

Republic of Honduras

Ex-Post Evaluation of Japanese Technical Cooperation Project
Project for Improvement of Teaching Method in Mathematics (PROMETAM)
Phase 1 & 2

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0. Summary

The Project for Improvement of Teaching Method in Mathematics (PROMETAM) Phase 1 & 2 (hereinafter referred to as “PROMETAM” or “the Project”) was implemented with the purpose of improving teaching methods in mathematics. Phase 1 consisted of the development of teachers’ guidebooks and students’ workbooks in five targeted departments in Honduras. Subsequently, Phase 2 was implemented to extend the benefits of Phase 1 all over Honduras and neighboring countries. The purpose of the Project was in line with the education policy to improve the quality of primary education¹ and the needs of mathematics education in the country, therefore the relevance is high. At the completion of Phase 2, the output indicators had almost been attained and the achievement of the project purpose – the improvement of mathematics teaching methods for in-service teachers and students in pre-service courses, was recognized. The overall goal should be considered achieved, as there is the prospect of improvement of students’ academic achievement in mathematics. Therefore effectiveness/impact is high. The project period was as planned and the project cost was within the planned budget, which means that efficiency is high. Several issues can be pointed out in terms of the institutional and financial aspects of the counterpart (C/P)² organizations. For example, the in-service teacher training system is not functioning, and the budget required for teacher training and printing, as well as distribution of the teachers’ guidebooks and the students’ workbooks, has not yet been secured - therefore sustainability should be considered fair.

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

1. Project Description



(Project Location)



(Materials developed by the Project)

¹ In the education system in Honduras, basic education is nine years (extended from six years to nine during the period of Phase 1), of which the first six years is defined as primary education. Basic education is divided into three cycles, i.e., 1st cycle (Grades 1-3), 2nd cycle (Grades 4-6), and 3rd cycle (Grades 7-9). This Project is targeted at the 1st and 2nd cycles.

² C/P refers to administrators, technicians and/or organizations targeted in the technical transfer and/or policy advice in technical cooperation (International Development Journal, Inc. “Terminology of International Cooperation (original in Japanese)” (2004)).

1.1 Background

In the Republic of Honduras, the net enrollment rate of primary education was only 88% in 1999, while the average repetition rate in primary education was as high as 7.9%. The repetition rate for grade 1 was especially high, at 8.5%³. To achieve the global goal of “Education for All (EFA)⁴”, the Honduran Government formulated the “EFA-Fast Track Initiative (FTI) Plan (EFA Plan: 2003 – 2015), in which low academic achievement in mathematics and the poor quality of teachers in service was found to be one of the significant factors in repetition and drop-out rates⁵. Japan provided cooperation assistance to the education sector in Honduras through construction of the National Institute of Investigation, Training and Education (hereinafter referred to as INICE, from its Spanish abbreviation) by grant aid and the dispatch of volunteers⁶. Based on the evaluation of the assistance, the Honduran government requested a technical cooperation project to improve mathematics education, and consequently, the Project for Improvement of Teaching Methods in Mathematics (PROMETAM) was implemented (April 2003 to March 2006). The purpose of the Project (Phase 1) was to improve the teaching capacity of teachers in service in the target area. The teachers’ guidebooks and the students’ workbooks were developed and the in-service teacher training program was improved. The terminal evaluation confirmed that these project activities produced a certain level of achievement. In addition, during the project period, based on the results of the Project, utilization of the teachers’ guidebooks and the students’ workbooks was requested by some other countries in the Central American and Caribbean regions, where the completion rate of primary education and academic achievement in mathematics were priority issues. With this as the backdrop, PROMETAM Phase 2 was launched on April 1 in 2006 with the period of five years to promote the utilization of the developed teachers’ guidebooks and students’ workbooks, to improve the capacity of students in pre-service teacher training courses as well as teachers in service, and to extend the benefits of PROMETAM to other countries in the Central American and Caribbean regions.

³ Japan International Cooperation Agency (JICA) “Project Formulation Study Report on the Project for Strengthening of Primary Education in the Republic of Honduras” (2001), based on “La Eucación en Cifras” as the original source.

⁴ The global movement to promote universal basic education all over the world was launched at the World Conference on Education for All at Jomtien in Thailand in 1990 with international collaboration at the initiative of UNESCO and the World Bank, among others.

⁵ JICA “Implementing Study Report on the Project for the Improvement of Teaching Method in Mathematics” (2003).

⁶ The terminology “volunteer” refers to volunteers dispatched by JICA, for example, Japan Overseas Cooperation Volunteers.

1.2 Project Outline

Overall Goal	<p>Phase 1: To improve teaching methods in mathematics in the 1st and 2nd cycles of basic education, in departments* other than five targeted departments, namely El Paraiso, Ocotepeque, Colón, Valle and Comayagua through disseminating the project results.</p> <p>Phase 2 (National Component): Students' academic achievement in mathematics for Grade 1-6 is improved.</p> <p>Phase 2 (Regional Component): Teaching method in mathematics for teachers of targeted countries is improved.</p>
Project Purpose	<p>Phase 1: To improve the teaching method in mathematics in the 1st and 2nd cycles of basic education in five targeted departments, namely, El Paraiso, Ocotepeque, Colón, Valle and Comayagua applying the teachers' guidebooks and the students' workbooks.</p> <p>Phase 2 (National Component): Teaching method of teachers and students in pre-service training courses in mathematics for Grade 1-6 is improved.</p> <p>Phase 2 (Regional Component): Capacity of the core group members⁷ to improve the teaching method in mathematics in targeted countries is developed.</p>
Core Output(s)	<p>Phase 1:</p> <ol style="list-style-type: none"> 1. To elaborate the teachers' guidebooks in mathematics for the teachers in the 1st and 2nd cycles of basic education 2. To elaborate the students' workbooks in mathematics for the students in the 1st and 2nd cycles of basic education 3. The teachers who receive the in-service teacher training⁸ in the five targeted departments can develop their classes according to the instruction of the teachers' guidebooks 4. To improve teaching capacities of the counterparts through those three processes from (1) to (3) above. <p>Phase 2 (National Component):</p> <ol style="list-style-type: none"> 1. Teachers' guidebook and students' workbook for Grade 1-6 in mathematics are revised. 2. (Pre-service Training) Teachers in 12 "Escuela Normal" and "Formación Inicial de Docentes (FID)"⁹ have capacity to work as trainers on the use of teachers' guidebook and students' workbook in mathematics for Grade 1-6. 3. (In-service Training) National trainers of the in-service training program have capacity to work as trainers on the use of teachers' guidebook and students' workbook in mathematics for Grade 1-6. 4. General interests, especially among primary school students, teachers and students in pre-service training courses, in mathematics education are increased.

⁷ Core Group members are counterparts in the targeted countries who will receive direct technology transfer from the Project.

⁸ Training to improve capacity of teachers already teaching (in service) at school.

⁹ "Escuela Normal", or normal school, is an organization equivalent to higher secondary school to train primary teachers. The National Pedagogic University Francisco Morazán (referred to as the National Pedagogic University) provides teacher pre-service training courses equivalent to a bachelor level called FID (from its Spanish abbreviation). In addition to pre-service training, both "Escuela Normal" and the National Pedagogic University provide in-service training when necessary. In countries of the Regional Component, too, there are two types of pre-service training organizations, normal school (called "Escuela Normal" or teacher training school) and pedagogic university of bachelor level.

	<p>Phase 2 (Regional Component):</p> <ol style="list-style-type: none"> 1. The core group members obtain the necessary competence for development and adjustment of teachers' guidebook and students' workbook in each country, based on the materials developed by PROMETAM. 2. The core group members obtain the necessary competence to implement pre-service and/or in-service teacher training in each country. 3. The project experiences are shared among targeted countries and others.
Inputs	<p>Japanese Side:</p> <p>Phase 1</p> <ol style="list-style-type: none"> 1. Experts 9: 4 persons for Long-Term, 5 persons for Short-Term 2. 20 persons received (Training in Japan) 3. 0 persons for Third-Country Training Programs 4. Equipment: 14 million yen 5. Local Cost: 758,092.61 lempira (1US\$=18.9 lempira: October 2005) <p>Phase 2 (National and Regional Components)</p> <ol style="list-style-type: none"> 1. Experts 14: 6 persons for Long-Term, 8 persons for Short-Term 2. 20 persons received (Training in Japan) 3. 204 persons (cumulative total) for regional training programs (22 from Honduras and 182 from 4 countries of Regional Component, including observers) 4. Equipment: Nil 5. Local Cost: 26,153,916.21 Lempira (1US\$=19 Lempira: October 2010) <p>Honduran Side:</p> <p>Phase 1</p> <ol style="list-style-type: none"> 1. 28 Counterparts (Cumulative total) 2. Land and Facilities, 5 rooms as Project Office, 2 Store rooms, 1 room at the National Pedagogic University 3. Local Cost (2,457,503 lempira), Counterpart Salary <p>Phase 2 (National and Regional Components)</p> <ol style="list-style-type: none"> 1. 5 Counterparts (assigned solely for the Project) 2. Land and Facilities, Project Office (at INICE) 3. Local Cost, Counterpart Salary, Cost for seminars
Total cost	<p>232 million yen (Phase 1)</p> <p>450 million yen (Phase 2)</p>
Period of Cooperation	<p>April 2003 – March 2006 (Phase 1)</p> <p>April 2006 – March 2011 (Phase 2)</p>
Implementing Agency	Secretariat of Education
Cooperation Agency in Japan	Tsukuba University, etc.

Related Projects	(Dispatch of experts) Development planning (May 2000 – May 2002) Basic education improvement (December 2001 – September 2009) (Dispatch of JICA volunteers) Dispatch of Japan Overseas Cooperation Volunteers by group (Model Project for comprehensive community improvement for basic education) (January 2003 – February 2006) (Bilateral Technical Cooperation Project) Project for the Improvement of the Quality of Teaching in Mathematics in the Dominican Republic (May 2005 – May 2010) Project for the Improvement on Mathematics Teaching in Primary Education in the Republic of El Salvador (April 2006 – March 2009) Project for Improvement of Mathematics Education in the Republic of Guatemala (Phase 1: April 2006 – March 2009 • Phase 2: November 2009 – October 2012) Project for the Improvement on the Quality of Mathematics Teaching in Primary Education in the Republic of Nicaragua (Phase 1: April 2006 – March 2011/Phase 2: September 2012 –September 2015)
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Overall Goal, Project Purpose, and Outputs are based on the final version of PDM.

