

Terminal Evaluation Summary

I. Outline of the Project	
Country : Republic of Honduras	Project title: Project for Improvement of Teaching Method in Mathematics (Proyecto para el Mejoramiento de la Enseñanza Técnica en el Área de Matemáticas: PROMETAM) Phase II
Issue/Sector: Basic Education	Cooperation scheme : Technical Cooperation
Division in charge: JICA Human Development Department	Total cost : 472 million yen
Period of Cooperation	(R/D) 2006/4/1-2011/3/31
	(Extension): (F/U) : (E/N) (Grant Aid)
	PartnerCountry'sImplementing Organization : Secretariat of Education
	Supporting Organization in Japan : Tsukuba University, etc.
1. Background of the Project	
<p>The goals set forth in the EFA-FTI of the Republic of Honduras are the achievement of universal primary education by 2015, and the improvement of academic achievement in Spanish and mathematics. However, Honduras still faces several challenges in terms of access to and the quality of education. While the primary Net Enrollment Rate is as high as 94%, the completion rate stands still at 83%. Only 34% of students can complete primary education within the official duration of 6 years without repeating any grade or dropping-out. Thus, it is one of the main challenges for Honduras to reduce repetition and drop-out.</p> <p>In supporting Honduran government's effort, Japan has assisted the development of education sector. One of such support was to establish the Instituto Nacional de Investigación y Capacitación Educativa (INICE) in 1989 by the Grant Aid. In addition, the Japan International Cooperation Agency (JICA) has been dispatching the Japan Overseas Cooperation Volunteers (JOCV) in the fields of mathematics education since 1980's. Furthermore, JICA in collaboration with the Secretariat of Education had implemented "Project of Improvement of Teaching Method in Mathematics (Proyecto para el Mejoramiento de la Enseñanza Técnica en el Área de Matemáticas : PROMETAM)" (2003.4.1-2006.3.31) (hereunder "Phase I") aiming to the "development of a teachers' guidebook and students' workbook for the primary education curriculum" as well as the "improvement of mathematics teaching technique of in-service teachers" through the "training of in-service teachers." In Phase I, the mathematics teachers' guidebook and the students' workbook were developed, and these teaching materials were distributed nationwide as government-designated textbooks in 2005.</p> <p>Acknowledging these situations, the Honduran government officially requested to Japanese government to continue technical assistance to mathematics education. PROMETAM Phase II, which has two components, namely 1) National Component and 2) Regional Component, has been implementing from 2006.4.1 to 2011.3.31. National Component aims to support the training on the usage of mathematics teachers' guidebook and the students' workbooks for in-service teachers and students of teacher training colleges. Regional Component aims to share the Honduran experiences and achievements with four countries in Central America and Caribbean regions (Guatemala, the Dominican Republic, El Salvador, and Nicaragua).</p>	
2. Project Overview	
2-1 National Component	
(1) Overall Goal	
Students' academic achievement in mathematics for Grade 1-6 is improved.	
(2) Project Purpose	
Teaching method of teachers and students in pre-service training courses in mathematics for Grade 1-6 is improved.	
(3) Outputs	
1) Teachers' guidebook and students' workbook for Grade 1-6 in mathematics are revised.	
2) (Pre-service Training) Teachers of 12 "Escuela Normal" and "Formación Inicial de Docentes (FID)" ¹ and have capacity to work as trainers on the use of teachers' guidebook and students' workbook in mathematics for Grade 1-6.	

¹ FID refers to basic education teacher training program at the university level.

- 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. (this output applies only if INICE conducts in-service training.)
- 4) General interests, especially among teachers and students in pre-service training courses, in Mathematics education are increased.

2-2 Regional Component

(1) Overall Goal

Teaching method in mathematics for teachers of target countries is improved.

(2) Project Purpose

Capacity of the core group members² to improve the teaching method in mathematics in targeted countries is developed.

(3) Outputs

- 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.

