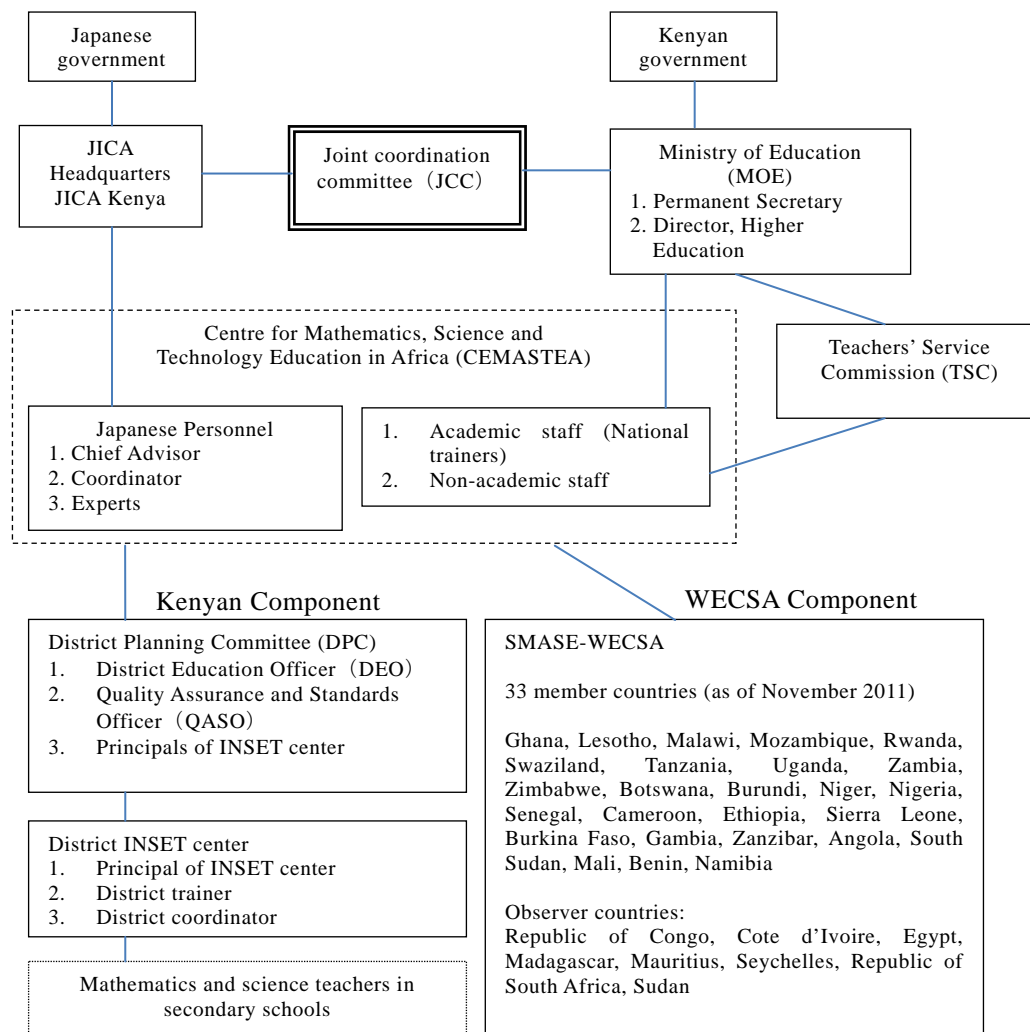
③ SMASE-WECSA regional conference

The SMASE-WECSA regional conference is attended by participants from the WECSA member countries; since established in 2001, it is held once a year to facilitate the exchange of information and experiences in dealing with the challenges facing WECSA member countries and to establish a network among individuals involved in mathematics and science education.

④ SMASE-WECSA member countries

Currently, 33 African countries and one region are registered as SMASE-WECSA members (these include 26 official countries and one official region). All African countries are able to become members of SMASE-WECSA by paying the enrollment fee of USD100 and submitting an application. The annual membership fee is USD300.

Figure 2 illustrates the project implementation system of the Kenyan and WECSA components.



Source: Author of the Report Based on the Final Evaluation Report of SMASSE Phase 2.

Figure 2: Project Implementation Structure

In the ex-post evaluation, the Kenyan and WECSA components were analysed separately and an overall rating that included both components was made for each evaluation criterion.

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement of Overall Goal

(Kenyan component)

At the time that the terminal evaluation was conducted, it was too early to evaluate the project's overall goal. However, some cases of improvement in teaching skill and teachers' lesson practice had been reported, providing an indication that the project's overall goal—"improve the result of the Kenya Certificate of Secondary Education (KCSE)"—will be achieved in the future. The effects of the project were observed to have spread to other subjects besides secondary mathematics and science and to primary education, as well.

(WECSA component)

It was difficult to identify the true level of ASEI-PDSI practice in schools in the WECSA member countries. Nevertheless, many positive impacts were observed, such as high appreciation of the ASEI-PDSI approach from TCTP participants, an increase in the number of WECSA member countries, and synergy with other mathematics and science projects of the Japan International Cooperation Agency (JICA).

1.3.2 Achievement of Project Objective

The terminal evaluation of the project stated that the project purpose defined as "Quality of mathematics and science education at the secondary level is strengthened through INSET of teachers" was achieved, as the project monitoring tools, the Lesson Innovative Index⁵, the ASEI-PDSI Checklist, and the lesson observation instrument indicated that target scores were attained.

1.3.3 Recommendations

The terminal evaluation recommended the following actions: 1) develop a concrete INSET strategy after four INSET cycles by strengthening the relationship between CEMASTEAs and DEOs and clarifying their responsibilities; 2) carry out further capacity development for management of district INSET implementation; 3) elaborate the action plan for CEMASTEAs' technical support to district INSET; 4) reinforce the feedback system for monitoring and evaluation at the district level; 5) consider the INSET program for use in primary education; and 6) coordinate MoE INSET-related programs.

⁵ The Lesson Innovative Index is used to measure changes in teacher attitudes and perspectives; teachers are asked for their lesson objectives and their attitudes toward teaching and learning quality.

2. Outline of the Evaluation Study

2.1 External Evaluator

Haruo ITO, ICONS Inc.

Kazuyoshi Inokuchi, Mitsubishi UFJ Research and Consulting Co., Ltd.

2.2 Duration of Evaluation Study

Duration of Study: October 2011 to December 2012

Duration of Field Study: February 12, 2012 to March 12, 2012

May 13, 2012 to May 23, 2012

2.3 Constraints during the Evaluation Study

The ex-post evaluation targeted Phase 2 of the SMASSE project (2003–2008); however, Phase 3 (2009–2012) is currently in progress and is focusing mainly on strengthening INSET in primary education. Some Kenyan component activities from Phase 2 and most of the WECSA component are still being supported by Phase 3. This creates a limitation on evaluating the effect of Phase 2 exclusively.

3. Results of the Evaluation (Overall Rating: B⁶)

3.1 Relevance (Rating: ③⁷)

(Kenyan component)

3.1.1 Relevance to the Development Plan of Kenya

Kenya's long-term development program (Vision 2030) states that industrialization is indispensable for the sustainable development of the Kenyan economy. To achieve this vision, the improvement of quality education and research, and especially the reinforcement of mathematics and science in basic education, is considered one of the crucial factors. While INSET is identified as one of the investment programs in the Kenya Education Sector Support Program (KESSP), the concept of the project, which is aimed at promoting the capacity development of teachers through INSET in secondary education, is relevant to the direction of the Kenyan development policy.