*Department is an administrative area headed by a governor.

PROMETAM consisted of two phases. Phase 1 was implemented for five target departments in Honduras with the Secretariat of Education as the counterpart agency. PROMETAM Phase 2 was comprised of two components. The first was the National Component, where activities were implemented nationwide in Honduras, and the other was the Regional Component, to extend the benefits of the Project from Honduras to four other countries (Dominican Republic, El Salvador, Guatemala, and Nicaragua) in the Central American and Caribbean regions. The outline of the Project is as follows¹⁰. The concept chart of the Project is shown in Figure 1.

【Phase 1, Phase 2 National Component】

(1) Project activities

In both Phase 1 and Phase 2, the main objective of activities was the development of the teachers' guidebooks and the students' workbooks in mathematics as well as the improvement of teachers' capacity in the teaching of mathematics.

In regard to the teaching/learning materials, the project implementation team (C/P) was organized among the officials of the Secretariat of Education and technical staff of the National Pedagogic University and INICE. The project implementation team developed the teachers' guidebooks and the students' workbooks up to the 2nd edition with the support of the Japanese experts in Phase 1. In Phase 2, the materials were further revised. The completed materials were printed and distributed by the Secretariat of Education, utilizing the funds of other development agencies.

¹⁰ This Ex-Post Evaluation was conducted for Phase 1, the Phase 2 National Component, and the Phase 2 Regional Component. The results of the evaluations for each phase/component are sometimes described separately and sometimes described in one section, depending on the nature of the five evaluation criteria.

As for improvement of teachers' capacity, in Phase 1, training in the use of the teachers' guidebooks and students' workbooks was implemented for teachers at the primary schools of five departments. In Phase 2, training in the use of materials and teaching methods was provided through a "cascade system"¹¹. In a cascade system, C/Ps first trained the national trainers (1500 trainers were selected from among primary teachers); then, the national trainers provided training to primary teachers. In Phase 2, the Project supported pre-service training through training teachers at all the Escuelas Normales (12 Escuelas Normales in total nationwide) and the National Pedagogic University.

(2) Implementation system of the Project

Project activities were implemented on the initiative of C/Ps at INICE under the Secretariat of Education and the National Pedagogic University. Phase 2 included pre-service training, and therefore, Escuelas Normales were involved in the Project more actively than Phase 1¹². The Project was implemented as a part of the "Honduras Basic Education Program," which aims to produce comprehensive benefits through collaboration with volunteers in the education sector and utilize experts dispatched to the Secretariat of Education (aside from PROMETAM). In addition, the Project was implemented with the aim of contributing to the achievement of EFA goals in Honduras in collaboration with other donor agencies¹³.

【Phase 2 Regional Component】

In the Regional Component, capacity development was implemented to build human resources in the "core group". The "core group" comprised technical staff of the Ministries of Education and teachers of the National Pedagogic University and Escuelas Normales for five target countries (Dominican Republic, El Salvador, Guatemala, Nicaragua, and Honduras). Apart from the Regional Component of PROMETAM, in each of the four countries (Honduras not included) of Regional Component, a bilateral project was planned¹⁴ between each country and Japan and launched almost at the same time as the start of PROMETAM Phase 2. In the bilateral projects, materials development and teacher training were implemented on the initiative of the core group that was trained through the PROMETAM Regional Component. The bilateral projects in the four countries are not part of PROMETAM and the evaluation

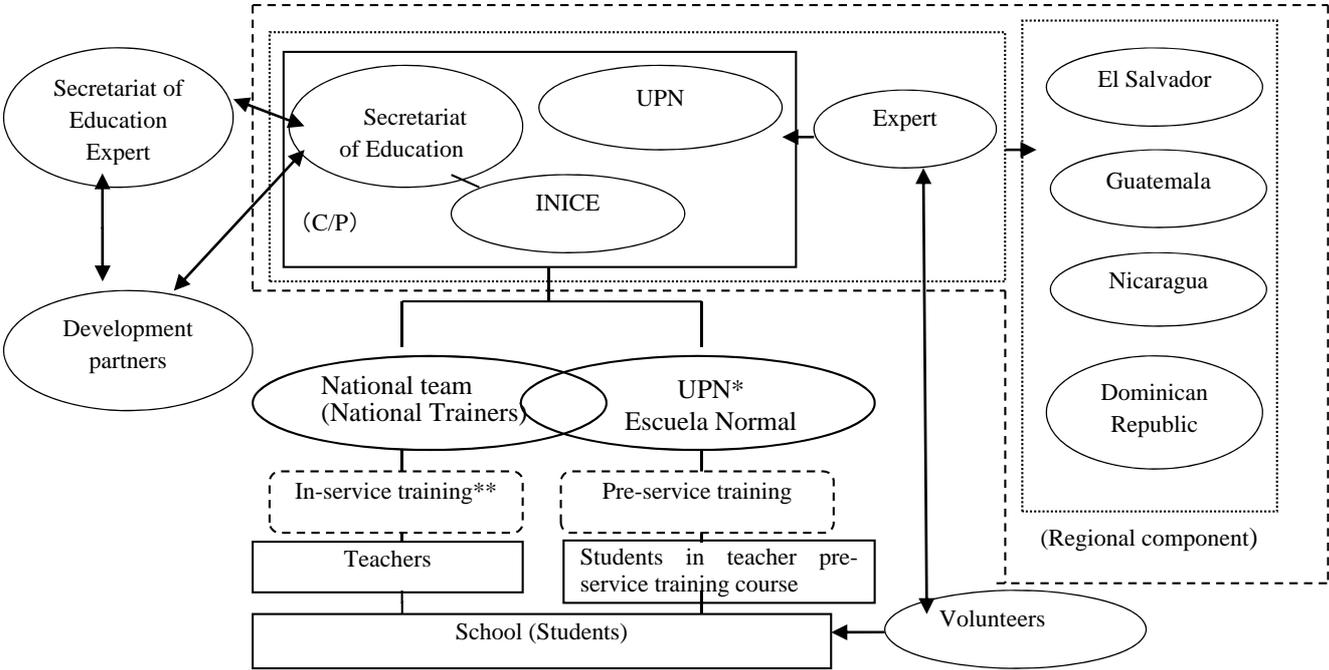
¹¹ In a cascade training system, the training of trainers is conducted first, and then trained trainers conduct training for other personnel.

¹² Although pre-service training was not included in project components of Phase 1, training was given for some teachers at Escuelas Normales.

¹³ In Honduras, education sector meetings called MERECE are organized regularly among the Secretariat of Education and development agencies for collaboration and coordination to achieve EFA goals.

¹⁴ During the project period of PROMETAM Phase 1, in November 2003, a JICA expert dispatched to the Secretariat of Education gave a presentation about PROMETAM at the 8th Educational and Cultural Ministerial Meeting in Central America organized by the Central American Cultural and Educational Coordination (CECC), one department of the Central American Integration System (SICA), an inter-governmental agency. The Ministers of Education showed strong interest and requests for similar projects were presented by many member countries. At the request of these Central American and Caribbean countries, the Japanese government decided to provide technical cooperation in four countries in addition to Honduras (information provided by JICA).

of the bilateral projects of the four countries of the Regional Component is not included in the Ex-Post Evaluation of PROMETAM.



Source: Based on “Terminal Evaluation Report on the Project for Improvement of Teaching Method in Mathematics (PROMETAM) Phase II in Honduras (2010)”

* UPN (National Pedagogic University Francisco Morazán) is one of the C/P organizations and is responsible for pre-service training and a part of the in-service training during the Project.

**Phase 1 was focused only on in-service training. The national team for in-service training was established after reforming the training system through cascade methods.

Figure 1: Concept chart of the Project

1.3 Outline of the Terminal Evaluation¹⁵

1.3.1 Achievement of Project Purpose at the time of the Terminal Evaluation

【Phase 1】

In the comparative qualitative analysis of lessons¹⁶, there was a significant difference between teachers who received in-service training and those who did not. With these results, it was judged that the prospect of the achievement of project purpose was high.

【Phase 2 National Component】

At the time of the Terminal Evaluation, the percentage of teachers who used the teachers’ guidebooks and the students’ workbooks had increased according to the evaluation survey. In addition, there was improvement in the average evaluation scores based on lesson observations in mathematics lessons of

¹⁵ Terminal evaluation is usually conducted six months prior to project completion. The terminal evaluation was conducted from September 17 to October 7 2005 for Phase 1 and from September 30 to October 29 2010 for Phase 2.

¹⁶ In PROMETAM, as indicators of the teachers’ ability of mathematics, Japanese experts and C/Ps visited primary school and observed lessons to score and evaluate the quality of lessons conducted by teachers based on pre-defined criteria such as the quality of questions to students, use of the blackboard, and advice to students.

the 4th grade. There were also improvements in the results of tests conducted before and after the training on mathematics teaching methods as well as in the results of the evaluation of lessons during teaching practice. With these facts, it was evaluated that the project purpose, i.e., improvement of teaching ability of mathematics of primary teachers and students in pre-service training course, was being achieved.

【Phase 2 Regional Component】

The project purpose, the capacity development of core group members, was evaluated as achieved because activities were being planned and implemented at the initiative of the core group in each country and the planned activities were completed at the time of the Terminal Evaluation.

1.3.2 Achievement of Overall Goal at the time of the Terminal Evaluation

【Phase 1】

At the time of the Terminal Evaluation, trainers trained through PROMETAM provided training for teachers in areas other than the five targeted departments. Therefore, it was considered that the overall goal would be achieved if training was provided continuously and if teachers encouraged students' individual study, including doing homework and utilizing the students' workbooks.

【Phase 2 National Component】

The improvement in the academic achievement score was listed as an indicator. The follow-up report on the progress of EFA in Honduras compiled by the Secretariat of Education reported that there was a tendency towards improvement in the academic achievement of students in mathematics and that students utilized the students' workbooks with more writing in the workbooks. Therefore, it was evaluated that the possibility of the achievement of the overall goal, namely, improvement of academic achievement of students in mathematics, was high.

