

## Summary

### 1. Outline of the Project

Country: Republic of Honduras

Project Title: Improvement of Teaching Method in Mathematics in the Republic of Honduras

Issue/Sector: Basic education

Cooperation Scheme: Technical Assistance Project

Division in Charge: Basic Education Team II, Group I, Human Development Department, JICA

Total cost: 531 million Japanese yen (including 301 million yen of volunteer costs)

Period of Cooperation (Duration):

(R/D): April 1, 2003-March 31, 2006

(Extended):

(F/U):

(E/N)

Partner Country's Implementing Organization: Secretariat of Education, National Pedagogic University

Supporting Organization in Japan: University of Tsukuba

Related Cooperation:

#### 1-1 Background of the Project

The Republic of Honduras (hereinafter referred to as "Honduras") has set itself the goal of attaining "full coverage and completion of six years of primary education for all school age children of both sexes by 2015," and has been tackling the problem with the support of many donor countries. The present state of primary education is characterized by a school attendance rate upwards to 95% (as of 2000), with hardly any difference between boys and girls. On the other hand, the percentage of children completing their education remains at 68.5% (as of 2000), and among these children, only 31.9% have complete said education course within the regular six years. High dropout and repetition rates are key issues to be addressed by the education development sector of Honduras.

The major reasons for children's repetition of grades in Honduras are attributed to low proficiency in Spanish and mathematics. Another critical issue is the low quality of teachers in service. Therefore, the Japanese government previously supported teacher training for a 13-year period starting in 1989 through the dispatch of

Japan Overseas Cooperation Volunteers (hereinafter referred to as “JOCVs”) in the area of mathematics education.

Based on the reputation of such past achievements, a request was made by the Honduran government for a project to improve and implement the Program de Formación Continua (PFC), to prepare guidebooks for teaching based on government-designated textbooks in mathematics and workbooks for children, and to reinforce educational evaluation methods with standard achievement tests for children. Thus, the Proyecto de Mejoramiento de Enseñanza Técnica en el Area del Matemática (PROMETAM) was inaugurated in April 2003.

## 1-2 Project Overview

### (1) Super Goal

To decrease the number of students repeating grades due to low academic achievement in mathematics in the 1st cycle (grades 1-3) and the 2nd cycle (grades 4-6) of basic education, especially in rural areas

### (2) Overall Goal

To improve teaching methods in mathematics in the 1st and 2nd cycles of basic education in departments other than the five targeted departments (Ocotepeque, Colón, El Paraiso, Valle and Comayagua) through the dissemination of the project results

### (3) Project Purpose

To improve teaching method in mathematics in the 1st and 2nd cycles of basic education in the five targeted departments (Ocotepeque, Colón, El Paraiso, Valle and Comayagua) utilizing teachers’ guidebooks and workbooks

### (3) Project Outputs

1. To create teachers’ mathematics guidebooks for teachers in the 1st and 2nd cycles of basic education
2. To create mathematics workbooks for children in the 1st and 2nd cycles of basic education.
3. To ensure that teachers who receive the PFC training program in the five targeted departments are able to develop their classes in accordance with the instructions of the teachers’ guidebooks
4. To improve the teaching capabilities of counterparts through the aforementioned activities 1 to 3

### (4) Project Inputs (as of September 2005)

Japanese side:

Long-term experts            1 Chief Advisor, 2 Mathematics Pedagogies, 1 Coordinator  
Short-term experts            5 persons  
No. of trainees received in Japan 20 persons  
Japan Overseas Cooperation Volunteers 37 JOCVs, 2 Senior JOCVs, 1 Senior Overseas Volunteer

Equipment supply            14,834,500 yen  
Local cost                    96,899,070 yen (including equipments procured locally and cost for the FY2005 plan)

Honduran Side:

Assignment of counterparts    28 persons (including Directors of Educational Department/District Directions)

Land for construction of facilities 5 office rooms, 2 warehouse rooms, and 1 room at the National Pedagogic University

Local cost                    2,457,503 lempira  
(1 USD = 18.9 lempira, as of October 2005)

## 2. Evaluation Team Overview

Members of the evaluation team

(Area in charge: name, title)