3.1.2 Relevance to the Development Needs of Kenya

The net enrollment rate in secondary education in Kenya increased from 13.7% in 1999 to 32.6% in 2010 as a result of the increase in educational access to the free primary (2003) and secondary (2008) education programs. On the other hand,

⁶ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁷ ③: High, ② Fair, ① Low

qualitative improvement in education has not been fully attained yet, as most of the examinees received low scores in the national examinations at the primary and secondary levels, particularly in mathematics and science in secondary education. Research by the Kenya Institute of Education (KIE) identified a number of problematic issues in mathematics and science education, including deficiencies in teacher ability, appropriate facilities, and teaching materials. Students also display passive and negative attitudes toward mathematics and science education, and inappropriate integration between theory and experiment is also reported. Thus, the project, which is aimed at promoting the capacity development of mathematics and science in secondary education, is consistent with the development needs of Kenya.

3.1.3 Relevance to Japan's ODA Policy (for both Kenyan and WECSA components)

The project is also relevant to the priorities of Basic Education Growth and Initiatives (BEGIN), the educational development assistance program of Japan's Official Development Assistance (ODA). These priorities are "quality of education," "technical cooperation in mathematics and science education," and "support to South-South cooperation." The project is also consistent with the priorities of the Assistance Program for the Republic of Kenya, especially "enhancing human resource development," and with those of JICA's Assistance Plan for Kenya, particularly "enrichment of basic education."

(WECSA component)

3.1.4 Relevance to the Development Plan

The New Partnership for Africa's Development (NEPAD) and the African Union (AU) expect to promote cooperation with SMASE-WECSA. The Association for the Development of Education in Africa (ADEA) has also inaugurated the Working Group on Mathematics and Science Education (WGMSE). Moreover, the Eastern African Consortium for Monitoring Education Quality (SACMEQ) intends to cooperate with SMASE-WECSA in regard to monitoring and evaluation activity. For these reasons, the project goals correspond with the educational issues and policy of Sub-Saharan Africa.

The goal of poverty reduction through educational development continues to be a high priority for WECSA member countries at the time of this ex-post evaluation.

3.1.5 Relevance to Development Needs

The project identified common issues in the African education sector, particularly in mathematics and science, by visiting similar projects and accepting study missions from other project members since Phase 1. The creation of a network of

African countries was deemed an effective measure for solving those issues. The SMASE-WECSA network of African countries was therefore established for the purpose of institutionalizing INSET, improving its contents, and promoting lesson study in order to solve educational issues common to these countries. While INSET quality in the WECSA member countries was considered to need further improvement, the project's purpose was consistent with development needs at the time of the project's completion.

Since the implementation of the project is consistent with the development policy and needs of the Kenya and the WECSA member countries as well as with Japanese aid policy, the relevance of the project is considered to be high.

3.2 Effectiveness and Impact⁸ (Rating: ③)

3.2.1 Effectiveness (Kenyan component)

3.2.1.1 Project Output

Output 1: A system of training for district trainers in mathematics⁹ will be strengthened at the national INSET center.

The establishment of the INSET system in the national INSET center referenced in result 1 was achieved, as evidenced by the following results:

(At the project completion point)

Indicator 1-1 is the number of staff in CEMASTEА. At the project completion point, 55 Kenyan academic staff and 25 non-academic staff were engaged in CEMASTEА. Thus, the indicator requiring that “83 academic staff and 57 non-academic staff¹⁰ are engaged in CEMASTEА,” which was decided upon after the project's mid-term evaluation, was not attained. Indicator 1-2 is the number of participants in national INSET in CEMASTEА. Four cycles¹¹ of national INSET in CEMASTEА were implemented with the participation of 1,139 district trainers. The actual number of participants greatly exceeded the original target of “more than 900 district trainers.” Indicator 1-3 and 1-4 show that the quality of the national INSET was attained and that CEMASTEА developed and distributed INSET manuals for district INSET as planned; thus, the establishment of the INSET system at a central level was deemed to have been accomplished.

⁸ Rating effectiveness is determined by taking into account the impact of the project. The status of the project outputs at the time of the ex-post evaluation was also scrutinized to evaluate effectiveness.

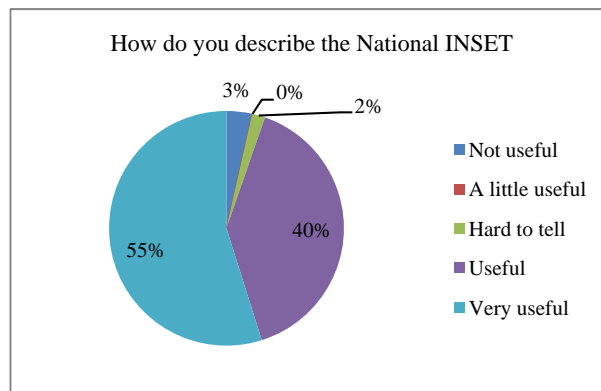
⁹ INSET in secondary education involves two-step cascading training at the national and district levels.

¹⁰ Secretaries, drivers, guards, maintenance staff, etc.

¹¹ INSET through SMASSE is implemented not as a one-time training session but in the form of continued training of the same participants over a period of time (one cycle per year).

(In the ex-post evaluation)

The current number of staff (48 academic and 27 non-academic) has not proved to be a hindrance to the implementation of INSET in secondary education¹². The beneficiary survey in the ex-post evaluation determined that 95% of national INSET participants who were DEO, QASO, and district trainers (n=113) found the national INSET to be “effective” or “very effective”; hence, quality of the national INSET can be evaluated as having been secured. “Appropriate training plan,” “enough teaching materials,” “exchange of knowledge/experience with the other district trainers,” and “improvement of knowledge about the teaching method (ASEI-PDSI)” were singled out as reasons why participants are highly satisfied with the national INSET.



Source: Beneficiary Survey

Figure 3: Effectiveness of National INSET

Output 2: A system of INSET in mathematics and science will be established in the Districts.

The following results indicate that though some challenges still remained regarding the capacity of district trainers for implementation of INSET, Output 2 was evaluated as having its objectives nearly achieved at a number of levels.

(At the project completion point)

As shown in the following table, Indicator 2-1 shows that the number of district trainers involved in the district INSET achieved the target level. The number of local administration staff, however, was slightly under the target level due to the constant staff shortage in DEOs.

¹² Though implementation of INSET in secondary education is not a problem, one Japanese expert noted that a lack of academic staff with a primary education background creates a challenge for the primary INSET project.

Table 1: Number of Staff for District INSET (2007)

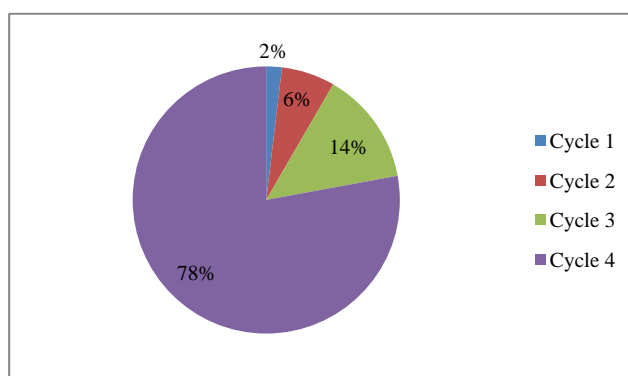
	Number of staff for district INSET	Target
District trainers	1,381	900
District administration staff	465	480

Source: SMASSE phase 2 final evaluation report

In regard to Indicator 2-2, the number of teachers who received district INSET by 2007 was 14,581¹³ (target: 15,000); thus, the target number of Indicator 2-2¹⁴, which was revised upward during the mid-term evaluation, was almost achieved.

(In the ex-post evaluation)

Teacher absences in the district INSET were due to illness or to their need to participate in MoE and university programs required for promotions and raises in salary. The results of the beneficiary survey¹⁵ in regard to the participation rate in district INSET also shows a high participation rate (78%) in all four cycles of district INSET (n=371). Thus, the purpose of the district INSET is considered to have been fulfilled.



