

Evaluation Results

1. Outline of the Project	
Country: Central America and the Caribbean (Republic of El Salvador, Republic of Guatemala, Republic of Honduras, Republic of Nicaragua, Dominican Republic)	Project title: The Project for Strengthening Nursing Education and In-service Training in El Salvador, Guatemala, Honduras, Nicaragua and the Dominican Republic
Issue/Sector: Health	Cooperation scheme: Technical cooperation project
Division in charge: Human Development Department, JICA	Total cost (as of June 2010): 299 million yen
Period of cooperation: From August 28, 2007 to August 26, 2010 (R/D)	Partner country's implementing organization: Nursing division of the ministry of health of each country, nurses association of each country, nursing education institutions of each country
	Cooperation period: three years
	Supporting Organization in Japan: none
	Related cooperation: Dispatch of the Japan Overseas Cooperation Volunteers (JOCVs)
1-1 Background of the Project	
<p>Improvement of health and medical services is an important issue in Central America and the Caribbean. Especially, the improvement of the quality of the basic education (training) of nurses engaged in health and medical service, the implementation of on-site continuous education, and ensuring job security are urgent issues in this region. Because there is no standard curriculum prepared for basic nursing education, many countries lack the mechanism to ensure the quality of the various educational institutions. There are also reports on gaps between what is learned through basic education and the kinds of skills that are necessary on-site.</p> <p>Under such a situation, Japan received the request for cooperation in the area of nursing from five countries, namely El Salvador, Guatemala, Honduras, Nicaragua, and the Dominican Republic. The implementation of this project as an regional cooperation based in El Salvador was decided in order to respond effectively and efficiently to the request from the five countries. Specifically, two components are implemented for the improvement of the quality of education to nurses: (i) cooperation in the area of basic nursing education targeted to the above five countries (regional cooperation); and (ii) cooperation in the area of continuous nursing education targeted to El Salvador (bilateral cooperation).</p> <p>As for activities in (i) above, the result of the improvement of basic nursing education, achieved through Japan's past cooperation provided to El Salvador (including Project for Strengthening</p>	

Nursing Education, a technical cooperation project, and Nursing Education, a third-country training program) is utilized. Regarding (ii) above, while the improvement of basic nursing education was achieved in El Salvador, because the system to maintain and improve the skills and knowledge of nurses who received basic education during on-site training is yet to be established, and also because the maternal mortality level is still high, activities are implemented to improve the quality of human resources engaged in nursing services in the area of reproductive health (in particular in the area of midwifery).

1-2. Project Overview

<Regional cooperation>

- (1) Overall Goal: The quality of nursing education in the Central America and the Caribbean improves.
- (2) Project Purpose: Improving the capacity of instructors for basic nursing education in El Salvador, Guatemala, Honduras, Nicaragua and Dominican Republic.
- (3) Outputs
 - 1) Education for the instructors of basic nursing education improves.
 - 2) Activities for the standardization of nursing education are planned and implemented.
 - 3) Collaboration between education and on-site training regarding nursing is strengthened.
 - 4) Activities for ensuring sustainability are promoted.

<Bilateral cooperation>

- (1) Overall Goal: Improvement in nursing services in the area of midwifery provided by nursing professionals in Santa Ana Department, Sonsonate Department and Ahuachapán Department.
- (2) Project Purpose: Improvement in the quality of the training of continuous education for nursing professional in the area of midwifery.
- (3) Outputs
 - 1) The process of continuous education training for nursing professionals in the area of midwifery improves in the Santa Ana Department.
 - 2) The monitoring and evaluation method of continuous education training for nursing professionals in the area of midwifery improves in the Santa Ana Department.
 - 3) The operational and management system of continuous education training for nursing professionals in the area of midwifery improves in the Santa Ana Department.
 - 4) Activities for ensuring sustainability are promoted.

(4) Inputs (as of the time of evaluation)

The activities of this project are based in El Salvador, and the project headquarters is located in El Salvador.