Team leader:

Masazumi Ogawa

Team Director, Basic Education Team II, Group I, Human Development Department, JICA

Evaluation on training:

Masami Isoda

Associate Professor, Center for Research on International Cooperation in Education Development (CRICED), University of Tsukuba

Evaluation on JOCV activities:

Seiho Tanaka

Technical Advisor, Secretariat of Japan Overseas Cooperation Volunteers (JOCV), JICA

Evaluation planning:

Takako Koizumi

Basic Education Team II, Group I, Human Development Department, JICA

Evaluation analysis:

Mitsue Mishima

Consultant, Overseas Project Management Consultants, Ltd.

Evaluation Period

From September 17 to October 7, 2005

Evaluation type: Terminal evaluation

### 3. Overview of Evaluation Results

#### 3-1 Achievements

Inputs were basically completed as scheduled for both the Japanese and Honduran sides.

The project purpose is to improve the teaching capabilities of in-service teachers for grades 1 to 6 in the five targeted departments by utilizing teachers' guidebooks and workbooks, a goal that is expected to be achieved by the end of the project. The indicator of the project purpose is the improvement of the results of analysis of mathematics classes carried out by the teachers who enrolled in the training program. As a result of the analysis of mathematics classes conducted by short-term experts (training evaluation), the quality of classes carried out by teachers who received the training differed from that of teachers who did not, revealing that the former group had higher teaching capabilities in terms of putting into practice the teaching aimed at encouraging children to think on their own, and implementing classes in a planned way. In the Guinope district, where it was possible for the same teachers to be surveyed twice, both prior to the launch of the project (2002) and just before the end of the project (2005), the academic ability of teachers increased by 24 points on average, showing a clear improvement in teaching capabilities during the project period.<sup>1</sup>

The overall goal is to improve the teaching capability of in-service teachers in departments other than the five targeted departments through the dissemination of project results. Teachers' guidebooks and workbooks for children, which were the major results of the project, were distributed nationwide as government-designated educational materials in June 2005. Therefore, it has been assessed that the dissemination of project results are taking place. However, it is difficult to evaluate the improvements to the results of the analysis of mathematics classes, the indicator of the overall goal, at this stage, given that evaluation analysis of classes has yet to be implemented to teachers in other departments.

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<sup>1</sup> Activity Completion Report by Takeshi Sekiya, Short-term Expert (Evaluation on Training), on the Improvement of Teaching Method in Mathematics in the Republic of Honduras (December 2005), p7

It is expected that virtually all the planned activities will be implemented by the end of the duration of the project, and thus Outputs 1-4 of the project are all expected to be achieved.

### 3-2 Summary of Evaluation Results

#### (1) Relevance

As with the result of the mid-term evaluation, the project is highly relevant in terms of government policies. Basic education has been highly prioritized in the national development plan of Honduras, donors' aid policy and Japan's ODA policy for Honduras. The project's approach, which focuses on the expansion of teachers' guidebooks and children's workbooks in the field of mathematics, is consistent with the needs of teachers in Honduras, which has been beneficial to Honduran children who have tended to receive insufficient learning time due to reasons such as combined classes and shortages of educational materials. Furthermore, the project was also meaningful in terms of the utilization of Japan's cooperation experience in the area of mathematics education, which has been amassed through past mathematics instruction by JOCVs, as well as in terms of cooperation with other donors in providing support in the area of basic education.

#### (2) Effectiveness

The project purpose is on course for achievement. According to the results of class analyses, the teaching methods implemented by the teachers who received the training program under the project have been superior to those employed by teachers who did not in terms of the quality of classes. In addition, the JOCVs have reported that the guidebooks and workbooks have been highly evaluated among teachers who received the training, and they are actually being used widely.

The guidebooks and workbooks prepared through the project are significant tools for coursework planning and the promotion of independent self-study on the part of children, and it has been reported that there are cases wherein the teaching skills of teachers who received the PFC training were improved. Interviews with training coordinators (core trainers) nationwide also confirmed the improvement in the quality of classes through the training administered through this project.

Therefore, it is considered that the project outputs were effective in achieving the project purpose. Considering the influence of external factors, the achievement level of the project has been remarkable.