Source: Beneficiary survey

Figure 4: Teacher Participation Rate in District INSET

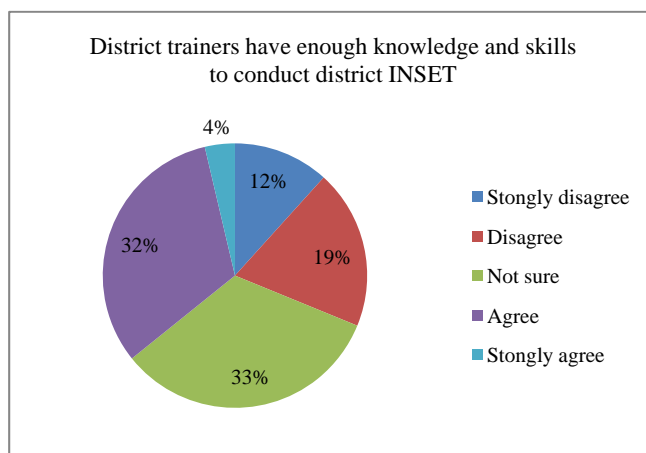
According to the results of the ex-post evaluation's beneficiary survey that was administered to participants in district INSET (n=436), only 36% of participants responded "agree" or "strongly agree" to the item "District trainers have enough knowledge and skills to conduct district INSET." Hence, the capacity of district trainers

¹³ The number of participating teachers in district INSET was 16,362 in 2004, 16,251 in 2005, 14,690 in 2006, and 14,581 in 2007. The final evaluation estimated that the number of participants who completed all four cycles was same as the number of participants in 2007.

¹⁴ The post evaluation before the start of the project targeted 10,000 participants; as this number was achieved by the mid-term evaluation, the target was upgraded.

¹⁵ The questionnaire was administered to 371 teachers who had had teaching experience before the initiation of INSET in 2004; teachers were chosen from 103 randomly selected schools in the Central and Rift Valley provinces.

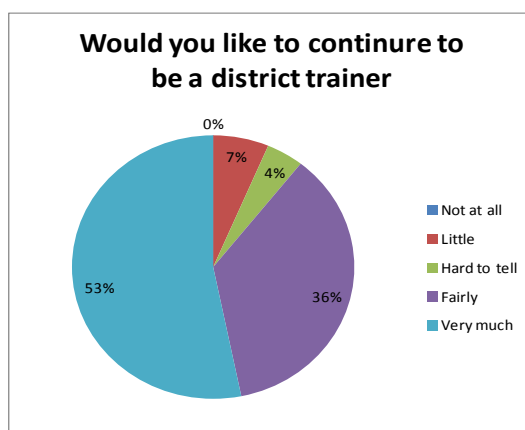
was evaluated as not fully developed by the time of the ex-post evaluation.



Source: Beneficiary survey

Figure 5: Knowledge and Skills of District Trainers

The district trainers who were interviewed noted that a lack of certification leading to promotion or pay raises, along with poor accommodations¹⁶ at the National INSET Center, were responsible for decreased motivation related to their district trainer status. However, in the beneficiary survey, 36% of district trainers (n=47) answered “Fairly” and 53% answered “Very much” to the question “Would you like to continue to be a district trainer?” These responses seem to indicate high motivation among district trainers.



Source: Beneficiary survey

Figure 6: Motivation of District Trainers

¹⁶ National INSET was implemented in CEMASTEAs during Phase 2 of the project; however, after the project’s end, CEMASTEAs staff traveled to each district, and a number of teacher training schools in each district have been used as centers of national INSET.

Output 3: Role of SMASSE national INSET center and district INSET centers as resource centers will be strengthened.

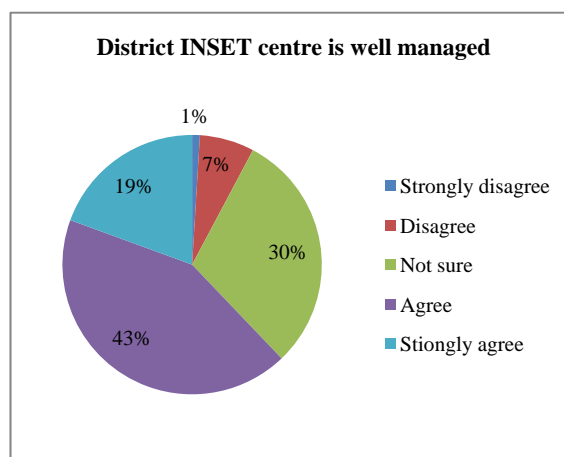
As the results below indicate, even though the district INSET centers continue to experience some difficulties in carrying out necessary functions, the national INSET center (CEMASTE A) has performed those functions.. and it is considered that Output 3 has mostly achieved the target level.

(In the project completion point)

The CEMASTE A issued newsletters 18 times (the target level was 10 times) and distributed them to schools around the country. As shown in Output 1, a high-quality INSET has been implemented by CEMASTE A, which is also providing and renting teaching materials to district INSET centers; thus, the function of CEMASTE A is evaluated as being reinforced as a resource center. It was also determined that district INSET centers have assumed the role of developing and publishing INSET materials and preparing and implementing district INSET.

(In the ex-post evaluation)

Since the results of the beneficiary survey show that 62% of school principals (n=103) replied “agree” or “strongly agree” to the item “District INSET center is well managed,” district INSET centers were determined to have been strengthened to some extent. On the other hand, many district INSET centers reported difficulty in developing their own INSET contents; due to lack of time of district trainers.



Source: Beneficiary survey

Figure 7: Functional Level of District INSET Centers

3.2.1.2 Achievement of Project Objectives

Project purpose: Quality of mathematics and science education at the secondary level is strengthened in Kenya through INSET of teachers.

The results, both at the project completion point and in the ex-post evaluation, indicate that the project purpose has been achieved.

(At the project completion point)

By the time of the project’s completion, all indicators of the project purpose had attained the target levels, which were based on the results of the baseline survey as shown in Table 2.

Table 2: Achievement Level of Project Purpose¹⁷

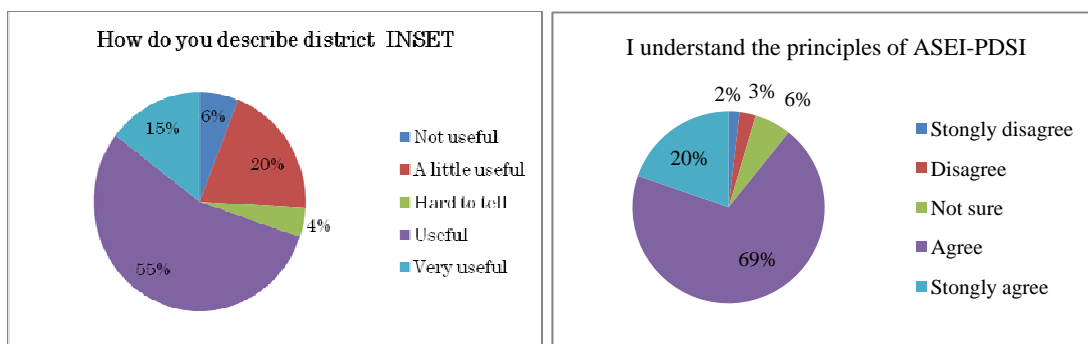
		2003/04	2007	Target
Indicator 1	Lesson Innovation Index (n=846)	3.3*	3.5	3.0
Indicator 2-1	ASEI-PDSI Checklist (n=45)	0.8	2.3	2.0
Indicator 2-2	Lesson Observation Evaluation (n=45)	1.0	2.4	2.0
Outside indicator	Level of participation (n=45)	2.0	2.5	-

*Results of project mid-term evaluation (2005)

Source: SMASSE Phase 2 final evaluation report (2008)

(In the ex-post evaluation)

Teacher attitude changes, improvement of teaching practice, and pupil participation in the learning process through the implementation of INSET were identified in the field survey of the ex-post evaluation. The results of the beneficiary survey also show that 70% of the teachers regarded the district INSET as effective, 89% of them understood ASEI-PDSI, and 79% practiced ASEI-PDSI in their classrooms. Thus, it has been determined that the implementation of INSET is contributing to the achievement of the project purpose.