2-3 National and Regional Component

(1) Inputs (at the time of evaluation)

Japanese side

Long-term Expert total 6

Equipment (Nil)

Short-term Expert total 7

Local cost 23,893,652Lp. (1,257,561 US\$)

Trainees received from Honduras 12 and from targeted countries in the region 54 (in Japan)

No. of Participants of Regional Training Honduras 30 and targeted countries in the region 169

Total Cost 472 million yen

Honduras Side

Counterpart total 5

Equipment (Nil)

Land and Facilities Project office at INICE

Local Cost personnel cost, travel expenses, running expenses of facilities, and fuels for vehicles expenses for the training for teachers of "Escuela Normal" and FID

II. Evaluation Team

Members of Evaluation Team	Norihiro Nishikata	Leader (JICA)
	Kayoko Maeda	Evaluation Planning (JICA)
	Masayo Otani	Evaluation Analysis (INTEM Consulting, Inc.)
Period of Evaluation	2010/9/30-2010/10/29	Type of Evaluation : Terminal Evaluation

III. Results of Evaluation

III-1. National Component

1 Project performance

(1) Outputs

Output1

Teachers' guidebook and students' workbook for Grade 1-6 in mathematics is revised.

The revision of the second edition of teachers' guidebook and students' workbook of mathematics for 1st to 6th grade was completed in March 2007 and Secretariat of Education has printed and distributed them to the whole country by July 2008 as national education materials. Now, students' workbooks for 3rd to 6th grade are being modified from a note style to a text style. The teachers' guidebook and the students' workbook are valued highly by people concerned. Thus, the indicator of the Output 1 was achieved.

² Core group members are counterparts in the targeted countries who will receive direct technology transfer from the Project.

Output2

(Pre-service Training) Teachers of 12 "Escuela Normal" and "Formación Inicial de Docentes (FID)" and have capacity to work as trainers on the use of teachers' guidebook and students' workbook in mathematics for Grade 1-6.

According to the results of the test for teachers, it was confirmed that they improved their knowledge about mathematics contents and its teaching method. In addition, according to the results of their class monitoring and evaluation, it was confirmed that teachers had improved their teaching practice as well. The Core Group members are making up a first draft of guidebook of teaching plans corresponding to the FID course and will finish the final draft in the period of Project. Thus, the indicator of the Output 2 has been achieved.

Output 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. (this output applies only if INICE conducts in-service training.)

According to the results of the test in trainings for national level instructors, they improved their knowledge about teaching method in mathematics. In addition, according to the questionnaire for them, it was confirmed that the training was helpful for them to carry out in-service teacher training and give class every day. Thus, the indicator of the Output 3 has been achieved.

Output 4

General interests, especially among teachers and students in pre-service training courses, in Mathematics education are increased.

According to the result of the Project survey for children and teachers in primary school and interview for people concerned, it was confirmed that psychological barrier to mathematics of children had been greatly lowered and the interest of children and teachers in mathematics education had risen. It was confirmed that the recognition of the Project in the society has increased as well through newsletters, website and appearance on TV and radio. Thus, the indicator of the Output 4 has been achieved.

(2) Project Purpose

Teaching method of teachers and students in pre-service training courses in mathematics for Grade 1-6 improved.

Regarding the teaching capacity of teachers in service, it was confirmed that they have improved their teaching capacity in mathematics, according to the result of monitoring and evaluation of their classes and the fact that number of teachers using books developed by the Project has been increasing every year. Regarding to the teaching capacity of students in teacher training course, it was confirmed that they improved their scholastic ability and teaching capacity, according to the result of test in class of mathematics didactics and class observation in their practice. Thus, the Project Purpose has been achieved.

Indicator 1: (for teachers in service) result of survey about usage of teachers' guidebooks and students' workbooks, results of evaluation in mathematics class.

Usage rate of education materials developed by the Project is high and teachers in service improved their teaching capacity according to the result of class evaluation. Since teachers are highly motivated, they are expected to improve more, if they can get continuous assistance hereafter.

Indicator 2 : (for students in teacher training course) result of mathematics and didactics class evaluation, result of mathematics class observation in teaching practice

They improved their scholastic ability and teaching capacity according to the result of pre/post tests of the training of didactics. According to the result of class observation, it was confirmed that the teaching ability of third year students in Teacher Training Schools was improved.

(3) Overall Goal

Students' academic achievement in mathematics for Grade 1-6 is improved.

The achievement of the Overall Goal has not been confirmed yet in the timing of final evaluation, however, it was confirmed that the score of primary school children in mathematics improved, according to the Report of the follow-up in Education for All in Honduras³. According to the study which the Japanese short-term expert analyzed

³ Informe de Seguimiento de la Educación Para Todos en Honduras, September, 2010

drawing a comparison of the amount of writing in students' workbook, the amount of writing in the Phase II is higher than that of the Phase I. Since it was proved that the amount of writing in workbook by children is correlative with children's score, the achievement of the children in the Phase II could be higher than that of the children in Phase I.