<Regional cooperation>

(1) Japan

Dispatch of long-term experts: 3 people¹

Dispatch of third-country experts: 1 person²

Equipment: 247,186.77 USD

Local cost: 1,288,561.06 USD

(2) El Salvador

Counterparts: 27 people³

Project office, holding of counterpart (C/P) trainings

(3) Other four countries

Counterparts

Guatemala: 128 people

Nicaragua: 81 people

Honduras: 46 people

Dominican Republic: 186 people

The countries also provide project offices (also used for the bilateral cooperation in El Salvador), regional offices (excluding Dominican Republic), personnel expenditures of the staff, group activity costs and expenses related to the implementation of training.

<Bilateral cooperation>

(1) Japan

Dispatch of long-term experts: 3 people⁴

Dispatch of short-term experts: 1 person

Dispatch of third-country experts: 9 person⁵

Equipment: 197,936.07 USD

Local cost: 291,907.25 USD

¹ Two among them, namely the chief advisor and the project coordination staff, also hold the position for the bilateral cooperation.

² One Mexican staff member is employed with the overseas operation reinforcement expense.

³ Among them, the project manager (PM) also holds a position in the bilateral cooperation. The project technical manager (PTM) for the regional cooperation also supports the bilateral cooperation.

⁴ Two among them, namely the chief advisor and the project coordination staff, also hold positions in the regional cooperation.

⁵ Eight Paraguayan staff members and one Mexican staff member are employed with the overseas operation reinforcement expense.

(2) El Salvador Counterparts: 39 people ⁶ Local cost: 655,215.00 USD ⁷ El Salvador provides the project office (also used for the regional cooperation) and the expenses to hold the facilitator training.		
2. Evaluation Team		
Members of the evaluation team	Kyo Hanada (Leader): Senior Advisor (Health), Human Development Department, JICA Tomoyuki Odani (Cooperation planning): Health Division IV, Health Group II, Human Development Department, JICA Michiko Fujimoto (Evaluation analysis): Senior Consultant, Overseas Department, Fujita Planning, Co., Ltd.	
Period of evaluation	From May 15 to June 21, 2010	Type of evaluation: Terminal Evaluation
3. Results of Evaluation		
3-1. Achievements		
Through this evaluation, the achievement of the outputs and the project purpose, and the prospect of the achievement of the overall goal, are confirmed based on the indicators of each output as follows.		
<Regional cooperation>		
(1) Output 1		
Output 1, "education for the instructors of basic nursing education improves" was achieved. It is judged that through the cascade-type training program, education provided to the instructors of basic nursing education up to the level of the central committee is improved for the components of "nursing process" and "regional nursing." Up until now, nurses recognized their work as being to assist physicians, or to treat or dispense medicine to patients based on instructions by physicians. Although nurses had knowledge of nursing process theory, use of theory in actual practice was limited. However, through this project, nurses studied the theories of nursing process and regional nursing, went through the self-learning process, and then experienced the practices demonstrated by lecturers. Through such a process, nurses were able to practically learn nursing care based on nursing process theory. As a result, they realized anew that the work of the nurse is to utilize Gordon's Nursing Diagnosis ⁸ in the case of clinical care and the Orem's		

⁶ A PM also holds the position in the regional cooperation. The PTM for the bilateral cooperation also supports the regional cooperation.

⁷ Local cost includes personnel expenditures, fuel bill, electric bills and water bills. Because the office and staff are engaged in both the bilateral and regional cooperation, it is the total amount for both cooperations.