【Phase 2 Regional Component】

The Regional Component was focused on the improvement of the capacity of the core group, the main actor of bilateral project of each country in Regional Component. The core group members trained in the PROMETAM Regional Component were expected to implement activities in the bilateral projects in each country to improve the capacity of teachers. With this project design, it was impossible to forecast the achievement of the overall goal of PROMETAM Regional Component, improvement of teaching ability of mathematics at the time of the Terminal Evaluation, and evaluation of the achievement of the overall goal was not included in the Terminal Evaluation of PROMETAM Phase 2.

1.3.3 Recommendations at the time of the Terminal Evaluation

Recommendations on the measures before the completion of the Project are; 1) to organize an international symposium to share the experiences and knowledge obtained through PROMETAM, 2) to provide support to maintain a human network of implementing agencies of five countries of the Regional Component. In addition, the continuous role of INICE as a regional teacher training center in Central America was presented as a recommendation after the completion of the Project.

2. Outline of the Evaluation Study

2.1 External Evaluator

Tanaka Erika, Global Group 21 Japan, Inc¹⁷.

2.2 Duration of Evaluation Study

Duration of the Study:	September, 2013 – October, 2014
Duration of the Field Study:	November 10, 2013 – December 16, 2013 (1 st) March 22, 2014 – March 31, 2014 (2 nd)

2.3 Constraints during the Evaluation Study

Interviews with teachers and lesson observations were not conducted sufficiently during the evaluation because lessons were not being conducted at primary schools during the first field study¹⁸ and the duration of the second field study was limited. A beneficiary survey was planned to evaluate the project impact and was to be conducted by distributing a questionnaire to teachers teaching at primary schools selected by random sampling based on the school list of the Secretariat of Education, with considerations being made for access. However, selection was not conducted as planned because regular lessons had been completed. Instead, the Secretariat of Education selected several departments and the departmental education offices distributed the questionnaire to teachers¹⁹.

¹⁷ The evaluator belongs to Global Management Inc. and participated in the Evaluation Study conducted by Global Group 21 Japan Inc.

¹⁸ The first field study was started before the completion of the academic year. During the academic year, there was not a single strike by teachers and the planned curriculum was covered without delay, and therefore, regular lessons were completed earlier than usual.

¹⁹ In addition, a questionnaire was distributed to teachers who attended the training course conducted by the National Pedagogic University and teachers who attended the training conducted in six departments in Western Honduras by GIZ, the German assistance agency. Through these methods, questionnaire sheets were collected from a total of 264 teachers in 14 departments including all five targeted areas of Phase 1. This questionnaire survey is referred to as the beneficiary survey.

3. Results of the Evaluation (Overall Rating: A²⁰)

3.1 Relevance (Rating: ③²¹)

3.1.1 Relevance to the Development Plan of Honduras and Countries of the Regional Component 【Phase 1, Phase 2 National Component】

At the beginning of both Phase 1 and Phase 2, the EFA plan was implemented, by which the universal completion of six years' primary school by 2015 was raised as a target, and the improvement of the quality of mathematics and Spanish education, along with raising the quality of teachers, were listed among the overall goals. The Education Sector Strategic Plan (Plan Estratégico Sectorial de Educación: 2005–2015), the country's basic education policy, lists the improvement of education efficiency and quality in its priority areas.

The EFA Plan and the education sector strategic plan were implemented as a basic policy in the education sector throughout the project period.

【Phase 2 Regional Component】

At planning, the improvement of the quality of primary education was mentioned in the strategic plan of CECC²². In the countries of the Regional Component, the EFA plan with the target year of 2015 was implemented throughout the project period.

3.1.2 Relevance to the Development Needs of Honduras and Countries of the Regional Component

【Phase 1, Phase 2 National Component】

At the planning of Phase 1, the need for improvements in mathematics education was high, as described before (1.1 Background).

In the academic achievement survey of Spanish (reading) and mathematics of primary students conducted by the Secretariat of Education in 2010 and 2012²³ (a little before and after the completion of the Project), the higher the school grade of the students, the lower the average mark of mathematics is (refer to Table 6 in 3.2.2 Impact). In Grades 7 to 9, the marks in percentage for mathematics were as low as the 30s while those of Spanish were around 60%. This shows that, in mathematics in early primary education, many students tend to “stumble”, an issue that will become more problematic in secondary education. Through this survey, it was considered that the need for improvement of mathematics in primary education was high at the time of project completion.

²⁰ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

²¹ ③: High, ②: Fair, ①: Low

²² JICA “Implementing Study Report on the Project for Improvement of Teaching Method in Mathematics (PROMETAM) Phase II” (2006)

²³ The data from 2011, the year of the completion of Phase 2, was not available.

【Phase 2 Regional Component】

As described in “1.1 Background”, during Phase 1 of PROMETAM, there were requests to use the materials developed in Honduras among countries in the Central American and Caribbean areas (Report on Implementing Study of Phase 2). In all four countries of the Regional Component, there were no official textbooks in mathematics before the start of Phase 2 and the need for cooperation was high at the planning stage of the Regional Component. According to the interviews with relevant organizations during the Ex-Post Evaluation, it was recognized that improvements in teacher quality were an important issue throughout the project period in each country of the Regional Component.

3.1.3 Relevance to Japan’s ODA Policy

【Phase 1, Phase 2 National Component】

In the planning stage of Phase 1, human resource development and, especially, the improvement of primary education, was one of the priority areas in Japanese ODA policy toward Honduras (Ministry of Foreign Affairs, ODA Data Book 2002). At the time of the planning of Phase 2, basic education was named as one of four priority areas in Japanese ODA policy toward Honduras, with support for EFA-FTI as its top priority (ODA Data Book 2006).

【Phase 2 Regional Component】

In the planning stage, education was mentioned as one of the priority issues in Japanese ODA policy towards each country of the Regional Component²⁴ (ODA Data Book 2006 for each country).

This project has been highly relevant to the respective countries’ development plans, development needs, as well as Japan’s ODA policy. Therefore, its relevance is high.

3.2 Effectiveness and Impact²⁵ (Rating: ③)

3.2.1 Effectiveness

3.2.1.1 Project Output

【Phase 1】

Outputs 1 through 4 are considered as achieved as described in the following areas:

Output 1: To elaborate the teachers’ guidebooks in mathematics for the teachers in the 1st and 2nd cycles of basic education

In regard to the indicator (i.e., publication of teachers’ guidebooks in mathematics), the development of the teachers’ guidebooks for nationwide distribution was completed and 4,600 copies of the sample

²⁴ In the ODA Data Book, promotion of development partners' coordination in the education sector is listed as a priority assistance area for Guatemala, strengthening of education and improvement of quality for El Salvador, education for the Dominican Republic, and improvement of enrollment rates and quality in primary education for Nicaragua, respectively.

²⁵ Sub-rating for effectiveness is grouped with consideration of impact.

version were distributed. Based on the feedback of the results of final monitoring, the revised versions of the teachers' guidebooks were elaborated²⁶.

Output 2: To elaborate the students' workbooks in mathematics for the students in the 1st and 2nd cycles of basic education

As to the indicator, publication of students' workbooks in mathematics, the nationwide version of students' workbooks was developed. The students' workbooks were recognized as the national textbook ("Terminal Evaluation Report I").

Output 3: The teachers who receive the in-service teacher training in the five targeted departments can develop their classes according to the instruction of the teachers' guidebooks

Two indicators were defined for this output. Indicator 1 was the number of primary teachers who completed in-service training and Indicator 2 was the number of primary teachers who obtained scores of more than 60% in the test of achievement and teaching methods. As shown in the table below, almost all the teachers completed in-service training with scores of more than 60%. In addition, volunteers conducted monitoring for teachers who received in-service training based on the monitoring sheet outlined by the Project. The monitoring results showed that teachers who received in-service training conducted classes utilizing the teaching methods acquired through the training.

Table 1: The number of teachers who participated in in-service training and completed the training with more than 60% scores

Training for Grades 1-3			Training for Grades 4			Training for Grades 5		
No. of participants	No. of those who completed	Completion rate (%)	No. of participants	No. of those who completed	Completion rate	No. of participants	No. of those who completed	Completion rate (%)
249	236	94.8	226	226	100%	226	226	100

Source: Terminal Evaluation Report I

Output 4 To improve teaching capacities of the counterparts through those three processes from (1) to (3) above.

Indicators for this output were not defined in the Project Design Matrix (PDM), however, it has been reported that C/P members who were directly trained by PROMETAM had improved their capacity in terms of understanding of teaching contents, and their attitude toward teaching after training (Terminal Evaluation Report I).

²⁶ JICA "Report on the Terminal Evaluation on the Project for Improvement of Teaching Method in Mathematics (PROMETAM) Phase I in Honduras" ("Terminal Evaluation Report I").

【Phase 2 National Component】

Outputs 1, 2 and 4 were considered to be achieved as follows. As for output 3, although the indicator, the capacity of primary teachers, was achieved, the training system was not fully established.

Output 1: Teachers’ guidebooks and students’ workbooks for Grades 1-6 in mathematics are revised.

The indicator of this output was authorization of the students’ workbooks developed during the Project by the Secretariat of Education. At the time of the terminal evaluation, the second version of the teachers’ guidebook and the students’ workbooks whose revision was completed in 2007 had been authorized as the national textbook by the Secretariat of Education and the Secretariat of Education was printing and distributing the students’ workbooks. Modifications were made to the students’ workbooks for Grade 3 and above so that they can be reusable in a text style without writing by students in a note style. The sample versions of the reusable students’ workbooks were presented to the Secretariat of Education at the completion of the Project²⁷.

Output 2: (Pre-service training) Teachers in 12 “Escuela Normal” and “Formación Inicial de Docentes (FID) have capacity to work as trainers on the use of teachers’ guidebooks and students’ workbooks in mathematics for Grades 1–6.

Table 2 shows the results of the evaluation tests for training, the indicator of this output. The tests (both pre- and post-test) were conducted before and after the training for teachers of Escuelas Normales and the FID course of the National Pedagogic University. The test scores improved after the training and an improvement in knowledge of mathematics teaching was recognized. In addition, in the comparison of the results of lesson observations for teachers at Escuelas Normales conducted in 2008 and 2010, improvements in actual lessons were recognized (Terminal Evaluation Report II).