2 Summary of Evaluation Results

2-1 5 Criteria

(1) Relevance (High)

The Project is in consistency with the Honduran Policy on Education, the needs for target group and Japan's aid policies for Honduras. The strategy to achieve efficiency for development issue on mathematics education in Honduras is judged to be appropriate.

(2) Effectiveness (Medium)

Although sometimes it was difficult to carry out activities by external conditions, doing alternative activities leads up to an achievement of the Project Purpose. However, it is necessary to continue distribution of teaching materials and trainings for the improvement of teachers' ability.

(3) Efficiency (Medium)

Input is conducted as it planned and utilized appropriately. Some of the trainings for FID and Teacher Training School teachers could not be carried out because of budget shortage by Honduran side; however, outputs were acquired through alternative activities.

(4) Impact (High)

The Overall Goal is expected to be achieved by long-term period if some conditions are cleared; such as securing annual school days, certain distribution of students' workbooks, constant training taken by teachers in service, and so on. The positive impact of the Project is confirmed a lot. For instance, people outside of the Project asked the core group members to provide them trainings and introduce teaching materials.

(5) Sustainability (Medium)

The budgetary problem by Honduran side, such as not securing expense to distribute teachers' guidebooks and students' workbooks, even though budgetary problem was pointed out and asked to solve in the intermediate evaluation, has not been solved yet. In addition, systems of pre-service and in-service teacher training have not been established yet. In other words, it is unstable in budgetary and institutional aspects; however, in a technical aspect, the skill developed by the Project is taking root among the Honduran people concerned such as core group members and hereafter their skills will be utilized continuously.

2-2 Factors that promoted realization of effects

(1) Factors concerning to Planning

As the promoting factors, people concerned keep high interests in the Project's activities and they make active efforts for the Project. Regarding in-service teacher's trainings, one tier of teacher training cascade system was abolished and the training system became more effective. The Project became able to train directly to more number of target people who are departmental level instructors.

(2) Factors concerning to the Implementation Process

There are some factors that promoted achievement of the Project Purpose; the core group members work full time for the Project and each of them have clear responsibility, existence of the teachers' guidebook and students' workbook (developed and distributed in Phase1), relevance to EFA Goal, coordination between Secretariat and UPNFM in the Project structure, preferable evaluation of other international donors, flexible management which can cope well with unforeseen circumstances

2-3 Factors that impeded realization of effects

(1) Factors concerning to Planning

There are some factors; lack of education materials by suspension of printing and distribution of teachers' guidebooks and students' workbooks because of frozen of EFA Fund, suspension of department level instructor training and teacher training in FID and Teacher Training Schools, closing of class in FID and Teacher Training Schools by teachers' strikes.

(2) Factors concerning to the Implementation Process

There are some factors; coup d'état and political change in 2009, unclear policy of Secretariat of Education and suspension of training and monitoring activities, depending on the donor fund for activities by budget shortage in Secretariat of Education, suspension of teacher training in service by frozen of donor fund, and not securing annual school days by teacher strikes.

3 Conclusion

3-1 National component

Although it was difficult to carry out activities as it planned because of the influence of external factors, it was realized to achieve the Outputs and Project Purpose through changing their plan and substituting for other activities by flexible management and effort of the organization and people concerned. Hereafter it is expected to acquire more outcomes through continuous utilizing human resources and their skills cultivated by the Project.

4 Recommendations

Action to be taken within the remaining Project period

(1) Assignment of human resources cultivated by the Project

To sustain and exploit the Project's outcomes, Honduran side is expected to provide five core group members appropriate section and responsibilities after the Project.

(2) Promotion for using teachers' guidebook and students' workbook

It is necessary to make realistic strategy and conduct trainings for teachers continuously to promote appropriate use of teachers' guidebook and students' workbook.

Actions to be taken after the Project completion

(1) Stabilization of pre-service teacher training system

By learning the usage of teachers' guidebook and students' workbook at pre-service teacher training, the cost of in-service training can be reduced. Since the system of pre-service teacher training is unstable at present in Honduras, it is expected to stabilize and provide students appropriate education.