⁸ Gordon's Nursing Diagnosis: Patients information is gathered and sorted according to the 11 Gordon's Functional Health Patterns, such as health management pattern, nutritional metabolic pattern, elimination pattern, coping-stress tolerance pattern, etc., and the nursing diagnosis (deciding the diagnostic name different from the diagnosis of physicians by clarifying the problem from the perspective of nursing) is derived based on the results of assessment.

collaboration model document is completed, and it is now at the stage of being formalized. This output covers the reinforcement of collaboration between education and on-site training, and framework for reinforcing the collaboration between education and on-site training is already being established at the central committee level. With the diffusion of the model in the future, it is expected that collaboration between on-site training and nursing education will be realized, and the practical training of nursing is implemented to instructors in an appropriate number of trainees (basically around eight trainees) according to the planned practical training schedule. In some of the central committees in the Dominican Republic, education/on-site collaboration model is already being diffused in parallel with the process of the approval of the draft model document by the Ministry of Health, aiming for the improvement of practical training and the improvement of nursing care by clinical nursing instructors. In order for this output to be achieved in four countries, it is necessary that the model is thoroughly diffused among schools and learning facilities for nurses throughout the country after the model is officialized.

(4) Output 4

All the four countries implement activities regularly (about once or twice a week) at the central committee for each theme, and are about to enter the stage of the establishment of regional committees. However, because the training of the instructors of basic nursing education by regional committees, which is the final stage of the continuous nursing education training system, is scheduled to be implemented in the future, monitoring and evaluation are still conducted only partly. In order to finance the cost necessary for training, activities to ensure sustainability should be further reinforced.

(5) Project purpose

This project constructed the training method through the cascade system, provided by the central committee, for the implementation of domestic training. Under this framework, the improvement of basic nursing education is intended, and the capacity of the instructors of basic nursing education for training the students who are the ultimate beneficiaries of the project is already being increased, through the components of nursing process and education/on-site training collaboration. On the other hand, area-based expansion is the issue to be addressed in the future. At present, because the evaluation of basic nursing education by students is yet to be conducted, it should be conducted promptly. Therefore, when this final evaluation and monitoring are conducted and the training management cycle is completed, the project purpose will be achieved.

(6) Prospect of the achievement of the overall goal

The framework for the project included the establishment of network among five countries as one of the components. The network among the five countries is already established, which is shared and utilized by countries to improve nursing education one another. As for the expansion beyond the five countries, opportunities such as the meeting of health ministers in Central

Self-Care Theory⁹ in the case of regional on-site training to understand/analyze the patient in a holistic manner, and to plan/implement the care for the patient. Through such experiences, it became clear that more scientific knowledge must be obtained through physiological and pathological analysis of patients, and nurses relied more on written reference materials for learning. In addition, nurses are now trying to solve the problems of nursing care by approaching the patients and understanding the situation of the patient by themselves through the analysis of psychological and social aspects. Using the “nursing process” and “regional nursing” components, nursing education instructors in all the countries are applying tools to provide high-quality nursing care meeting the needs of patients, and are also acquiring skills to securely convey such methods to other nurses through activities such as self learning and cascade training.

(2) Output 2

It will be difficult to achieve Output 2 before the termination of the project, and it will take more time for it to be achieved. In Guatemala, because people tried to incorporate different curriculum concepts at the stage before the standardization of the non-unified curricula within the country, the course of action within the committee could not be unified, resulting in the delay in the actual preparation of curricula. Thus, the national project manager (NPM), national project technical manager (NPTM) and the advisory committee member of Guatemala recommended the replacement of the counterpart (C/P). Following the consultation with the project headquarters, three new C/Ps were elected, and the new committee started its activities. While the analysis of the existing curricula is the major activity for preparing a new curriculum, because the work to collect curricula was delayed in Nicaragua, the analysis cannot be started. From now, the plan is to analyze the collected curricula and create a new curriculum based on the results of the analysis, and to submit the finalized curriculum to the Ministry of Health and the Supreme Council of the Ministry of Education (Guatemala) and the National Council of Universities (Nicaragua). The first draft of the curriculum is planned to be prepared by July. It should take about six months for the revising process from the first draft to the final draft before submitting the curriculum draft to the ministries and the supreme council of education. Thus, it is suggested that a period of about a year will be necessary to obtain the outputs of activities planned in this project.