### (3) Efficiency

When judged comprehensively, the efficiency of this project has been quite high. The project has yielded a significant output in the form of the completion of guidebooks and workbooks for nationwide distribution in spite of a relatively small input of Japanese experts and a rather limited project period. Despite external factors such as policy changes in Honduras and strikes by teachers as well as the absence of technical staff in mathematics for a certain period of time during the project, the outputs of the project attained the target through activities implemented in accordance with the schedule without notable delays. This is attributable to the appropriate responses by the Japanese experts and the JOCVs to the circumstances at hand so as to overcome the problems affecting the project implementation.

### (4) Impact

It is probable that the achievement of this project purpose will bring about the achievement of the overall goal. The project outputs have already been disseminated beyond the targeted five departments, taking place during the project period.

The Honduran government distributed the teachers' guidebooks and children's workbooks prepared by the project nationwide in May 2005. Plan Integral 2005, a short-term nationwide training program, was also implemented thereafter, and the effects of the project are expanding to departments other than those departments originally targeted. It is also expected that the effects of the project will gradually disseminate by way of various routes, including the training of core trainers through the project and through teachers who underwent the PFC training program.

On the other hand, the nationwide distribution of materials and teacher training, which had been regarded as the premise for expanding the impact, have yet to be fully implemented, and many schools are experiencing shortages in guidebooks and workbooks. Although an impact is gradually taking effect, follow-ups in the future are required as well and the long-term maintenance of the approach.

Other positive impacts include the expansion of guidebooks and workbooks for 7th –to 9th graders in Honduras. In addition, other countries in Central America (including Nicaragua and El Salvador) are planning to develop their own version of these educational materials through the use of the project's guidebooks and workbooks as reference material. This means that the project's impact will extend to other countries beyond Honduras.

## (5) Sustainability

As for policy and institutional aspects, it is expected that Honduras will be willing to continue with self-sustained activities. The guidebooks and workbooks prepared through this project have been designated by the government as educational materials in line with the new curriculum, and the workbook is substantially regarded as a textbook. The Honduran government distributed these books nationwide in 2005. Nationwide teacher training was also conducted in regards to the use of these guidebooks and workbooks. Therefore, it is probable that these guidebooks and workbooks will be continuously used into the future as well.

Although there is a possibility that a change of administration in January 2006 will have an impact on the project, it is expected that drastic change in the educational policy will be difficult due to the fact that donor groups are coming together in order to ensure the continuity the current project and the project is gaining favorable evaluation among teachers. Regarding the operational system, while there remain concerns about the replacement of personnel involved and the budgetary system, the commitment of the National Pedagogic University will be a key element in maintaining the project's effectiveness.

Regarding financial aspects, there is a strong demand for nationwide distribution of guidebooks and workbooks as well as for nationwide follow-ups to previously implemented training. However, funding for FY2006 and thereafter is still undetermined, and the securing of funding will continuous to be an important issue.

As for technical aspects, although human resource development for the preparation of guidebooks and workbooks had been behind schedule, the Japanese experts steadily implemented technical transfers to the local staff hired through the project, who later came to be employed by the Secretariat of Education as official counterparts. In terms of teacher training, technical transfers have been implemented smoothly though counterparts at the National Pedagogic University.

### 3-3 Factors Contributed in the Production of Effect

Major factors that were conducive to the production of effects for the project are as follows.

#### (1) Planning

The project's approach, which focused mainly on the preparation of educational materials, an area in which Japan has a superior level of experience and where a extensive ripple effect can also be expected, was adequate. In addition, by involving not

only the Secretariat of Education but also the National Pedagogic University, cooperation through the PFC training programs targeting in-service teachers was achieved with relatively little political impact, contributing to the securing of results from activities.

## (2) Implementation Process

Efforts aimed at solving problems were made based on adequate decision by project stakeholders, with flexible reactions to impacts due to various external factors depending on the conditions at hand. With consistent adjustments made between the Japanese and Honduran sides, there were no delays in the implementation process.