Table 2: Results of tests before and after training for teachers of FID and “Escuela Normal”

Stage	Period	No. of participants	Pre-test (Score: %)	Post-test (Score: %)
1	May 2007	61	31.7	54.1
2	Aug. 2007	48	52.5	67.7
3	Dec. 2007	41	66.6	80.0
4	Feb. 2008	59	64.2	82.9
5	May 2008	56	47.4	76.2
6	Aug. 2008	48	48.5	84.5
7	Feb. 2009	44	53.9	79.2
8	Jan. 2010	42	50.8	75.6
9	May 2010	56	60.8	69.1

²⁷ JICA “Report on the Terminal Evaluation of on the Project for Improvement of Teaching Method in Mathematics (PROMETAM) Phase II in Honduras” (“Terminal Evaluation Report II”).

10	Oct. 2010	53	63.4	85.6
11	Feb. 2011	59	-	-

Source: Based on materials presented by JICA

Output 3: (In-service training) National trainers of the in-service training program have the capacity to work as trainers on the use of teachers' guidebooks and students' workbooks in mathematics for Grades 1–6.

As the indicator of this output, evaluation tests were conducted several times before and after the training for national trainers or departmental trainers in 18 departments (after 2008). Improvements were recognized in the results of the tests after the training each time. It was found that the level of trainers in understanding of the teaching methods in mathematics had improved and training capacity was enhanced through training.

Table 3: Results of tests before and after training for national trainers and outline of training for departmental trainers and primary teachers

	Period	Major topics	No. of participants in national trainer training	Pre-test (Score: %)	Post-test (Score: %)	No. of participants in departmental trainer training (information for reference)	Coverage rate of departmental training participants (primary teachers) of all teachers (%)
1	May 2006	Natural numbers, Basic four operations, etc.	47	62.7	66.9	934	109*
2	Jun.2007	Decimal four basic operations, Figures, Teaching methods, etc.	120	44.9	56.5	1,227	109
3	Nov. 2007	Fraction four basic operations, etc.	109	68.4	78.0	1,430	95
4	May 2008	Complicated four basic operations, Figures, Teaching methods	1,450	56.8	74.7	-	72

5	Jun. and Sept. in 2009 Jan. 2010	Decimal and fraction division, Volume and measurement, etc.	1,004	28.4	68.8	-	43
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Source: Based on the Terminal Evaluation Report II and materials presented by JICA.

*The number of all teachers was calculated based on the statistics of the Secretariat of Education. In PROMETAM training, there was also participation by teachers from PROHECO, a community-based alternative school program assisted by the World Bank. The teachers of PROHECO school are not included in the registration of teachers employed by the Secretariat of Education. Therefore, the coverage of participants to all teachers (registered at the Secretariat of Education) may exceed 100%.

Although indicators were achieved as described above, a system to continuously train teachers by national trainers has not been established. At first, the three-staged cascade system was implemented. There it was expected that five C/P members would train national trainers (122 selected primary teachers). Subsequently, the national trainers would train departmental trainers (1,540 selected primary teachers, following which the departmental trainers would train all teachers at the primary school level. However, in 2008, after a review of the training plan and training implementation system by the Secretariat of Education, it was modified into a two-stage cascade system, where C/Ps (4 technical staff at the Secretariat of Education) trained national trainers (1,500 selected teachers), who trained all teachers. As a result, the number of national teachers to be trained directly by C/Ps increased 10 times, which made C/Ps too overworked to fully conduct the monitoring of teachers at the primary school level. In addition, the national teacher training system (called SINAFOD from its Spanish abbreviation) was under a process of continuous reform and the teacher training system was frequently changed. This made it difficult to establish a cascade training system so that the system was well incorporated into the national training system. Moreover, EFA funding²⁸ by donor agencies was suspended due to some audit problems in 2009, which caused frequent cancelations and postponements of in-service training (materials presented by JICA). Due to the above-mentioned factors, an in-service training system was considered not fully established. However, establishment of the training system was not a part of the activities or indicators in the PDM. It is considered that the teachers' capacity was improved to some extent as shown by the indicators.

Output 4: General interest, especially among primary school students, teachers, and students in pre-service training courses, in mathematics education, is increased.

At the Terminal Evaluation, it was reported that psychological difficulties towards mathematics were reduced and interest in mathematics had been enhanced among teachers and students after the teachers' guidebooks and the students' workbooks were introduced in mathematics lessons (Terminal Evaluation Report II)²⁹. During the project period, thirteen newsletters were issued as an activity to

²⁸ Some development agencies that support EFA provide financial assistance from a "Common Fund" (EFA fund) to be spent on specific activities at the Secretariat of Education.

²⁹ Interviews with teachers at Escuelas Normales during the Ex-Post Evaluation clarified that lesson preparation for teachers

enhance general interest in mathematics education. In the interviews conducted during the Ex-Post Evaluation, organizations including the National Pedagogic University, Escuelas Normales, departmental education offices, and development agencies showed a high level of recognition of materials developed by PROMETAM. Students at Escuelas Normales also commented that their interest in mathematics had been enhanced. Based on these facts, it is considered that the expected output had been achieved at project completion.

【Phase 2 Regional Component】

It is evaluated that the outputs 1 to 3 were achieved as follows.

Output 1: The core group members obtain the necessary competence for development and adjustment of teachers' guidebooks and students' workbooks in each country, based on the materials developed by PROMETAM.

In regard to the indicator (i.e., the results of analysis of training for the core group), pre-and post-tests of the regional training showed the improvement in performance after the regional training³⁰ in each training session (Terminal Evaluation II). In the Regional Component, the development of the teachers' guidebooks and students' workbooks was completed based on those developed in Honduras but adopted to the situations in each country at the initiative of the core group members at the terminal evaluation of the bilateral project in each country of the Regional Component. The developed teachers' guidebooks and students' workbooks were printed and distributed³¹ as national textbooks except in the Dominican Republic. The quality of the developed materials was evaluated highly at the terminal evaluation of the bilateral project in each country. The majority of those interviewed in the Ex-Post Evaluation commented that the materials were easy to use and/or useful for the improvement of classes. The drafts of materials were elaborated mainly by the core group members with the assistance of Japanese experts, and therefore, a majority of those interviewed considered that their capacity for materials development had improved through the activity.

Output 2: The core group members obtain the necessary competence to implement pre-service and/or in-service teacher training in each country.

In regional training, comparison between the results of pre- and post-tests of training was conducted. The evaluation of training capacity was conducted based on the following evaluation criteria; the level of understanding of the contents of the teachers' guidebooks, the ability of conducting lecture-

became easier and both students in the pre-service teacher training and students at primary school understand the subject contents better through utilization of the teachers' guidebooks and the students' workbooks. Students in the pre-service teacher training course commented that the teachers' guidebooks and students' workbooks are easy to understand and they are described to attract interests of uses, reducing the image that mathematics is difficult.

³⁰ Five regional training courses were conducted to improve the capacity of core group members in five targeted countries in the Regional Component. In each training course, there were several observer participants in addition to core group members.

³¹ The development of the teachers' guidebooks and students' workbooks was defined as activities in a bilateral project in each country of the Regional Component. Printing and distribution of the teachers' guidebooks and students' workbooks that were developed was not included in the activities of a bilateral project in each country.

style training and the ability of conducting practice-style training. The evaluation showed that their training capacity had improved. With the results of evaluation, it was considered that training capacity had improved after the training (based on information provided by JICA). In the interview during the Ex-Post Evaluation, core group members commented that they had enhanced their capacity in terms of structuring training and classes including time management, utilization of the blackboard and teaching/learning materials, encouraging participants and students to improve their interest, and so on.

Output 3: The project experiences are shared among targeted countries and others.

Two international symposiums on the Regional Component were held over a five-year period, which means the target of Indicator 1 of this output, at least two international symposiums, was achieved. In addition, core group members of each targeted country participated in national seminars in the other countries of the Regional Component, sharing experiences of their projects as well as acquiring seminar management skills. Ten issues of the newsletters on the Regional Component activities were published as planned, as required by Indicator 2 (information provided by JICA). As for Indicator 3, namely the number of participants in a communication network (mailing list), registration for the mailing list includes all of those involved in the Project, such as core group members, Japanese experts and national staff of bilateral projects in each country of the Regional Component, with information sharing and exchanges implemented (Terminal Evaluation Report II).

3.2.1.2 Achievement of Project Purpose

【Phase 1】

Project Purpose: To improve the teaching method in mathematics in the 1st and 2nd cycles of basic education in five targeted departments, namely, El Paraiso, Ocotepeque, Colón, Valle and Comayagua, applying the teachers' guidebooks and the students' workbooks.

Indicator (Improvement in the analysis results of mathematics classes conducted by teachers who receive the in-service teacher training)

The group comparison of teachers of 4th grade³² shows significant differences in the quality of each lesson. Lessons by teachers who received training were better than lessons by those who did not receive training in terms of teaching through encouraging students to think for themselves, conducting lessons based on effective planning, and teaching methods (Terminal Evaluation I).

【Phase 2 National Component】

Project purpose: Teaching method of teachers and students in pre-service training courses in mathematics for Grades 1-6 is improved.

(For teachers in-service)

³² A comparison was conducted between 40 teachers of 4th grade who used PROMETAM materials and received training and those who did not. This is because the analysis was conducted for teachers of 4th grade when training for 4th grade was completed.

1) Indicator 1 (Results of diagnosis on the use of the teachers' guidebooks and students' workbooks)
 According to the questionnaire conducted during the Project, the percentage of teachers who responded that they used the teachers' guidebooks and students' workbooks was increasing (Table 4). The reasons for not using them were: the teachers' guidebooks and students workbooks had not been distributed, and they did not know how to use them (Terminal Evaluation Report II).