(3) Output 3

It is highly likely that Output 3 will be achieved before the termination of the project. Although the progress differs among the four countries, the draft of the education and on-site training

⁹ Orem's Self-Care Theory: According to the Orem's Self-Care Theory, self care is defined as the “practice of activities that individuals initiate and perform on their own behalf for maintaining life, health and well being.” Based on this idea, Orem's Self-Care Theory analyses patients information, and derives the specific methods of nursing care from the perspective of what kind of support the nurses can provide in order for the patients to conduct self care.

America and the Caribbean (Consejo de Ministros de Salud de Centroamérica: COMISCA), which is acting outside the framework of the project, and academic societies of nursing, are utilized to announce the output of the project, attracting the attention of countries other than the targets of the project. In addition, there are already academic societies and groups of nurses in the Central America and the Caribbean (i.e. group of nursing specialists in Central America and the Caribbean, a group of nursing division managers/nurses association presidents/representatives of nursing education of nine countries in the Central America and the Caribbean), so it is expected that the quality of the nursing education in Central America and the Caribbean is improved by presenting the output of this project at the meeting of these groups.

<Bilateral cooperation>

(1) Output 1

The Training Program and Training Implementation Plan were prepared, and 14 facilitators were trained as the instructors of the training. These facilitators conducted reproductive health training for nurses and assistant nurses at the primary healthcare institutions in charge of pregnancy care in Santa Ana Department six times in total (nurse: four times, assistance nurse: twice). Among the candidates of trainees, 100% of nurses and 93.9% of assistant nurses¹⁰ received the training. Thus, the process for the continuous education training in the area of midwifery was established and carried out, so Output 1 was achieved.

(2) Output 2

It is expected that Output 2 will to be achieved before the termination of the project. The monitoring/evaluation method of continuous education/training in the area of midwifery is established and implemented, and the monitoring is being conducted at about 60% of the facilities, based on the number of the trainees belonging to the facility. It is scheduled that monitoring will be completed at all facilities by the end of the project, so Output 2 is expected to be achieved.

(3) Output 3

Training sessions by the Nursing Division of the Western region of health are all finished, and approximately 60% of the planned evaluation and monitoring of the training have been implemented. Although there are some delays to the schedule due to external factors such as the outbreak of the new influenza and dengue fever, and the reorganization of the Ministry of Health, the Nursing Division of the Western region of health has been able to operate continuous education training in the area of midwifery.

(4) Output 4

¹⁰ Among the 49 assistant nurses who were the candidates of the training, three could not participate in the training due to illness, and one was excluded from the candidates because of being on the verge of retiring. Therefore, it is judged that the training was provided to practically all the candidates of assistant nurses.

Although the Continuous Education Steering Committee was operated intermittently, the operation of continuous education is supported mainly by the Nursing Division of the Ministry of Health. Considering the sustainability of the project, it is possible for the Western region of health to operate the training management cycle and manage the training programs related to the midwifery area. In addition, the Western region of health is taking an initiative to establish a system wherein continuous education steering committees voluntarily develop in the western area, and institutions the nurses belong to support continuous education for future training. Training facilitators were also trained in the Sonsonate Department and Ahuachapán Department, so the basis for expanding the training in the western area has been established.

(5) Project purpose

The project purpose is already achieved. Facilitators are evaluated highly among training course participants in terms of their training operation and teaching skills. Nurses who actually went through the training are using the knowledge and skills obtained through the training at the clinical site to implement prenatal checkups. As a result of the monitoring, the effect of the training is highly evaluated also among the colleagues of the training participants. The "training program," "training implementation plan" and "training monitoring criteria" are already approved by the Ministry of Health as a model, and a system to operate training according to the training management cycle was established. Through the seven training sessions in total, the quality of training on continuous education in the area of midwifery is steadily improving. Based on this situation, it is judged that the project purpose has been achieved.