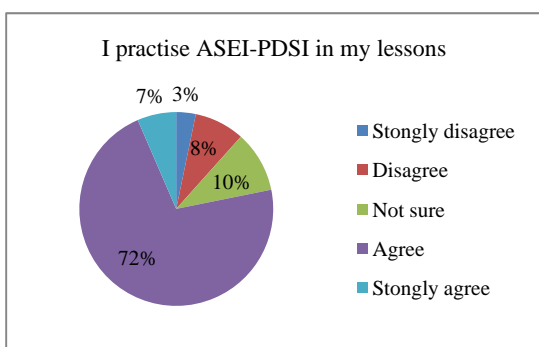


Source: Beneficiary survey

Figure 8: Effectiveness of District INSET

Figure 9: Level of Understanding of ASEI-PDSI

¹⁷ The Lesson Innovation Index is determined by self-evaluation of teacher attitudes toward their lessons. The ASEI-PDSI Checklist and Lesson Observation are the monitoring tools used to measure the improvement of lessons by utilizing a 0–4 scale.



Source: Beneficiary survey
Figure 10: Practice Level of ASEI-PDSI

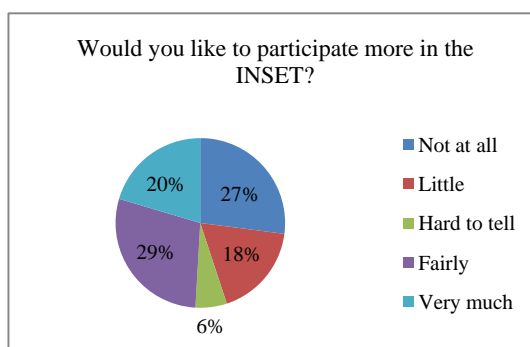


Figure 11: Incentives regarding District INSET

Low teacher initiative to participate in INSET may be attributed to lack of opportunity for promotions or raises in salary for the participants, to compulsory participation for only mathematics and science teachers during school holidays, and to the contents of INSET provided seen as routine. The motivation of teachers to participate in INSET is not high, as only 29% of teachers (n=463) answered “Fairly” and 20% answered “Very much” to the question “Would you like to participate more in the INSET?”

The beneficiary survey administered to pupils showed that the answers¹⁸ of pupils whose teachers attended INSET were more positive when compared to those of pupils whose teachers did not attend; a significant difference (5% level) in the pupils’ level of participation in classroom activities (group work, pupil presentations, etc.) was also observed between the two groups. The implementation of INSET is thus determined to help improve class practices.

Table 3: Comparison of Answers from Pupils Whose Teachers Have and Have Not Attended INSET

Questions for Students	INSET	Mean	Difference
I enjoy learning science.	Not Attended	2.52	0.1
	Attended	2.60	
We often learn science in the laboratory or outside in the field.	Not Attended	2.09	0.09
	Attended	2.18	
We frequently do practical activities/experiments in science class.	Not Attended	2.16	0.02
	Attended	2.18	
Teachers use improvised apparatus/materials to teach mathematics and science.	Not Attended	1.97	0.18
	Attended	2.15	
Teachers involve students in the learning process.	Not Attended	2.47	0.37*
	Attended	2.84	
Teachers involve students in giving feedback during the lesson.	Not Attended	2.45	0.05
	Attended	2.50	

* Significant in 5% level

Source: Beneficiary survey

¹⁸ Pupil questionnaire with three scales (1: never, 2: sometimes, 3: always) were distributed to 61 pupils taught by teachers who have participated in INSET and 58 pupils taught by teachers who have not. Total sample size is 119 pupils.

3.2.2 Impact (Kenyan component)

3.2.2.1 Achievement of Overall Goal

Overall goal: Capability of young Kenyans in mathematics and science is upgraded.

The results below indicate a high likelihood of increasing the scores of KCSE through the implementation of INSET as a positive impact of the project.

(At the project completion point)

The results of KCSE were set as an indicator of the project's overall goal. In the SMASSE Project Impact Assessment Survey (SPIAS)¹⁹, quantitative effects on increasing examination scores as an impact of INSET were confirmed and the various factors of the increase were identified.

(In the ex-post evaluation)

In the beneficiary survey, ordinary least squares (OLS) was carried out with mathematics and science KCSE scores from 2010 at 111 randomly selected schools in Central and Rift Valley provinces (dependent variable), the level of INSET participation (cycle 1-4), and other factors (independent variables). The results indicated a positive correlation between teacher attendance in INSET and KCSE scores in mathematics and science.

Table 4: Contribution of Participation of the INSET on KCSE Scores

Independent Variables	Regression Coefficient			
	Physics	Chemistry	Bio	Math
Frequency of INSET participation	.210*	.067	.067	.227**
Teaching load	-.006	-.128	.038	-.067
Teacher's experience	.045	.035	.012	-.058
School category (public: 1, province: 2, district: 3)	-.511**	-.648**	-.514**	-.675**
Class size	.137	.161*	.154	.194*
R2	.368	.524	.324	.520
N	68	85	76	111

**Significant in 1% level, *5% level

Source: Beneficiary survey

3.2.2.2 Other Impacts

The establishment of the INSET implementation system in secondary education has contributed to the smooth construction of the primary INSET system of the project's third phase. On the other hand, negative impacts were reported concerning the ambiguity of SMASSE fund management by DEO, and poor accommodation (lodging, meal) conditions at the district INSET centers have caused criticism of district INSET and threats by secondary school teacher unions to boycott the INSET.

¹⁹ Effects of INSET were analyzed with statistical analysis including structure equation modeling (covariance structure analysis)

3.2.3 Effectiveness (WECSA component)

3.2.3.1 Project Output

Output 1: Trainers for ASEI-PDSI-based INSET will be produced in member countries.

Based on the following results, Output 1 is judged to have been achieved.

(At the project completion point)

As five TCTP and three “country-focused WECSA training” sessions were implemented between 2004 and 2007, the target of Indicator 1-1, which was “implementation of five TCTP sessions,” was achieved. Indicator 1-2, which addresses the number of TCTP participants, was also attained, as 913 people. The target level was also achieved for Indicator 1-3: “develop more than 40 training material sets,” as 40 sets of ASEI-PDSI training materials were developed by 2007. In regard to Indicator 1-4, monitoring and evaluation tools for SMASE-WECSA that are applicable to member countries were developed and implemented.

(In the ex-post evaluation)

The project offers three courses for the TCTP; these are primary and secondary INSET courses for English-speaking countries and a primary INSET course for French-speaking countries. Teachers’ attitude changes after INSET participation were identified as illustrated in Table 5, which shows the results of auto-evaluation (0–4 scales) in 2009 by the participants in TCTP. The table indicates that the participants’ attitude was positively changed after attending TCTP. In response to the changing needs and diversity of the project framework, WECSA activities are now required to incorporate factors relevant to the member countries and to avoid introducing only Kenyan experiences.

Table 5: Quality of TCTP Assessment Indices (2009)

Training	Pre	Post	Dff.
TCTP 11	2.9	3.2	0.3
TCTP 13 ²⁰	3.1	3.4	0.3
South Sudan ²¹	2.6	3.2	0.6

Source: Information for Mid-term Evaluation (2011)

The 40 sets of teaching materials developed in Kenya are utilized differently in each member country. Although the member countries supporting primary INSET²² partially apply the Kenyan SMASSE curriculum to the contents of their INSET, contents

²⁰ The assessment for the 12th TCTP was not completed, as the TCTP was intended for francophone countries and translation of monitoring tools was required.