As for the diffusion of the project's effects, an extensive diffusion of outputs was successfully implemented through the training program for core trainers, an activity implemented in collaboration with Spain, aimed at improving the capability of instructors for in-service teachers and instructors in charge of training new teachers. The designation of educational materials by the government was implemented through cooperation with other donors, such as printing of educational materials with Canada and Sweden, and training program for in-service teachers on the utilization of the educational materials in cooperation with Spain, the World Bank and Mesa Redonda de Cooperantes Externos en Educación (the round table of external donors in education sector, MERECE). This turned out to be a successful example of expanding the impact of the project through active cooperation in providing support.

Also, training in Japan provided an important opportunity for counterparts to gain a fuller, more in-depth understanding of the ideal state of education that constitutes the aim of the project, as well as an incentive for further commitment to the project. Some trainees implemented pedagogical studies that are being used as a method for improving in-class study in Japan upon their return to Honduras.

## 3-4 Problems and Factors that Raised Problems

### (1) Planning

A change was made to the method for analyzing class evaluation, and it took some time before the new method could be implemented. Although data had been collected based on the Academic Learning Time Method (analysis method for quantitative measurement of teachers' classroom activities), which was initially implemented, it was decided to review the analysis method and implementation system as a result of an increase in the work burden and the necessity of qualitative class



evaluation. Also, the expert in charge of evaluation analysis of the project also held various posts at the project's outset, including that of Chief Advisor, Coordinator (covering the management of JOCV), and as such the burden of work was significant.

Eventually, the local consultants in charge of evaluation were appointed to review the documents for conducting class analyses and evaluations and to implement qualitative class evaluations. In particular, monitoring (and feedback) and evaluation from the perspective of increasing effects are important components for educational projects, as well as the measurements of such effects. However, input plan had not been adequately coordinated in accordance with to the measurement of the extent of effort based on clear analysis purposes and details at the planning stage of the project, and the extent of the inputs were rather small, which was one of the major reasons for the delay in implementation.

## (2) Implementation Process

Although the burden of work in regards to the development of guidebooks and workbooks increased due to revisions to the National Basic Education Curriculum of the Honduran side and coordination with the schedule for national distribution, these problems were solved by way of adjustment of the number of experts dispatched from Japan and the hiring of local personnel for the project. However, arrangements pertaining to copyright issues had not been reached with the Honduran side at the time of development, and an agreement was made in August 2005 to arrange for joint copyright between JICA, the Secretariat of Education and the National Pedagogic University.

The reactions to- and state of implementation of the PFC differed between regions. However, instructions to local school boards were promoted by the Mid-term Evaluation team through the Secretariat of Education and senior JOCVs exclusively in charge of JOCV management were appointed with a view to coping with the situation. Because teaching experience varied among the JOCVs, support in terms of instruction skill was necessary, and one senior member in charge of mathematics education was appointed.

## 3-5 Conclusion

Based upon the above evaluation results, the Honduran and the Japanese evaluation team have acknowledged that the project has been successfully implemented. The project contributed in improving the teaching skills of teachers involved in providing basic education in Honduras, with high relevance and efficiency. In general,

the necessary assistance was provided within a relatively short time period, which encouraged the achievement of its initial purpose. Some favorable results are also transpiring.

### 3-6 Recommendations (Specific Measures, Recommendations and Advices on this Project)

#### Short-term

##### (1) Distribution and utilization of the guidebooks and workbooks

It is currently being reported that there are many schools that have yet to receive a sufficient number of guidebooks and workbooks. The Secretariat of Education should complete its analysis on the distribution of educational materials and ensure that these materials are being distributed and utilized by teachers and students.

##### (2) Review of implementation of current teacher training program

It is necessary to review the nationwide state of the implementation of teacher training (Plan Integral 2005), which was implemented in FY2005 by the Secretariat of Education. Since training was not conducted as planned in some areas, it is critical that the situation be reviewed and that countermeasures aimed at promoting the use of the educational materials be introduced.

##### (3) Necessity of analytical report on project experiences

A report summarizing planned and implemented approaches as well as their impact on mathematics classes will be an important resource for the implementation of the next phase of the project as well as for similar projects in other countries as a model case.