(2) The policy to improve their usage of teachers' guidebook and students' workbook

1) periodic revision and distribution of teachers' guidebook and students' workbook It is necessary to revise teachers' guidebook and students' workbook for their improvement at the timing of curriculum revision or other appropriate timings.

2) Development of sustainable system of in-service teacher training

The cost to conduct in-service teacher training have been depending on donors' fund. It is vital to explore the way to establish independent in-service training system for the future.

(3) Opportunity for the core group members for their ability improvement

Five core group members are expected to continue their activities by themselves after the Project, thus it is important for them to have training opportunities constantly.

(4) School environment to make use of the trainings

It is necessary to create better school environment to let teachers to put what they learned at trainings into practice. All the related actors, such as prefectural board of education, principals, supervisors, parents, communities, should be involved in the activities for class Participation.

(5) Training for local resources by expansion of teacher training network

It is necessary to find and strengthen local resources who can provide technical support to classroom level. By using these human resources, it will become possible to promote understanding for the usage of teachers' guidebook and students' workbook at community level.

(6) Participation in International achievement test

It is preferable to participate in international achievement test regularly as reference for preparation and implementation of national education strategy.

5 Lessons Learned

(1) Importance of strategy to strengthen human resources in the Secretariat

The core group members will work in the Secretariat of Education or UPNFM and engage in strengthening human resources in mathematics education after the Project. It means that Honduran strategy to strengthen human resources has succeeded in the Project.

(2) Training contents in line with the needs/continuous trainings to keep motivation of the trainees

Trainees continued participating in the Project's trainings even during confusion of frequent teacher strikes. This fact proved that if the training meets the trainees' needs, they would keep their motivation for the trainings regardless of external interrupting factors.

III-2. Regional Component

1 Project performance

(1) Outputs

Output1

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.

Output 1 was evaluated as achieved. The result of the pre-/post- tests of the trainings showed that the core group members had improved their knowledge on mathematics didactics, which is essential for material development. In addition, core group members evaluated themselves as they had obtained their competence through the Project activities. The each core group has finalized teachers' guidebooks and students' workbook (textbook) in their own countries based on the materials developed by PROMETAM Phase I in Honduras. The government of all five countries approved those materials as national textbooks, and printed and distributed them, except Dominican Republic.

Output2

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

Output 2 has been achieved. Through regional trainings and technical exchange with Bolivia, the core group members learned mathematical knowledge, didactics and sequencing to be taught. This improvement was confirmed by the pre-/post- comprehension tests of the trainings and self-evaluation.

Output 3

The project experiences are shared among targeted countries and others.

Output 3 are expected to be achieved by the completion of the Project. Concerning the indicator 1 "The international symposiums are held more than twice", the first symposium was conducted and second symposium is planned to be held during the Project period. As to the indicator 2 "More than ten newsletters are published", eight newsletters have been issued and another two newsletters is planned to be issued during the Project period. In addition, regarding the indicator 3 "number of communication network", the core group members, Japanese experts and the projects' staff were registered in mailing list and exchange information.

(2) Project Purpose

Capacity of the core group members to improve the teaching method in mathematics in targeted countries is developed.

The core group members obtained necessary competence to plan and implement trainings. It was confirmed in terminal evaluations of each country's Project that they had developed training materials and implemented trainings

by themselves. As mentioned above, the core group members improved their abilities on material development (Output1), training implementation (Output 2) and mathematical knowledge through technical assistance of Japanese experts and trainings in Japan, Honduras and Bolivia. Thus, Project Purpose was achieved.

(3)Overall Goal

Teaching method in mathematics for teachers of target countries improved.

The Regional Component focuses on the core groups' activities, which is complementary activity to each country's Project. Thus, the outcome of the Regional Component was not designed to contribute directly to teachers' capacity development. Still, the terminal evaluations of each country's Project revealed that materials developed by the Projects contributed to the improvement of teaching method and children's learning outcome. That is to say, it is possible to achieve the Overall Goal if the core group members continue their works in mathematics in each country after the Project.

2 Summary of Evaluation Results

(1) Relevance

The Regional Component is in consistency with the target countries' policies, needs and Japan's aid policies for each country. Five target countries have similar needs in mathematics education so that it can be said that Regional Component is relevant way for technical assistance to the countries that have common needs, utilizing Japanese knowledge and experiences gained from PROMETAM Phase 1.