²¹ Average score of mathematics and science.

²² Project for strengthening primary mathematics and science education in Burkina Faso, Senegal, and Sierra Leone.

suitable for primary education are applied in INSET subject areas. The field survey confirmed, however, that Kenyan contents are used without any modification in the case of INSET in Botswana. Similarly, monitoring and evaluation tools are modified somewhat in member countries based on the educational situations in those countries. Since monitoring items and methods are different from one member country to the next, direct comparison of monitoring results between member countries is difficult.

Output 2: SMASSE national INSET center will be consolidated as a resource center for mathematics and science in Africa.

The results below indicate that the function of CEMASTEAs as a resource center for WECSA activity is limited; thus, Output 2 has not yet been achieved.

(At the project completion point)

Regarding Indicator 2-1, 192 participants in TCTP developed ASEI-PDSI lesson plans during their training. Information is not systematically accumulated; however, some documents—syllabi, for example—are collected from TCTP participants. Therefore, it is impossible to determine whether the roles and functions of WECSA as a resource center have been fully established. By the time of the project's completion, the publication of the newsletter had not been carried out. Consequently, Indicator 2-2: "the publication of more than ten newsletters" was not achieved.

(In the ex-post evaluation)

The TCTP has been carried out continuously, and ASEI-PDSI lesson plans are being developed by the participants from the member countries. The project counterparts explained that the creation of an information accumulation system in WECSA serving as regional resource centers is planned; it will take place following the enlargement of the CEMASTEAs by the Japanese grant aid project. One Japanese expert stated that it was not necessary to publish project newsletters because information about SMASSE activity and about the increase in the number of WECSA member countries was sufficiently disseminated through 60 visits (to a total of 21 countries) by the project members.

Output 3: SMASSE national INSET center will function as the secretariat of SMASSE-WECSA.

The results above indicate that Output 3 can be considered to have been achieved.

(At the project completion point)

Five regional conferences were held between 2003 and 2007. Indicator 3-1, which specified that such conferences would be held “four times,” was thus achieved. Member countries presented their project progress and shared their experiences with teachers, inspectors of the member countries, JICA project members, and interested participants in the field of mathematics and science education. Outcomes of the regional conferences included publication of information about SMASSE activity to the countries that do not have a JICA project in mathematics and science education (publication contributed to the setup of new projects) and promotions encouraging the sharing of lessons learned and the establishment of a human network among member countries. The record of the WECSA regional conference during Phase 2 of the project is shown in Table 6.

Table 6: SMASE-WECSA Regional Conference

Host countries	Duration	Countries/Participants
3rd Ghana	June 2003	18 / 91
4th South Africa	May 2004	21 / 111
5th Rwanda	May 2005	28 / 133
6th Senegal	May 2006	32 / 114
7th Zambia	June 2007	30 / 167
8th Kenya	May 2008	27 / 138

Source: Project completion report

In regard to Indicator 3-2, at least 6 Kenyan academic staff at the national INSET center work for the SMASE-WECSA secretariat. Though full-time counterparts were not assigned from CEMASTEAM for the WECSA activity, all CEMASTEAM staff engaged in the activity; thus, the lack of assignment of full-time staff has not hindered WECSA activity. Indicator 3-3 was attained as 34 countries and regions (including 23 official members) became members by the end of the project’s second phase in 2008 (the target was 14 countries/regions).

(In the ex-post evaluation)

The WECSA regional conference was conducted a number of times by the time of the ex-post evaluation. It should be noted that because the conference runs the risk of becoming routine or being viewed as a mere formality, some member countries require other meetings for the purpose of sharing technical information. A technical conference with the purpose of sharing the technical contents of INSET has also been held. Moreover, the number of member countries has increased to 33 countries and one region (26 countries and one region are official members).

3.2.3.2 Achievement of Project Objectives

Project purpose: ASEI-PDSI lessons are practiced in teacher training institutions and secondary schools in member countries.

(At the project completion point)

The project purpose concerns the practice level of ASEI-PDSI in the member countries during the project period. The impact survey of TCTP in 2006²³ in four countries (Malawi, Zambia, Uganda, and Rwanda) that sent many participants to Kenya revealed that the ASEI-PDSI practice level of those member countries almost attained the target level (see Table 7).

Table 7: Results of TCTP Impact Survey

	Non-target	Target Area	Target value
ASEI-PDSI Checklist ²⁴	1.6	1.9	2.0
Lesson observation	1.8	2.1	2.0

Source: TCTP impact survey (2006)

The results of the final evaluation of each project show that all member countries except Malawi and Rwanda satisfied the project purpose, achieving the target level of ASEI-PDSI practice²⁵ shown in Table 8. The increased level of ASEI-PDSI practice is greatly dependent on the project activities of the member countries. Still, support of the SMASSE project by Kenyan and Japanese experts and of TCTP by WECSA was shown to contribute to the increase in the level of ASEI-PDSI practice in member countries. Since WECSA activities have continued, the project purpose of the WECSA component that aims to “strengthen mathematics and science education” has been achieved.

²³ The results of the lesson observation for TCTP participants (n=21) and non-participants (n=20).

²⁴ The degree of ASEI-PDSI practice in the classroom is measured by lesson observation. The 0–4 scale is used: 4 indicates that the ASEI-PDSI approach is fully applied in the lesson, while 0 identifies the lesson as a conventional one.

²⁵ It is important to note that the achievement of the project purpose is not always due to the contributions of the WECSA component; rather, the results depend in great part on the project implementation in each member country.

Table 8: Level of ASEI-PDSI Practice in Member Countries²⁶

	Year of Final Evaluation	Baseline	Final Evaluation	Target Value ²⁷
Burkina Faso	2010	2.59	3.91	3.5
Malawi	2007	1.6	2.1	2.5
Rwanda	2010	1.3	1.8	2.5
Uganda	2007	0.54–1.47	2.46	2.3
Niger	2009	0.67	2.28	1.5
Senegal	2009	1.42	1.76	1.5
Nigeria	2009	3.0	3.7	3.0

Source: Final evaluation report of each country

3.2.4 Impact (WECSA component)

3.2.4.1 Achievement of Overall Goal

Overall Goal: Quality of mathematics and science education at the secondary level in member countries is strengthened.

(At the project completion point)

The results of the final evaluation show increases in ASEI practice in class, teacher capacity, and acquisition of teaching skills among TCTP participants. As of September 2007, six projects had been implemented and three projects were in the formulation process through the support of WECSA for the JICA mathematics and science project initiative. Although a limitation on measuring the overall goal exists, the project contributed to strengthening the quality of mathematics and science education in WECSA member countries.

(In the ex-post evaluation)

The number of member countries has increased to 34 countries and regions as of 2012; 17 projects have been initiated. The SMASSE project is seen as one of the good practices of South-South cooperation and serves as an example of JICA's initiatives in the field of educational development; the DAC high-level forum in 2011 addressed this subject. The project has positively influenced the member countries' INSET systems (budget and staff allocation and management, etc.) through the introduction of the SMASSE project, the ASEI-PDSI approach, and the sharing of the good practices of the Kenyan experiences with the decision makers (the vice president of MoE, department heads, etc.).

As seen above, the project purpose of the Kenyan component, which was to raise

²⁶ The degree of ASEI-PDSI practice in the classroom is measured by lesson observation. The 0–4 scale is used, 4 indicating that the ASEI-PDSI approach is fully applied in the lesson, and 0 indicating that the lesson was a conventional one.