#### Long-term

##### (1) Further involvement and continuous efforts by the key Honduran personnel

In order to ensure project sustainability and enhance the effectiveness and impact of the project, it is essential that key personnel on the Honduran side who were engaged in the development of the guidebooks and workbooks and training programs in the project disseminate their experience to teachers and develop teaching methodology.

##### (2) Compilation of a teacher-training manual

It is important that a teacher-training manual be compiled based on project experiences in collaboration with the Honduran counterparts, in order to share the

experiences gained through the project with other projects.

(3) Promotion of monitoring system to improve the teaching method

In order to improve the teaching ability of teachers, direct interaction in the form of monitoring of classes and the provision of the results of monitoring as feedback should increase the effectiveness of training. In this context, the objective of monitoring should be clearly defined at the outset and a feasible monitoring system aimed at meeting the objectives of the training should be established and appropriately conducted.

(4) Continuous budgetary support for guidebooks and workbooks

It is essential that an annual budget from the Secretariat of Education be secured so as to continuously provide appropriate number of guidebooks and workbooks in consideration of an increasingly large student body.

(5) Training of core trainers

It is important to focus on the role of teacher training institutions and training be provided in all departments for core trainers who will instruct teachers.

3-7 Lessons Learned (Matters Helpful for Discovering/Forming Similar Projects Derived from this Project and Implementation, Operation and Administration Thereof)

(1) Effectiveness of the project's approach

Through evaluation analysis, the following strong and weak points were identified in relation to the project.

(i) Approach focusing on the development of educational materials

In places where there are many multi-grade schools and the teaching abilities of teachers are significantly limited, guidebooks that can be used immediately and directly by teachers and workbooks for students can be an effective tool for teachers in conducting classes in a more systematic fashion, and for students' capacity for self-study.

(ii) Support for teacher training through PFC

PFC, a nationwide certification system operated by universities, provides incentives to trainees to continue their studies and has proven meaningful from the perspective of the effects of further training and sustainability. Also, political

intervention has been relatively limited, and as such it has been significant in terms of securing the implementation and extensive dissemination of the project.

#### (iii) Coordination with JOCVs

The inputs and role of the JOCVs in this project were critical in providing support for the PFC, monitoring classes so as to provide feedback to teachers as part of training, and revising the guidebooks and workbooks. On the other hand, the objectives of JOCVs were not necessarily identical to the project's objectives, and this caused difficulties in terms of management in coordination with the JOCVs.

#### (iv) Monitoring teachers' activities

While monitoring activities by the JOCV were quite important in terms of improving teaching methods, the scope of activities were left to the individual initiatives of JOCVs. Although JOCVs have been actively engaged in classroom visits and other activities, these activities represent critical components that should be incorporated into the project, and therefore it is important to set out a detailed plan beforehand and systematically implement monitoring activities aimed at ensuring the sustainability of the project.

### (2) Coordination with other donors

Coordination with donors may increase the outcomes and impact of the project by further diffusing the project activities. This project maintained a close relationship with the MERECE from its outset and was incorporated into the Honduran Fast Track Initiative (FTI) strategic plan. Therefore, effective collaboration with other donors such as Canada, Spain, Sweden and the World Bank took place upon the project's implementation.

### (3) Copyright of the educational materials

Although the guidebooks and workbooks were regarded as core project components at the planning stage of the project, copyright matters had not been settled with the Honduran side. Later on, in August 2005, an agreement was signed between the stakeholders. It proved to be adequate to discuss the copyright matters and reach an agreement thereon beforehand, at the outset of the project.

### 3-8 Follow-ups

Phase II of the project is scheduled for implementation over a five-year period

starting in April 2006 with the aim of expanding and establishing the achievements of this project.

Phase II is comprised of two components, namely one limited to Honduras itself and another encompassing the surrounding region. In Honduras, the adequate in-class use of the guidebooks and workbooks, which was distributed to teachers and children nationwide in 2005, is being targeted. At the same time, plans are underway to provide support to students in teacher-training courses who had not been covered in Phase I, and to strengthen the Honduran side's ability to prepare educational materials. Within the component covering the surrounding region, plans are underway to meet expectations in terms of extending support to other Central American and Caribbean countries in the area of human resource development.