Table 4: Percentage of teachers who use teachers' guidebooks and students' workbooks

Year	2007	2008	2009	2010
Teachers' guidebook	74.9	90.0	98.7	96.7
Students' workbook	78.0	93.2	99.5	93.5

Source: Based on the Terminal Evaluation Report II

2) Indicator 2 (Results of analysis of mathematics classes)

The average percentage of the results of analysis of mathematics classes (for 4th Grade) increased from 68.8 in 2008 to 75.6 in 2010. In the beneficiaries' survey during the Ex-Post Evaluation, 44.3% of teachers surveyed responded that their teaching capacity had improved "very much" and 11.0% of teachers responded that their capacity improved "to some extent" through utilization of the teachers' guidebooks and students' workbooks. As to the specific abilities that had improved, better knowledge of mathematics was indicated by 44.7% of teachers, use of the blackboard by 44.7% of teachers, and use of teaching/learning materials by 44.3% teachers (multiple answers possible).

(For students in pre-service training)

3) Indicator 3 (test results of teaching method in mathematics for students in pre-service training)

Comparison of the test results (percentage of correct answers) before and after the training in mathematics teaching methods for students in the pre-service training course at FID and Escuelas Normales, showed improvement in both subject contents and teaching methods after 2008.

Table 5: Results of the tests before and after the training for students in the FID course and Escuelas Normales (% of correct answers)

	Contents	Before (%)	After (%)
2007	Subject contents	22.9	26.4
	Teaching methods	40.7	42.0
2008	Subject contents and teaching methods	40.6	66.4
2009	Subject contents	21.9	42.0

Source: Based on Terminal Evaluation Report II

4) Indicator 4 (Analysis of results of mathematics classes in teaching practice of students in pre-service training)

As for the students of the FID course at the National Pedagogic University, the average percentage of the results of the mathematics class in teaching practice was 66.5 in 2007 and 66.4 in 2009 – not a significant change. As for the students of the 3rd Grade of Escuela Normal, the average points in classroom observation of teaching practice improved from 63 in 2009 to 73 in 2010 (information provided by JICA).

【Phase 2 Regional Component】

Project Purpose: Capacity of the core group members to improve the teaching methods in mathematics in targeted countries is developed.

Indicator (Planning and implementation of activities on improvement of teaching method in mathematics by core group members in each country of the Regional Component)

In bilateral projects in each country of the Regional Component, activities such as the development of materials and teacher training were planned and implemented at the initiative of the core group and planned activities were completed at the completion of each bilateral project. This shows that the core group members have sufficient capacity through the PROMETAM Regional Component.

The project purpose has been achieved in Phase 1, the Phase 2 National Component, and the Phase 2 Regional Component.

3.2.2 Impact

3.2.2.1 Achievement of Overall Goal

【Phase 1】

Overall Goal: To improve the teaching methods in mathematics in the 1st and 2nd cycles of basic education, in departments other than five targeted departments, namely El Paraiso, Ocotepeque, Colón, Valle and Comayagua through disseminating the project results.

Indicator (Improvement in analysis results of mathematics class)

As described before, according to the Terminal Evaluation of Phase 1, the overall goal was likely to be achieved and nationwide expansion of project benefits was expected by the trainers who have received training.

During the Ex-Post Evaluation, a beneficiary survey was conducted for teachers in fourteen departments including the five targeted departments in Phase 1. According to the results, evaluation results were high in terms of frequency of utilization of the teachers' guidebooks and the students' workbooks, improvement in their own teaching capacity, and improvement of students' capacity. There were no significant differences between the respondents in the five targeted departments and those in other departments. Teacher training was conducted for teachers only in five departments in

Phase 1 but was expanded to all departments in Phase 2. Therefore it is considered that the project benefits have expanded equally in Honduras through distribution and utilization of the teachers' guidebooks and the students' workbooks.

【Phase 2 National Component】

Overall Goal: Students' academic achievement in mathematics for Grades 1-6 is improved.

Indicator (Results of academic achievement test scores of students)

According to the Terminal Evaluation, the overall goal was likely to be achieved in that there was a tendency toward improvement in students' academic achievement test scores.

The results of an academic achievement test in mathematics conducted by the Secretariat of Education in 2010, 2012 and 2013 are shown in Table 6 together with the results of Spanish as a reference.

Table 6: Test scores indicating academic achievement in mathematics and Spanish (%)

	Year/Grade	1	2	3	4	5	6
Mathematics	2010	73	53	52	41	39	37
	2012	79	61	55	55	48	53
	2013	84	61	54	58	48	57
Spanish	2010	54	52	51	65	62	60
	2012	64	57	66	62	63	69
	2013	66	60	69	69	70	70

Source: Based on "Informe Nacional Rendimiento Académico" 2010, 2012, 2013, Secretariat of Education, Honduras

The results show an increase in academic achievement in mathematics during the period from 2010 to 2013. It is difficult to precisely show a direct relationship with PROMETAM as the scores in Spanish improved as well, the test questions are different from year to year, and the academic achievements of the students may depend on various other factors, for example, the attitudes of parents, effective school days (or cancellation of lessons due to strikes by teachers), among others. However, according to interviews with relevant agencies during the Ex-Post Evaluation, it is considered that the Project had some impact on the academic achievement of students³³.

Among teachers at Escuelas Normales and teachers at primary schools interviewed during the Ex-Post Evaluation, some commented that there was an improvement in the academic achievement of students, while others said there had not been. According to the beneficiary survey, teachers who

³³ There were no national textbooks before the start of PROMETAM. The development and distribution of the teachers' guidebooks and students' workbooks, which became national textbooks, has had a significant influence on the academic achievement of students, according to some interviewees at the Secretariat of Education and development agencies.

responded that students' capacity improved "very much" accounted for 39.4%, while teachers who responded "to some extent" accounted for 14.8%. The specific capacity of students showing improvement is indicated in Table 7. There are few teachers who indicate academic achievement score but they recognize that student capacity is being improved in terms of participation in class, understanding of subject contents, and problem solving.

Table 7: Improvement of capacity of students (Multiple answers possible)

Item	Interest in mathematics	Level of participation in class	Understanding of subject contents	Problem-solving ability	Academic achievement score	Other
% of teachers who indicate each item (N=264)	42.0	48.9	43.6	42.8	33.7	1.9

Source: Beneficiary survey

【Phase 2 Regional Component】

Overall Goal: Teaching methods in mathematics for teachers of targeted countries is improved.

Indicator (Results of lesson observation)

At the Terminal Evaluation, it was considered impossible to evaluate the impact produced by the Regional Component as described before.

At the Ex-Post Evaluation, lesson observations, the indicator of the overall goal, were not conducted due to time limitations. However, it can be said that the capacity of teachers in each country of the Regional Component has been improved as follows.

The teachers' guidebooks and the students' workbooks developed have been designated as the national textbook in all five countries in the Regional Component and actually utilized. Based on interviews with core group members, as well as teachers at Escuelas Normales and primary schools, it can be reported that primary teachers' capacity has improved in terms of the ways of encouraging students to participate, presentation methods, use of the blackboard, and class management. Core group members commented that regional training in Honduras and technical exchanges³⁴ with a similar project in Bolivia conducted as part of the Regional Component contributed to the improvement of their capacity and were beneficial in conducting training in their countries. Through these facts, the capacity of teachers has improved through the Regional Component. It should be noted that it is difficult to evaluate the impact of the PROMETAM Regional Component, as it was implemented in each of the Regional Component country as a bilateral project. However, it is considered that there has been a certain impact on the achievement of the overall goal through

³⁴ In the technical exchanges, those involved in one technical cooperation project visited another technical cooperation project implemented in another country. In PROMETAM, technical exchanges were conducted between projects to improve the quality of education in Bolivia (called PROMECA, from its Spanish abbreviation), where they observed class management and teaching methods and exchanged opinions with those involved in PROMECA. Technical exchanges for the PROMETAM Regional Component were held three times, twice in Bolivia and once in Honduras.

PROMETAM, as seen by the fact that core group members trained by PROMETAM implemented activities related to teacher training in each country.

As described above, it can be said that the overall goal has been largely achieved in Phase 1, the Phase 2 National Component, and the Phase 2 Regional Component.

3.2.2.2 Other Impacts

Several unexpected positive impacts should also be recognized. Negative impacts have not been reported.

【Phase 1】

There were requests among some other countries in Central America to use the teachers' guidebooks and students' workbooks and the possibility of regional cooperation was discussed, which led to the formulation of the Regional Component of Phase 2. This can be acknowledged as an impact of Phase 1.

【Phase 2 National Component】

The teachers' guidebooks and the students' workbooks in mathematics for Grades 7-9, developed at the initiative of C/Ps at INICE, were printed and distributed to about 700 primary schools by the Secretariat of Education with the support of the International Development Bank (IDB) at the time of the Terminal Evaluation of Phase 2 (Terminal Evaluation Report II). At the time of the Ex-Post Evaluation, the drafts of the second version of the teachers' guidebooks and the students' workbooks for Grades 7–9 had been completed. With the assistance of short-term experts, completion is planned for approximately August 2014 and the textbooks will be introduced in the academic year of 2015 (interview at INICE).

The teachers' guidebooks and the students' workbooks developed by PROMETAM have been utilized in several projects supported by other development agencies. Teaching/learning materials for computer-assisted learning programs based on the teachers' guidebooks and the students' workbooks were developed in the project (called EDUCATRACHO) assisted by IDB and utilized at primary schools³⁵. Moreover, GIZ is implementing training using materials and teaching methods introduced by PROMETAM in six departments in the western part of Honduras.

³⁵Through assistance by EDUCATRACHO, computer terminals were distributed to 466 primary schools in 16 departments out of 18 nationwide (at the time of the Ex-Post Evaluation). On-line training for teachers is being conducted by utilization of the computer materials. Training participants can ask questions by e-mail and the staff at EDUCATRACHO respond to them. According to EDUCATRACHO staff, on-line materials are frequently used at primary schools and the computer terminals are well maintained.

【Phase 2 Regional Component】

According to the interviews with core group members during the Ex-Post Evaluation, lesson observations are being conducted in countries of the Regional Component based on the lesson observation sheet developed by PROMETAM. The core group members in El Salvador commented that the teaching methods introduced by PROMETAM can be applied to other subjects as primary teachers teach subjects other than mathematics. One of the core group members in the Dominican Republic said that he applies the same teaching methods in mathematic courses for adults.