²⁷ Each indicator of the member countries was established based on their own baseline surveys. Monitoring tools are different in each country; therefore, member country results cannot be compared.

the practice level of ASEI-PDSI in the classroom, was achieved almost to the target level. In regard to the project's overall goal, the improvement of pupils' learning environment and the impact of the project on national examination scores were also confirmed. Moreover, the project purpose of the WECSA component—the achievement of the desired level of ASEI-PDSI practice in WECSA member countries and the project's overall goal of continuous implementation of ASEI-PDSI—were confirmed.

Thus, the overall effectiveness and impact of the project are high.

3.3 Efficiency (Rating: ②) (for both Kenyan and WECSA components)

3.3.1 Inputs

Inputs	Plan	Actual Performance
(1) Experts	Five long-term experts Four or five short-term experts/year	Six long-term experts Five short-term experts
(2) Trainees received	-Math and science education (4 persons/year, 20 over 5 years) -INSET management (20 persons/year, 60 persons over 3 years)	105 counterparts participated in training in Japan (in Hiroshima, Sapporo, etc.)
(3) Third-country training	-Training at University of the Philippines National Institute for Science and Mathematics Education Development (UP-NISMED) (math and science teachers: 20 persons/year, 60 persons over 3 years) -Third-country training participants from SMASE-WECSA member countries (30 persons/year, 150 person over 5 years)	-University of the Philippines National Institute for Science and Mathematics Education Development (UP-NISMED) (120 persons) -The Regional Centre for Education in Science and Mathematics (RECSAM) (84 persons) -Third-country training in France (2 persons) -TCTP participants from SMASE-WECSA member countries (913 persons)
(4) Equipment	Equipment (vehicle, equipment for district INSET centers, math and science references, materials for national INSET) 200 million yen	Total expenses for equipment for project implementation equaled 170 million yen
(5) Total Project Cost	1.2 billion yen	1.689 billion yen
(6) Total Local Cost		National government: 214,000,000 KSh District government: 597,558,000 KSh Total: 811,558,000 KSh (1 KSh = 1.2–1.8 yen)

Source: SMASSE Phase 2 Completion Report

3.3.1.1 Elements of Inputs

(1) Quantitative and qualitative appropriateness of inputs

Some CEMASTEAs expressed the opinion that the Japanese experts need to have experience teaching at the university level. In the final evaluation questionnaires, however, 30 counterparts out of 36 stated that the number, qualifications, timing, and dispatch period of the long-term experts were adequate. All six long-term Japanese experts were engaged in both the Kenyan and WECSA components and contributed to the

development of the INSET system, the curriculum, and the teaching materials. Certain counterparts and Japanese experts explained that although, compared with other projects, a considerable number of counterparts participated in the training in Japan and in third countries, the learning outcomes of those trainings were not effectively applied to the project activities.

(2) Dispatch of Kenyan experts to WECSA member countries

In total, 159 Kenyan and Japanese experts (70 man-months) were dispatched to support the WECSA member countries. It should be noted that though the quality of the outputs obtained by the dispatched experts was not always consistent because of the various levels of their capacity, technical support by the Kenyan experts contributed significantly to the initiation period of the project in WECSA member countries. Even with only one Japanese expert as project coordinator, the Kenyan experts were particularly helpful. At the same time, the dispatch of the Kenyan experts contributed to the development of their consultation abilities.

(3) Timing of the inputs

Both JICA and the Kenyan government allocated operation funds as planned; the timely allocation contributed to the smooth implementation of project activities.

3.3.1.2 Project Cost

An additional 85,978,000 yen were allocated for a six-month extension of the project. However, the total amount of cooperation increased significantly (141% of the plan) from the 1.2 billion yen of the original plan to the actual expenses of 1.689 billion yen. The increase in participants training in Japan and in third countries, the number of acceptances of trainees in TCTP from SMASE-WECSA member countries, and the number of dispatched Kenyan and Japanese experts to provide technical assistance are assumed to be the factors responsible for the increase in the project cost. It is assumed that this increase was necessary for the achievement of the project purpose in response to the expansion of the Kenyan component and the increase in the number of WECSA member countries. Used mainly for the establishment of the district INSET centers and for strengthening their capacity to develop teaching materials, the equipment (170 million yen) was procured over five years.

3.3.1.3 Period of Cooperation

Toward the end of the cooperation period in late 2007, project activities (especially those of the Kenyan component) were almost stopped due to the political

turmoil surrounding the impending 2008 presidential election, and the function of the district INSET system declined because of the deterioration of the district governance system and the transfer of the project's key people. Therefore, the extension of the cooperation period for six months in order to rebuild the district INSET system and to carry out the follow-up recommendations of the final evaluation was a necessary measure.

Thus, although the extension of cooperation period was appropriate, the project cost was exceeded the plan. Therefore, the efficiency of the project is rated as fair.

3.4 Sustainability (Rating: ②)

(Kenyan component)

3.4.1 Policy Related to the Project

CEMASTEA is authorized as a center for INSET of Kenyan mathematics and science education in “The Policy Framework for Education, Training, and Research” of Sessional Paper No. 1 of 2005. The policy is still in place at the time of the ex-post evaluation.

MoE has developed a plan for mid- and long-term activity and establishment of a management system in the report of the Technical Committee on Re-engineering CEMASTE (February 2012). The plan requires CEMASTE to play a role as INSET center for all subjects. However, INSET was not institutionalized by MoE, though secondary INSET has already been disseminated nationwide. One of the factors in this situation may be that the target subjects of INSET are still limited to only mathematics and science education. On the other hand, the establishment of the INSET system for other subjects has been confirmed and its institutionalization policy is currently in progress²⁸.

3.4.2 Institutional and Operational Aspects of the Implementing Agency

Three executives and 45 national trainers are allocated to CEMASTE. Even though the ideal number of executive and academic staff is 60, the current staff numbers only 48; hence, the number of assigned staff in CEMASTE has been below the target level since the project's second phase²⁹. The third phase of the project, which began in 2009, is focusing on primary INSET; thus, all CEMASTE academic staff whose backgrounds are concentrated mainly in secondary education are required to handle both primary and secondary INSET activities. However, as CEMASTE staff was dedicated

²⁸ The process of institutionalization of INSET has been temporarily suspended due to the revision of new education legislation. Once the legislation is in place, resumption of the process is suggested.

²⁹ Phase 3 mid-term review report

to the primary INSET, secondary INSET activities were not fully implemented by 2011 after the completion of Phase 2. The field survey confirms that a management system sufficient for implementing both primary and secondary INSET has not been fully established since the start of Phase 3.

The DPCs established by the project continue to function, however, because of an increase in the number of DEOs³⁰ in the turmoil after the presidential election of 2008, Many DEOs (chairmen of DPCs) were newly assigned, and some district trainers were also changed. The decline in the function of INSET in some districts, therefore, can be attributed to lack of support from DEOs for the implementation of district INSET and to the changes in the ranks of district trainers.

The school monitoring by DQASO and QASO is difficult to carry out due to lack of staff; hence, the frequency of school visits by DQASO and QASO is limited. It is noted that the management system necessary for securing continuous ASEI-PDSI practice at the school level has not been fully established.

3.4.3 Technical Aspects of the Implementing Agency

Regarding the effectiveness of INSET, more than 80% of national INSET participants stated that the INSET was “effective” or “very effective.” National trainers, therefore, possess sufficient capacity in planning, implementing, and evaluating the national INSET.

On the other hand, self-sustaining INSET implementation through development of contents, preparation, and implementation of district INSET with the DPC initiative after the project’s completion has not been secured as expected due to lack of DPC’s management skill in planning and developing its own INSET contents, and providing sufficient time for district trainers to implement district INSET. Support from CEMASTEAs is therefore necessary in order to secure the sustainable implementation of INSET. After the completion of the project, DPC implemented only a mop-up INSET for teachers who did not receive INSET using the previously developed cycle of four modules. However in 2011 CEMASTEAs developed new INSET content (ICT and lesson study) and started the cascading national INSET for district trainers.