(2) Effectiveness

The Project succeeded to improve the core group members' ability which is necessary for the improvement of mathematics education in their countries.

Although the Projects in each countries were forced to modify their plans of operation by external factors, such as unstable policy, budget shortage, strikes of teachers, coup d'état, etc., the core group members and Japanese experts were flexible to change their plan and the Project purpose has been achieved. It can be said that the Regional Component are effective way to support the common needs of the target countries.

(3) Efficiency

The Regional Component was efficient way to use Japanese limited resources efficiently. The Regional Component provided technical assistance toward the common needs of the countries, and each country's individual needs were supported by Japanese experts stationed in each country's Project. The Regional Component complemented each country's Project efficiently and contributed to achieve their Project Purposes.

3 Factors that promoted realization of effects

(1) Factors concerning to Planning

The Regional Component matched the needs of the target countries and they kept high interest in the regional activities. The core group members kept motivation. Japanese experts provided concrete and useful advice and guidance based on their experiences.

(2) Factors concerning to the Implementation Process

PROMETAM experts and each Project have kept close contact and flexibly modified the plans of operation in line with domestic situations of each country.

4 Factors that impeded realization of effects

(1) Factors concerning to Planning

Originally, PROMETAM experts were supposed to take care of the content of mathematics education by visiting each country, but individual needs of each country were more than expected. Thus, during the implementation, responsibility of the Regional Component was modified and Japanese experts stationed in each country mainly took responsibility to support individual needs and the Regional Component principally supported the common needs.

Another problem was that the core group members lacked basic knowledge on mathematics so that experts gave them full support for their mathematical ability. Thus, they were forced to change implementation plan according to the level of the core group members.

(2) Factors concerning to the Implementation Process

The Regional Component changed the plan of operation frequently because of fluid domestic situations in each country. Cancellation of the dispatch of a mathematics expert was also affected the implementation.

5 Conclusion

The Regional Component was efficient way to support the common needs of five target countries, exploiting comparative advantage of Japan and experience, knowledge and resources gained from the implementation of PROMETAM Phase 1. In addition, it can be said that the Regional Component is efficient to utilize the Japanese limited resources.

6 Recommendations

Action to be taken within the remaining Project period

(1) Share knowledge and experience at international symposium

It will contribute further improvement of the core group members' ability to share knowledge and experience accumulated by the Regional Component before the Project ends.

(2) Support for network of the core group members

It is preferable to create opportunity for the core group members to exchange views on how to maintain the regional network after the Project.

Actions to be taken after the Project completion

(3) INICE as the teacher training center of Central America

INICE has been playing an important role as the center of teacher training in Central America. It is expected to sustain its function after the Project.

7 Lessons Learned

Honduras Side

(1) Importance of initiative in the region

To support the mathematics education of Central America and Caribbean region, Honduras decided to provide their teachers' guidebook and students' workbook to other countries. This decision opened the way for this regional project. It showed that initiative of a leading country is necessary to do this type of project.

(2) Network of participant countries

The regional network helped the core group members to promoted the implementation of each Project. The network of mutual learning would be efficient strategy for similar projects.

Japan Side

(1) When Designing the structure of regional projects

Before designing similar projects, it is preferable to examine the area where common needs exist and the reason why it is effective to implement several countries' project together.

(2) Selection of counterpart and efficient technical assistance

The counterparts appointed by the government of each country did not necessarily possess enough competence to implement the Projects. The Japanese experts spared quite a few time for the strengthening of basic knowledge on mathematics education. In principle, the recipient government should take responsibility to select counterparts, but it is preferable to support the selection process so that projects take in human resources who have enough ability to implement in the Project.

(3) Set the project purpose in line with the competence of counterparts

Before setting the project outputs and purpose, it is important to analyze the level of counterparts' ability and have

concrete image of the step of capacity development.

(4) Quantity of inputs of the Japanese side

In the case of regional projects, it is important to calculate the portion of common activities and individual activities, analyzing the needs of each country, when deciding quantity of inputs.

(5) Efficient procedure of project management

In the Regional Component, experts should frequently visit the countries. This project introduced simplified travel procedure and succeeded to reduce coordination costs. When implementing regional projects, it is preferable to take in the simplified procedure as this project have introduced.