This project has largely achieved the project purpose as well as the overall goals in Phase 1, the Phase 2 National Component, and the Phase 2 Regional Component. Therefore, the effectiveness/impact of this project is high.

3.3 Efficiency (Rating: ③)

3.3.1 Inputs

【Phase 1】

Inputs	Plan	Actual
(1) Experts	2 persons / year for Long-Term 2 persons / year for Short-Term	4 persons for Long-Term 5 persons for Short-Term (Cumulative total of experts dispatched)
(2) Trainees received	3 persons / year (Training in Japan)	20 persons (Training in Japan)
(3) Third-Country Training Programs	Not specified for the number of trainees	0
(4) Equipment	Vehicles, computers, projectors, PC software, etc.	(14 million yen)
Total Project Cost	Approximately 245 million yen	232 million yen
Total Local Cost	Not specified	Not specified

【Phase 2 (National and Regional Components)】

Inputs	Plan	Actual
(1) Experts	5 persons for Long-Term Short-Term Experts in training planning, lesson improvement, education evaluation, public relations and sensitization	6 persons for Long-Term 8 persons for Short-Term
(2) Trainees received	15 persons per year	20 persons (Training in Japan)

(3)Third-Country Training Programs	Planned although specific No. of trainees is not described	Regional Training 22 persons from Honduras 182 persons from 4 Regional Component countries, including observers (Cumulative total)
(4) Equipment	Vehicle for monitoring, etc.	None
Total Project Cost	Approximately 660 million yen (360 for National Component, 300 for Regional Component)	450 million yen
Total Local Cost	Not specified	Not specified

3.3.1.1 Elements of Inputs

【Phase 1】

Japanese experts were dispatched almost as planned. Although the number of dispatched experts was not as large as that of experts usually assigned to similar activities in Japan, the planned outputs were produced (Terminal Evaluation Report I). Equipment including computers and vehicles was supplied as planned and was utilized for materials development and monitoring.

【Phase 2】

Among experts that JICA was planning to dispatch, one long-term expert and one short-term expert were not dispatched due to the effects of a political coup. However, those interviewed at INICE and the National Pedagogic University consider that activities of materials development and teacher training were appropriately supported by the Japanese experts dispatched, leading to sufficient output. Equipment supplied during Phase 1 was used continuously in Phase 2 as well. To improve the capacity of core group members, three technical exchange programs were held between the education project (PROMECA) in Bolivia, although the technical exchange programs were not included in the initial plan. In addition, officials at the departmental education office and teachers at Escuelas Normales commented that activities with volunteers were useful to produce outputs at the school level.

For bilateral projects in four countries in the Regional Component, only short-term experts were planned to be dispatched initially. Experts dispatched to Honduras had planned to visit the four other countries of the Regional Component for further assistance and there was no plan to dispatch long-term experts to assist with the bilateral projects in the other four countries. However, over the course of time, to provide sufficient technical transfers, long-term experts in areas such as primary education improvement and project coordination were dispatched to assist the bilateral projects in these four countries. This is because development of teachers' guidebooks and students' workbooks based on PROMETAM materials required greater technical assistance than expected, according to the

interviews with core group members in the four countries during the Ex-Post Evaluation. It should be noted, however, that the additional dispatch of long-term experts was implemented within the framework of each bilateral project in each of the four countries of the Regional Component and this does not mean that the inputs of PROMETAM needed to be increased.

In regard to the Honduran inputs, five assigned C/P were engaged solely in PROMETAM, which was efficient enough to produce the outputs. A budget shortage on the Honduran side since 2009 caused training courses to be suspended or postponed. However, planned outputs were produced through securing financial support from other donor agencies and implementing alternative activities (Terminal Evaluation Report II and interviews with INICE and donor agencies during the Ex-Post Evaluation).

3.3.1.2 Project Cost

In Phase I, a total of 245 million yen was budgeted at the Ex-Ante Evaluation and 232 million yen was actually disbursed. In Phase 2 (for both National and Regional Components), a total of 660 million yen was budgeted at the Ex-Ante Evaluation and 450 million yen was actually disbursed. The total cost was lower than the planned budget in both Phase 1 and 2.

3.3.1.3 Period of Cooperation

The project period was three years in Phase 1 and five in Phase 2, just as planned for both phases. During the period of Phase 2, some activities were suspended and changed due to the political coup in 2009 but the planned outputs were still achieved within the planned period through flexible implementation of the planned activities.

Both the project cost and project period were within the plan. Therefore, efficiency of the Project is high.

3.4 Sustainability (Rating: ②)

3.4.1 Related Policy towards the Project

【Phase 1, Phase 2 National Component】

Sustainability in terms of policy is high, as the policy to put a priority on mathematics education is continuing and the materials developed by PROMETAM have been continuously utilized.

Both the current education sector strategic plan and the EFA Plan cover the period until 2015. According to the Secretariat of Education, the education plan after 2015 (still to be formulated) will continue to list mathematics education as a priority area, as the level of academic achievement in mathematics is still not sufficient - although there has been a tendency toward improvement.

In Honduras, the Education Basic Law was revised in 2012 and the third cycle (Grades 7-9) was included in a compulsory subject. However, the policy of placing importance on primary education (1st and 2nd cycles: Grades 1–6) has not changed. In addition, the revised Basic Education Law stipulates that the qualifications of primary teachers (for Grades 1-6) be upgraded from graduation from Escuela Normal to that from university. With this backdrop, Escuela Normal, which has played an important role in pre-service teacher training and was supported by PROMETAM, accepted new students in the academic year 2014 but future plans after that are still under discussion. According to the interview at the Secretariat of Education and the National Pedagogic University, most Escuelas Normales are planning to continuously engage in pre-service training. The Secretariat of Education is still examining the framework of SINAFOD but is implementing training, including courses to upgrade qualifications and is planning to support teacher training in the future as well.

The teachers' guidebooks and the students' workbooks are still designated as national textbooks. It is required that the students' workbook for Grade 3 and higher be reused without notes by students in the workbook. The Secretariat of Education is planning to evaluate and revise the current curriculum in 2015 and, based on the curriculum, the teachers' guidebooks and students' workbooks will be revised by INICE, if necessary, according to the interview with the Secretariat.

【Phase 2 Regional Component】

The teachers' guidebooks and the students' workbooks are authorized and have been continuously utilized as the national textbooks in El Salvador, Guatemala, and Nicaragua, which means sustainability in terms of policy is high. In the Dominican Republic, one development agency also supported the development of a textbook and coordination between this development agency and JICA's project was not smoothly conducted at the Ministry of Education. During the project period, the materials developed by another development agency were adopted as the national textbooks³⁶. However, the JICA office in the Dominican Republic promoted the adoption of materials developed by the Project, and the materials were officially recognized as the national textbook and presented on the website of the Ministry of Education at the time of the Ex-Post Evaluation.

3.4.2 Institutional Aspects of the Implementing Agency

【Phase 1, Phase 2 National Component】

The sustainability is generally high in terms of assignment of C/P personnel and activities of C/P organizations but the teacher in-service training system is not well established, which may be a concern in terms of the sustainability from an institutional perspective.

³⁶ After PROMETAM was launched, one development agency started to provide assistance in the development of a mathematics textbook with one university as its major counterpart. This university was not the one supported by JICA's project.

In the Ex-Post Evaluation, among five C/P members during the project period, four are still engaged in materials development and teacher training at the same organizations. The remaining one is working in a similar post in the project of another development agency and engaged in training and materials development based on PROMETAM’s teachers’ guidebooks and students’ workbooks in collaboration with INICE.

In regard to activities introduced by PROMETAM, the in-service teacher training system by cascade was not well established and was not functioning sufficiently during the project period (see 3.2.1. Effectiveness). At the time of the Ex-Post Evaluation, the organizations concerned are trying to revamp the system. In some departments visited during the Ex-Post Evaluation, training courses on teaching methods and materials introduced by PROMETAM have been planned and organized on the initiative of the departmental education offices in collaboration with JICA volunteers, although there is a considerable difference in the extent of implementation of training courses among the departments³⁷. As for lesson observations, training is provided at INICE based on the lesson observation sheet developed by PROMETAM as well as one-day visits to primary schools by INICE officials³⁸.

【Phase 2 Regional Component】

Institutional sustainability is high, as core group members trained by PROMETAM are continuously engaged in the expected activities. However, regional activities conducted during the project period are not being actively implemented.

During the Ex-Post Evaluation, almost all of the core group members were still working in materials development and teacher training at the same post or the post to which they were transferred in each country of the Regional Component. The core group members said that they were transferring their knowledge and techniques to other staff in their workplace, which means that the institutional systems have been established sufficiently enough to continuously implement activities introduced by PROMETAM.

Table 8: Assignment of core group members of the Regional Component

Country	During PROMETAM Phase 2	At Ex-Post Evaluation (As of Dec. 2013)
Dominican Republic	7 (7 at the Ministry of Education)	5 at the Ministry of Education 1 at university (as teacher)

³⁷ In El Paraiso Department, JICA volunteers provide two-day training courses once every three months to train departmental trainers. The departmental trainers conduct training with teachers at primary schools. In Lempira Department, in-service training at the local level was conducted during the project period on the initiative of the departmental education office. However, training has not been conducted since the completion of PROMETAM (interview at departmental education offices and Escuelas Normales during the Ex-Post Evaluation).

³⁸ According to the interview at INICE, lesson observations are the responsibility of the principal due to the decentralization policy. Therefore, actual implementation of lesson observations depends on the discretion of principals.

		1 retired
El Salvador	13 (13 at the Ministry of Education)	12 at the Ministry of Education 1 resigned
Guatemala	5* (4 at the Ministry of Education, 1 at pedagogic university)	4 at the Ministry of Education 1 at pedagogic university
Nicaragua	9 (cumulative total of Phase 1 & 2) * (6 at the Ministry of Education, 2 at “Escuela Normal”, 1 secondary school teacher)	4 at the Ministry of Education 2 at “Escuela Normal” 2 retired 1 passed away

Sources: Based on information by the local consultant hired for the Ex-Post Evaluation

* Phase 2 of the bilateral project was implemented in Guatemala and Nicaragua. The number of core group members in Guatemala at the end of the Phase 2 of the bilateral project is as indicated (as of 2012). In Nicaragua, Phase 2 of the bilateral project is still ongoing and there may be changes in core group assignments. The cumulative number of core group members of bilateral projects of Phase 1 & 2 in Nicaragua is as indicated.