3.4.4 Financial Aspects of the Implementing Agency

MoE allocates CEMASTEAs’s operational budget. Continuous budget allocation from the Kenyan side has been secure since the project’s completion. The operational cost for the district INSET is covered by the SMASSE funds that are collected

³⁰ The number of district education offices was increased from 150 in the planning stage to 285 at the time of the mid-term review of Phase 3.

by DPC (200 KSh/pupil)³¹ from a portion of the MoE subsidy of each secondary school under the free secondary education program. Thus, the district INSET is financially sustainable without input from Japan. However, the field survey identified that only 70–80% of schools pay into the SMASSE fund; in addition, a number of issues exist regarding fund management—specifically, allegations that some DPCs misappropriate the SMASSE funds to other programs. Strengthening of accounting management by the central government was thus recommended by the Technical Committee on Re-engineering CEMASTEА.

Table 9: Expenditures for SMASSE/SMASE and CEMASTEА (in KSh)

	GOK Fund	SMASSE Fund	JICA ³²	Total	Kenya Contribution
2003/04	20,000,000	80,511,100	27,908,440	128,419,540	78.3%
2004/05	20,000,000	84,160,900	83,255,107	187,416,007	55.6%
2005/06	40,000,000	84,554,400	101,047,610	225,602,010	55.2%
2006/07	40,000,000	90,304,600	104,646,623	234,951,223	55.5%
2007/08 ³³	40,000,000	90,304,600 ³⁴	101,836,594	232,141,194	56.1%
2008/09	79,800,000	240,000,000	40,666,485	360,466,485	88.7%
2009/10	156,788,000	240,000,000	84,084,420	480,872,420	82.5%
2010/11	271,433,243	240,000,000	117,146,920	628,580,163	81.4%
2011/12	314,433,243	320,000,000	117,000,000	751,433,243	84.4%

Source: Technical Committee on Re-engineering CEMASTEА

(WECSA component)

3.4.5 Policy Related to the Project

The MoEs in Kenya and the member countries greatly appreciate the value of WECSA activities; the MoE in Kenya also authorized SMASE-WECSA activities to provide technical support for member countries as a function of CEMASTEА. However, whether the policy will be maintained after the completion of the project’s third phase is unknown. To secure the sustainability of SMASE-WECSA, it is necessary to consider the support and cooperation from other regional organizations³⁵ such as AU³⁶ and with donors who appreciate the project and expect to work with CEMASTEА as a center of human resource development for mathematics and science education.

³¹ The amounts of the payments were not recorded in the ministerial order (MOE/GI/9/1/44 of September 1st in 2008). However, 200 KSh per pupil is collected as a maximum amount based on district INSET guidelines. The amount of disbursement to the SMASSE fund from the Kenyan government fluctuates, however, as the payment has been 182 KSh per pupil in 2012.

³² Including WECSA components such as third-country experts and TCTP, etc.

³³ Estimated value in 2007/08

³⁴ The budget for district INSET in 2007/2008 was estimated at 100 KSh per pupil.

³⁵ The New Partnership for Africa's Development (NEPAD) required SMASE-WECSA activities in post-conflict countries and ADEA expects CEMASTEА to be a regional resource center for mathematics and science education.

³⁶ The project was invited to The Conference of Ministers of Education of the African Union (COMEDAF) IV, organized by AU. Through the project’s panel presentation, SMASSE was recognized as good practice by AU.

3.4.6 Institutional and Operational Aspects of the Implementing Agency

The WECSA component has been listed as an official task of CEMASTEА in its strategic plan. However, no full-time staff have been assigned to this task, and six staff members³⁷ of the Kenyan component are also dealing with this WECSA component. The secretariat of the SMASE-WECSA association installed in CEMASTEА was registered as a Non-Profit Organization (NPO) and all staff of CEMASTEА can be involved in the WECSA activities. Academic staff and Japanese experts in CEMASTEА mainly prepare the TCTP program and provide technical support (logistics of visits and assignment of experts) for member countries. Building relationships with WECSA member countries, exploiting new member countries, developing the network structure, and promoting cooperation with NEPAD and the ADEA have been implemented mainly by Management staff of CEMASTEА and Japanese experts (project manager and coordinator). Therefore, support from Japanese experts is still necessary in order to manage WECSA member countries.

3.4.7 Technical Aspects of the Implementing Agency

The evaluation confirms that CEMASTEА has enough technical capacity to continue WECSA activities (TCTP and regional conferences) and to serve as WECSA's implementation organization. The implementation of TCTP in Francophone countries has been carried out smoothly, and the implementation of TCTP in non-English-speaking countries has also increased. However, continuous support from Japanese experts is needed, as CEMASTEА still have some difficulties in customizing TCTP according to the actual situations in member countries.

The number of requirements for third-country experts has decreased sharply, as seen in Table 10. Factors contributing to this decrease are 1) the existence of TCTP participants in member countries who are now able to take on the role of the Kenyan experts, 2) a decrease in the number of newly initiated projects requiring technical support from Kenya, and 3) difficulty in providing technical support that responds to the specific needs of member countries.³⁸

Table 10: Request Number of Third-Country Experts

Year	2009	2010	2011
Request Number	12	3	1

Source: Phase 3 Mid-term Review Report

³⁷ The six members of the WECSA committee who are in charge of implementation and evaluation are academics; however, all CEMASTEА academics are dedicated to WECSA activities.

³⁸ Phase 3 mid-term review

3.4.8 Financial Aspects of the Implementing Agency

The financial burden for each WECSA member country is an admission fee of USD100 and an annual membership fee of USD300. The annual expenses for the WECSA activities total approximately USD500,000 (approx. 40 million yen)³⁹; thus, JICA has financed almost all budgets. Based on the opinion that the financial burden of WECSA activities that benefit other African regions should not be borne only by Kenya, the WECSA strategic plan for 2014–2018 that was issued in 2010 recommended an increase in the annual fee to USD1,500 from the 27 official member countries. However, this amount is insufficient to cover all expenses of WECSA activity, such as dispatching experts and implementing the TCTP and a regional conference. In order to secure financial sustainability, CEMASTEAs contacts other donors to request financial assistance. To establish financial independence, the provision of consulting services to member countries by CEMASTEAs is also proposed; however, this solution may not be realistic because of the limitations of CEMASTEAs technical capacity.

In summary, although some challenges still remain in terms of the institutionalization of INSET and the organizational and technical aspects of the counterparts, the Kenyan component is financially sustainable. The potential for sustainability of the WECSA component is low, however, because there is no clear future strategy for SMASE-WECSA; in addition, even though technical and operational sustainability are partially secured, the budget for SMASE-WECSA activities is highly dependent on assistance from Japan. Therefore, the comprehensive result for sustainability of the project is rated as fair.