Activities of the Regional Component are not being implemented very actively after the project completion. They exchange information on an individual basis but do not share information, utilizing the mailing list among ex-core group members. In 2011 a workshop was held to discuss the direction of regional activities with participation all five countries of the Regional Component. However, after the completion of PROMETAM, the Honduran implementing agency has not taking on the role of coordinator to organize regional activities continuously. Currently Nicaragua, where the bilateral project is being implemented, is designated as country holding the temporary presidency of the Regional Component but those involved in the Nicaraguan bilateral project are not making any special efforts to coordinate regional activities, according to the interview during the Ex-Post Evaluation. At the completion of PROMETAM, mutual learning for continuous capacity development was expected through activities such as sharing information and their expertise, but those kinds of activities have not been implemented and the coordinating system for the activities is not functioning well either. Nonetheless, the fact that regional activities are not being implemented has not caused many problems so far, because the objective of the Regional Component is to improve the capacity of the core group members. The core group members trained through PROMETAM are continuously engaged in the activities at implementing agencies in each country, thereby utilizing the benefits of PROMETAM.

As described above, institutional sustainability of the implementing agency is generally high in Phase 1 and Phase 2 of the National and Regional Components, although the establishment of in-service training to sustain the project benefits is still an outstanding issue from the Phase 2 National Component.

3.4.3 Technical Aspects of the Implementing Agency

【Phase 1, Phase 2 National Component】

It can be said that C/P members can carry out their activities almost on their own, although a certain level of external assistance is still necessary. During the field survey of the Ex-Post Evaluation, it was

confirmed that C/P members at INICE and the National Pedagogic University are implementing activities continuously under their own initiative. C/Ps interviewed at INICE and the National Pedagogic University commented that they had developed the capacity to continue their work through PROMETAM activities. At INICE, the teachers' guidebooks and students' workbooks for Grades 7 to 9 were developed and revised after Phase 2, with support by short-term experts. The interview with the C/P revealed, however, that expert assistance is still necessary³⁹, although they are developing materials on their own initiative.

【Phase 2 Regional Component】

At the Ex-Post Evaluation, development and revision of materials and training are being implemented at the initiative of core group members in each country of the Regional Component. Based on the interviews, most core group members consider they have sufficient capacity to carry out their duties. Sustainability in technical aspects is therefore considered high.

3.4.4 Financial Aspects of the Implementing Agency

【Phase 1, Phase 2: National Component】

At the Terminal Evaluation of both Phase 1 and 2, the unstable financial situation was pointed out. There was still concern about financial sustainability at the time of Ex-Post Evaluation as well, as described below.

The budget for additional printing of the teachers' guidebooks and students' workbooks has not been secured. The Secretariat of Education is planning to strengthen in-service training utilizing the cascade system as well as lesson observations. However the budget to implement these activities continuously and regularly has not been secured either and activities are implemented on an ad hoc basis, depending on the available budget. The EFA Fund, which was suspended at the time of the Terminal Evaluation, was resumed in 2011, but various conditions have been applied and the available budget is smaller, according to the interview at the Secretariat of Education. The Secretariat of Education is trying to strengthen the financial basis, calling for assistance from bilateral donor agencies and non-governmental organizations. However, the prospect of securing the budget necessary to implement sufficient activities remained uncertain at the time of the Ex-Post Evaluation.

As countermeasures to the insufficient budget for the future printing of teachers' guidebooks and students' workbooks, the Secretariat of Education is planning to print the materials once every few years, not every year, by utilizing reusable teachers' guidebooks and students' workbooks to reduce printing costs. Interviews at the Escuelas Normales confirmed that the teachers' guidebooks and students' workbooks have been appropriately maintained and can be utilized for more than one year.

³⁹ According to the interview, it is considerably difficult to "homogenize" various materials that have been used so far at each school without authorization and develop consistent materials.

Although the budget for printing is not sufficient, as described above, materials are developed within the budget of INICE using some financial support from donor agencies, and in-service teacher training is being implemented, although not regularly. This means that the implementing agency has sufficient funds for current expenditures to some extent. Equipment supplied to INICE by PROMETAM is still utilized with maintenance costs such as fuel financed by their own budget.

【Phase 2 Regional Component】

Financial sustainability is not high in the Regional Component either.

The interviews during the Ex-Post Evaluation revealed that there is no budget to convene regional activities similar to those that occurred during PROMETAM in implementing agencies in Honduras or the other four countries of the Regional Component – for example, workshops or regional training – in any of the five countries. The printing costs for materials in each country are the responsibility of each country and were not included in the framework of PROMETAM. However, the officials interviewed at the Ministries of Education in each country commented that they are planning to apply for the printing budget but the prospects remain uncertain.

3.4.5 Sustainability of benefits

【Phase 1, Phase 2 National Component】

The teachers' guidebooks and the students' workbooks are utilized at primary schools and pre-service teacher training courses as a national textbook⁴⁰. According to the interviews and questionnaires conducted during the Ex-Post Evaluation, the teachers' guidebooks and the students' workbooks are used in pre-service and in-service training courses, and those interviewed say that lesson preparation has become easier and the contents of the lessons are improving. Moreover, at Escuelas Normales, the National Pedagogic University, and primary schools, the teaching methods introduced by PROMETAM have been implemented in terms of lesson preparation, including lesson plan design, use of the blackboard, and ways of addressing students, during pre-service training and in primary schools⁴¹. In addition, in-service training courses are conducted continuously, though not regularly. It can be said that the benefits of PROMETAM have been sustained to some extent. In the interviews during the Ex-Post Evaluation, several primary teachers, teachers of in-service training courses, and students from the in-service training courses reported that some teachers are still conducting lessons using conventional methods. Based on these findings, it is necessary to further promote the appropriate

⁴⁰ According to the results of the beneficiary survey in Honduras, out of 264 respondents, 79.5% of them use the teachers' guidebooks and students' workbooks "every day", 16.3% use them "3 to 4 times a week". Those who responded that they use them "less than twice a week" or that they do not know them account for 1.9 % in total.

⁴¹ During the Ex-Post Evaluation, lesson observations were conducted at two primary schools, although comparison with lessons taught during the project period cannot be done. In the lessons observed, teachers used teaching aids that they made themselves, let students make presentations, and allocated time for students to examine materials by themselves. It seems that the teachers were a little conscious of being observed but it is considered that they were implementing the teaching method as usual, evidenced by the fact that students showed natural responses such as raising their hands actively.

utilization of the teachers' guidebooks and the students' workbooks and implementation of teaching methods introduced by PROMETAM and to conduct additional training and monitoring. However, there is concern about acquiring the budget necessary to conduct these activities consistently.

To maintain the benefits of the Project, it is essential to continuously distribute the teachers' guidebooks and the students' workbooks. However, during the Ex-Post Evaluation, it was reported that the teachers' guidebooks and the students' workbooks had not been distributed to all the teachers and students. In addition to the inadequate printing budget, problems in the distribution procedures and monitoring were also pointed out.

【Phase 2 Regional Component】

As mentioned previously, the majority of C/Ps are engaged in materials development and teacher training as in the project period, with the teachers' guidebooks and the students' workbooks being used at primary schools and in pre-service teacher training courses as the national textbook. Teachers at Escuelas Normales and pedagogic universities interviewed in each country stated that the teaching methods introduced by PROMETAM are being implemented at Escuelas Normales, pedagogic universities, and primary schools.

Some problems have been observed in terms of the institutional and financial aspects of the implementing agency. Therefore, sustainability of the project effects is fair.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

The Project for Improvement of Teaching Method in Mathematics (PROMETAM) Phase 1 & 2 (hereinafter referred to as "PROMETAM" or "the Project") was implemented in Honduras with the purpose of improving teaching methods in mathematics. Phase 1 consisted of the development of teachers' guidebooks and students' workbooks in five targeted departments. Subsequently, Phase 2 was implemented to extend the benefits of Phase 1 all over Honduras and neighboring countries. The purpose of the Project was in line with the education policy to improve the quality of primary education and the needs of mathematics education in the country, therefore the relevance is high. At the completion of Phase 2, the output indicators had almost been attained and the achievement of the project purpose – the improvement of mathematics teaching methods for in-service teachers and students in pre-service courses, was recognized. The overall goal should be considered achieved, as there is the prospect of improvement of students' academic achievement in mathematics. Therefore effectiveness/impact is high. The project period was as planned and the project cost was within the planned budget, which means that efficiency is high. Several issues can be pointed to in terms of the institutional and financial aspects of the counterpart (C/P) organizations. For example, the in-service teacher training system is not functioning, and the budget required for teacher training and printing, as well as distribution of the

teachers' guidebooks and the students' workbooks, has not yet been secured - therefore sustainability should be considered fair.

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

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

Recommendations to the implementing agencies in Honduras

Reliable printing and distribution of materials

After the completion of the teachers' guidebooks and the students' workbooks, it took time to print and distribute them and some schools had not received the teachers' guidebooks or the students' workbooks at the time of the Ex-Post Evaluation. This is partly because printing and distribution of the teachers' guidebooks and the students' workbooks was not included in PROMETAM. It is necessary that the Secretariat of Education should take the initiative and allocate the required budget for printing and distribution every year by securing necessary funds, including seeking additional assistance from donor agencies. Also it will be necessary to conduct monitoring to confirm the distribution of materials to primary schools under the responsibility and supervision of the Secretariat of Education and departmental education offices. At the same time it may be effective to take measures to reduce the printing cost of the teachers' guidebooks and the students' workbooks. Re-use of students' workbooks by ensuring that students do not write in them may be an effective way to reduce printing costs, and is a measure that has already been put in practice. To implement this effectively, it is essential to retrieve students' workbooks after use without fail and store them. Necessary measures for this should be carefully examined and implemented as soon as possible. Another option to reduce printing costs is to further promote the use of websites and other online materials that are already utilized at some schools.

Future revision of materials based on the curriculum evaluation

The Secretariat of Education is planning to re-evaluate the current curriculum in all subjects in 2015. It is desirable that the Secretariat of Education revise teachers' guidebooks and students' workbooks based on the results of evaluation to deliver revised materials to schools as soon as possible. In revising the curriculum, it may be useful to adopt the concepts of the teachers' guidebooks and the students' workbooks and teaching methods introduced by PROMETAM in other subjects, where applicable.

Restructuring teacher in-service training system

The in-service teacher training system by cascade was implemented during the project period and is under examination and restructuring in several departments with support by JICA volunteers. In-service training is not actively conducted in a majority of departments because they do not actively formulate a specific training plan, and neither the Secretariat of Education nor departmental education

offices have sufficient funds⁴². Establishment of the training system was not one of the objectives of PROMETAM but is important in sustaining its benefits. Therefore, it is necessary that the Secretariat of Education formulate a specific plan and allocate the budget to strengthen teacher training activities at the school level. To reach primary teachers at a local level, it will be more effective when departmental education offices take the initiative as the main stakeholder of education administration at the local level to plan and implement activities such as training and lesson observations by the departmental training team. In regard to teacher training, various development agencies have already implemented programs. Therefore, it is important to establish a streamlined and consistent system nationwide, without duplication or contradictions in the contents and the system of ongoing trainings. Discussion and coordination at meetings among development agencies are necessary, on the initiative of the Secretariat of Education.

Recommendations to implementation agencies in Honduras and the four countries of the Regional Component

Activities of the Regional Component

After the completion of PROMETAM, Regional Component activities were held only once. It was reported that regional activities are effective in the sense that participants can share experiences with those from other countries and utilize the experiences in activities in their own country. It is desirable that regional activities be held on the initiative of the implementing agencies in Honduras and Nicaragua- for example, when the bilateral project in Nicaragua is completed (planned in 2015). A possible activity would be a workshop in which core group members and those involved in PROMETAM, after the completion of projects in countries of the Regional Component, can meet to share experiences and lessons learned.

4.2.2 Recommendations to JICA

Support for curriculum revision

It is desirable that JICA expert dispatched to the Secretariat of Education collect information on the progress of curriculum evaluation planning in 2015. If discussions on the revision of the curriculum and textbooks are started, it may be useful to advise the Secretariat of Education to revise the teachers' guidebooks and the students' workbooks so that the project benefits can be sustained.

Promotion of continuous utilization of developed materials

In the Dominican Republic, the teachers' guidebooks and the students' workbooks were not adopted as the national textbooks during the project period. They were officially recognized as national textbooks after the completion of PROMETAM through active promotion by the JICA Office in the Dominican Republic. In El Salvador, materials developed through the JICA project were adopted as

⁴² During the project period, the trainings from the national team to primary teachers were administered mainly by departmental education offices (interviews with departmental education offices and Escuelas Normales).

the official textbooks and remain the major mathematics textbooks in the country. However, over the course of time, the Ministry of Education issued a policy stating that other materials could be used as well. Basically it is the responsibility of the government of the partner country to authorize and adopt developed materials. However, it is desirable that information be collected and any necessary advice be provided to the agencies concerned by experts from JICA at the Ministry of Education, or through the JICA Office in case no expert is dispatched.

4.3 Lessons Learned

Ensuring printing and distribution of materials

Developed materials will only have benefit once they are actually utilized. If materials development is included in the project activities, it is important that the printing and distribution of materials be discussed between JICA and implementing agencies, even if printing and distribution are not included in the PDM. If printing and distribution are not described in the PDM, necessary expenditures will not be borne by the project assisted by JICA. However, it would be appropriate to discuss the necessary measures among JICA, implementing agencies, and related development agencies, if necessary, to ensure that the required printing and distribution is undertaken and to confirm the process of distribution and monitoring by the implementing agency. One option may be to examine the possibility of including the initial printing and distribution as a project component or with the Japanese side bearing the costs.

With regard to materials, uploading materials to a web site for utilization may be one option to reduce printing costs and to disseminate materials across a larger area. To realize this, it would be necessary to distribute terminals for use and to conduct regular maintenance of them. This sometimes requires technical and financial support, and therefore, collaborative action may be necessary among JICA, the implementing agency, and other development agencies.

Importance of collaboration among development agencies and promotion toward the implementing agency

Honduras was designated as the EFA-FTI country and coordinated support was implemented with responsibilities shared among various development agencies during Phase 1 and 2 of PROMETAM. Materials developed by PROMETAM were recognized among development agencies and the printing costs were covered by financial support from other development agencies. On the other hand, in the Dominican Republic, where coordination among development agencies was not as significantly advanced as in Honduras, developed materials were not recognized as national textbook during the project period. If recognition of JICA's support can be obtained among development partners and support in the areas other than JICA's assistance is provided by other development agencies, project impact and sustainability will be enhanced. Therefore, it is important to ensure recognition of JICA's support among development agencies and seek agreement on the role of JICA's support among implementing agencies and development agencies.

It is important for the implementing agency to take the initiative in the coordination of development agencies. In regard to adoption of developed materials, for example, it is appropriate that the Japanese side take the necessary actions to encourage the implementing agency to coordinate project activities among various development agencies. Usually it is the role of the experts in project coordination to take this action. If no experts are dispatched as coordinators on a long-term basis, it is desirable that any dispatched experts, regardless of whether they are long-term or short-term, along with the JICA office, take a role in active promotion at every opportunity.

Effectiveness of regional projects

In regional projects, more effective and efficient implementation can be expected than usual because stakeholders can share the same issues and objectives with countries nearby. Compared with areas such as disaster prevention and disease prevention, where regional cooperation is essential, recognition of the importance of regional projects to develop materials may not be very high in the education sector, as education is provided based on the curriculum in each country. However, there are two advantages of regional projects in education that should be pointed out. First, materials can be efficiently developed by utilizing materials developed earlier in another country. Second, regional projects provide opportunities to share experiences with other countries and to learn from each other by promoting techniques and methods commonly acquired through regional activities. This enables effective capacity development of counterparts, leading to enhanced benefits. In regard to the first aspect of PROMETAM, the materials developed in Honduras were utilized in electronic data as a basis for the development of materials in the other four countries, considerably enhancing efficiency. As for the second aspect, in PROMETAM, capacity development in the four countries of the Regional Component was effectively realized by promoting utilization of materials and teaching methods introduced and already established to some extent in Honduras. In addition, activities with the participation of members of neighboring countries, such as regional training and technical exchanges, provide opportunities to share experience of countries of the regional project and to exchange information and opinions. Therefore, these regional activities can be more useful for capacity development than training courses organized for participants from only one country. In relation to the second aspect of capacity development of counterparts, it may be more effective to have regional workshops and similar activities after the completion of the project.

BOX: The program approach and regional approach of PROMETAM

Through PROMETAM, the following advantages and issues of the program approach and regional approach can be pointed out:

(1) Advantages and issues of efforts in coordinating the community of development agencies

In the program approach, importance is placed on coordination with the community of development agencies to address the development issues of the target country. In PROMETAM, development materials were printed and distributed with the financial assistance of other development agencies in Phase 1. On the other hand, in Phase 2, printing and distribution of developed materials was not implemented as planned due to the suspension of EFA funds. The suspension of EFA funds was inevitable because it was caused by an audit issue and a political coup. However, it is important to examine the possible advantages and risks as carefully as possible when support by other development agencies is expected in such projects.

(2) Clear objective setting of regional activities

In planning regional projects, it is necessary to clarify the objectives and scope of regional activities. As seen in PROMETAM, it may be an effective option to focus on capacity development of stakeholders through sharing experiences and knowledge among countries involved in the regional component and to develop materials in bilateral projects in each country at the same time. When implementing the regional component in parallel with bilateral projects, it is especially important to clarify the roles of regional and bilateral projects and to establish objectives and formulate plans of activity and inputs for regional and bilateral projects.

(3) Balance between efficiency and coordination costs in program and regional approaches

In the program approach, one agency implements several projects with multi-sided characteristics to contribute to development issues of the country in a comprehensive way. This approach will lead to synergistic effects. In regional projects, inputs can be implemented efficiently, as limited resources, including human resources, can be input into several countries in a simultaneous way. Synergistic effects can also be expected in regional projects through efforts to realize common objectives and the sharing of experiences among participants in each country. Thus the program and regional approaches have the potential to implement projects efficiently. At the same time, these approaches may require extra coordination in areas such as the implementation of several projects in parallel, coordination with development agencies, and coordination of various implementing agencies in one country, which may not be necessary for ordinary projects. In formulation of projects of program approach and regional approach, it is necessary to examine both sides of the program approach and regional approaches, namely, the synergistic effects/efficiency and coordinating costs.

(4) Careful project planning and flexible action

Projects of the program approach and regional approach involve more stakeholders than an ordinary single project – for example, third-country experts, several implementing agencies, and development agencies in some cases. Therefore, the influence of the external environment (important assumptions) may be more significant. For example, in regard to PROMETAM, printing of developed materials was delayed due to the suspension of common funds, and developed materials were not authorized as national textbooks by the Dominican Republic during the project period because of the change of environment of implementation and development agencies. In projects utilizing the program approach and regional approach, it is even more important than usual to confirm implementation status of agencies involved and to take flexible countermeasures in response to changing environments.

(5) Implementation system

The program approach requires the implementation and coordination of various projects in parallel, while regional projects provide support to various countries simultaneously. Therefore, in projects of the program approach and regional approach, it is effective to establish the implementation structure as a whole program or regional component. The most suitable implementation structure may depend on the nature of each project/program. It is important to establish an appropriate implementation system including a system for continuous activities after project completion.

(6) Evaluation method of the program approach and regional approach

Both the program approach and regional approach involve many factors in terms of input, activities, and coordination with other development agencies, and so on. Sometimes, bilateral projects are implemented in parallel with regional projects as seen in PROMETAM. In this case, it is difficult to clarify what benefit was produced by which input. In a program approach, evaluation based on the concept of contribution⁴³ is suggested. It is desirable to establish certain guidelines regarding the evaluation of benefits of project utilizing a regional approach.

⁴³Recognition of the role that one agency played in undertaking comprehensive activities and producing benefits, in collaboration with each country's implementing and development agencies (JICA "Project Management Handbook (original in Japanese)"(2007)).