4. Conclusion, Lessons Learned, and Recommendations

4.1 Conclusion

The project was carried out in Kenya for the purpose of strengthening mathematics and science education through In-Service Education and Training (INSET) (the Kenya component) and supporting the dissemination of the project approach to 33 other African countries (the WECSA component). The relevance of the project is evaluated as high because its purpose is relevant to Kenyan development policy and the needs of the education sector. The goal of the Kenyan component, which was to ensure that the “quality of mathematics and science education at the secondary level is strengthened in Kenya through INSET for teachers” was mostly achieved by the end of the project period in 2008. The project’s overall goal, that the “capacity of young

³⁹ 1 USD = 80 yen

Kenyan students in mathematics and science is upgraded,” has also been accomplished. In the WECSA component, the goal of ensuring that “ASEI-PDSI lessons are practiced in teacher training institutions and secondary schools in member countries” and the overall goal of ensuring that the “quality of mathematics and science education at the secondary level in member countries is strengthened” have also been achieved. Accordingly, the effectiveness and impact of the project are rated as high. The efficiency of the project receives a rating of fair because the actual costs exceeded those proposed in the original plan. The sustainability of the project’s effects was given a fair rating because the organizational structure and the capacity of regional trainers are insufficient in the Kenyan component, and because the necessary budget has not been secured in the WECSA component.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

(Kenyan component)

- ① The INSET system has not ensured ASEI-PDSI practice at the classroom level by INSET participants, even though the secondary INSET was disseminated nationwide in the project’s second phase. In order for teachers to apply ASEI-PDSI practice at the school level, the establishment of a monitoring system for the provision of INSET follow-up and for motivating QASO or DEO and school principals is required.
- ② Decreased motivation of district trainers and teachers regarding INSET creates a challenge for sustainable INSET implementation. MoE should institutionalize INSET and incorporate INSET qualification into the promotion system for teachers. In addition, the accommodation environment (lodging, meals) for participants in national and district INSET should be improved within the limits of the SMASSE fund, if the sustainability is ensured.

(WECSA component)

- ① Both the Kenyan and the Japanese contingents should promptly develop a clear policy and strategy for WECSA activity after the completion of the project’s third phase.
- ② In order to maintain the quality of the WECSA component, the performance of national trainers in TCTP and in technical support to member countries should be evaluated, and the results of the evaluation should be applied to the selection process for future TCTP and technical support.

4.2.2 Recommendations to JICA

Since a clear policy regarding the position of SMASE-WECSA has not yet been established, JICA should begin, with the Kenyan contingent, discussions on a future plan as soon as possible. It is also necessary to support the Kenyan side in order to sustain WECSA activity in terms of policy and the project's organizational, technical, and financial aspects.

4.3 Lessons Learned

(Kenyan component)

- ① Though the secondary INSET has been disseminated nationwide, the institutionalization of INSET is still in progress, because its subject areas are limited to mathematics and science. It is necessary to consider future support to other subject areas not only mathematics and science in order to promote institutionalization of the INSET system..
- ② The project policy does not provide the financial incentive (daily allowances) for INSET participants with the consideration of the sustainability after the project completion. However, this policy has created strong resistance to the program from teachers participating in district INSET. Their dissatisfaction constitutes a potential hindrance to securing continuous INSET implementation. To deal with this issue, the project should provide high-quality INSET opportunities that are perceived by teachers as valuable and worthy of participation, even without a daily allowance and even when participation interrupts their holidays. In addition, participation in INSET should be incorporated into the promotion system for teachers.

(WECSA component)

- ① The beneficiaries of technical cooperation such as those in the WECSA component, which serves as a center of South-South cooperation, are people in other countries. Continuous support from JICA is critical for maintaining the effects of the project, because Kenya, the host country, has little incentive to maintain regional support. To support this kind of South-South cooperation, a clear exit strategy should be considered at the project initiation stage. In particular, future institutional and financial sustainability should be considered in the early stages of the project.

Box: Important factors for introduction of SMASSE approach⁴⁰

(1) Involvement of key persons and Leadership

The establishing human resource and financial foundation is considered as an important factor to ensure the sustainability of newly-introduced INSET system by the project. Giving sufficient time to promote understanding of the project concepts and initiative of recipient country in implementing the project through involving key persons during design and start-up periods, was an important step for the project's sustainability. It is recognized that the SMASE-WECSA regional conference and WECSA third-country training has played an important role in promoting this process.

(2) Implement the INSET with own funds

The implementation of the INSET by basically using own budget of recipient countries has been emphasized from the project design period. There have been some cases that the INSET was implemented with using the Japanese Counterpart Funds as a trial in the initiation of project period, and after its trial, special account budget of recipient countries have been applied for INSET. In country like Botswana where there is an existing system of INSET, the recurrent budget of the Ministry of Education can be used for the INSET. In any case, it is necessary to develop an exit strategy to secure budget for the INSET at the time of the project design.

(3) Utilization and development of own human resource

One of the key elements of smooth INSET implementation is quality of national trainers at the central level. The ability of national trainers in Malawi and Botswana has been strengthened through participating third-country training and receiving third-country experts. The INSET management is also necessary. Thus, in Malawi, in addition to capacity development of national and district trainers, INSET management and implementation system have been strengthened at the central level. In Botswana, on the other hand, the sustainable INSET implementation in regards to ASEI-PDSI is realized through utilizing existing INSET organization and human resource. The national trainers whose capacity strengthened by the third-country training in Kenya have played principal roles of the INSET implementation.

(4) INSET contents based on the teacher's needs

Most of the WECSA member countries applied Kenyan contents of INSET in the early stage of

⁴⁰ INSET contents, implementation mechanism and foundations for suitable INSET implementation are defined as Kenya SMASSE approach. However, experts and Kenyan counterparts are not considered that the SMASSE is model to disseminate to other counties. SMASSE-WECSA activities has implemented under the recognition that Kenya SMASSE has shared successful experience (philosophy) of the sustainable project.

their project. However, In Malawi, developing own human resource for the INSET attributes to customize the contents based on their teachers' needs. In the case of Botswana, the contents of third-country training in Kenya have been applied to their INSET without customization. To customize contents of INSET corresponding to the educational situation of each country is important to promote ASEI-PDSI at the classroom focusing pupil's participation in their lessons and active learning. The technical support from Japanese experts especially in the field of mathematics and science have played an important role to customize INSET contents.

(5) Framework of sustainable INSET

In Malawi and Kenya, INSET in mathematics and science have been authorized and substantively functioned through the national expansion in second phase of the project. However, The comprehensive INSET including other subject areas has not been institutionalized because the subject areas of INSET in both countries are limited to secondary mathematics and science. The INSET in Botswana on the other hand, has been institutionalized and implemented nationwide by using the existing system. Establishment of the INSET through nationwide expansion and promotion of the comprehensive INSET which covers all subject areas are important to sustain the INSET.

(6) Monitoring and evaluation

Establishing INSET improvement mechanism, developing human resource of recipient countries and establishing the monitoring and evaluation system are important for sustainable INSET implementation. The monitoring and evaluation should be implemented by the recipient countries, though it is not usually installed. It is therefore necessary to emphasize the importance of monitoring and evaluation, and support from outside in order that the recipient countries are able to implement by themselves. From this point of view, the action plan for post-termination of the project and regular follow-up are important in addition to assistance of Japanese experts.

Recommendation for application of the SMASSE approach

The introduction of the SMASSE approach by Kenyan counterparts to key persons of WECSA member countries about use of own budget for sustainable INSET and importance of ASEI-PDSI promotes establishment of their INSET system. Supports from WECSA such as dispatch of Kenyan experts and provision of third-country training in Kenya were important factors for the project in WECSA countries where normally only one Japanese expert for the project management assigned during the initial phase of the project. On the other hand, it is required not only to transfer Kenyan experiences but to provide assistance based on the

individual needs of WECSA countries, because many counterparts in WECSA countries who trained in Kenya are now able to offer training sessions outside of Kenya as a substitute for the third-country training by Kenyan counterparts. And the necessity of conventional supports from Kenya have been reduced due to decrease of the number of projects whose phase is initial, and different needs from WECSA countries have been expanded due to diversity of the project framework and progress. While Kenyan counterparts have not sufficient ability to respond to those needs from WECSA countries, dispatch of Japanese expert is one of the solutions. Still, the future strategy including the capacity development of Kenyan counterparts is necessary for establishing a project framework without Japanese experts. JICA is then required to consider future assistance and exit strategies based on the future overall plan for the dissemination of SMASSE typed projects in the African countries.