(6) Prospect of the achievement of the overall goal

Improvement of the nursing service provided by nurses in the area of midwifery is observed in the Santa Ana Department. Pregnant women who received the prenatal care service from nurses and assistant nurses who already participated the training are now making the evaluation on the improvement of service. Thus, if the facilitators in Sonsonate Department and Ahuachapán Department developed through the project can securely provide the training, it is possible that the nursing service in the area of midwifery will be improved in the western region.

3-2. Summary of Evaluation Results

<Regional cooperation>

(1) Relevance: high

Health policies and plans of the five countries all clearly state the necessity of improvement in human resources development and medical service, and this corresponds to the direction of this project for the reinforcement of basic/continuous nursing education aiming to improve the nursing service. This project also conforms with the "strengthening of the development of human resources in health," which is one of the goals of the Health Plan for Central America and the

Dominican Republic 2010-2015, a policy by the System for Central American Integration (Sistema de Integración Centroamericana: SICA), as well as with the ODA policy of Japan toward Central and South American countries, which supports social development policy that benefits more than one country. JICA has a long-term experience in nursing education project in Central and South America, and C/Ps intensified their research capabilities in the area of expertise through the project, reaching the capacity level of third country experts. The ability to utilize these resources gives Japan superiority in implementing the project.

(2) Effectiveness: somewhat low

Factors tackled by the project such as the “nursing process,” “regional nursing,” “education/on-site training collaboration” and “reproductive health” harmonized well. Activity processes such as cascade training session, self learning and the current situation survey worked effectively. Nursing education instructors acquired knowledge and skills on nursing according to the clinical needs. Therefore, it is expected that these achievements will be reflected in the nursing education in the future. At the present moment, although training is implemented from the central committee to the regional committee level, training by the regional committee members was implemented only a few times. In order to judge the project purpose achievement from objective data, whether or not a better nursing education was provided to nursing students must be confirmed. Thus, although the project is found to be effective, future monitoring by the committees is required, and the training cycle should be managed through monitoring. In addition, although Output 4 set the objective of ensuring financing of the costs necessary for training, the sufficient funds are yet to be obtained. Even though it is necessary to further implement training to develop regional committee members and training for basic nursing education instructors in order to expand the improvement of the capacity of basic nursing education instructors throughout the country, the implementation of the training relies heavily on the status of fund availability. Thus, the area-based expansion of the project effect on a nationwide scale requires further effort.

Because curriculum for basic nursing education is still uncompleted, the standardization of the content of basic education is yet to be achieved at the actual site of education. Also, although this project covers only the preparation of the curriculum for nurses, it is also necessary to prepare curriculums for other two courses, namely the graduate nurse course and assistant nurse course. Thus, in order to increase the effectiveness of the project, it is necessary to accelerate the completion of the curriculum, which is one of the outputs, and to implement the monitoring/evaluation explained above.

(3) Efficiency: somewhat high

The following factors increased the efficiency of the project.

1) Implementation process

- By introducing cascade-type committee activities it became possible to hold down the expenses of assembling basic nursing education instructors from remote areas.
- By adding the process of self-learning, the trainees improved their own understanding of the components and acquired practical knowledge and skills. This directly resulted in the improvement of the quality of nursing education.

2) Operational cost

- The utilization of video conferencing and Skype as the means of communication among the five countries contributed to reducing travel expenses.
- With one chief advisor (Japanese expert) summing up the operation of the project for five countries, timely input of resources became possible.
- Resources obtained through the past JICA projects (such as the third-country experts in El Salvador and Paraguay) were utilized.
- Third parties in the neighboring countries (such as Mexican experts) were utilized.

3) Project implementation system

- Allocation of NPM and advisory committee members (nursing divisions of the ministries of health, nurses association presidents, representatives of nursing education) as the personnel for the project contributed to the smooth operation of the project.
- The project was managed in an integrated fashion by a single chief advisor covering five countries.
- The network among the five countries was reinforced under the regional cooperation, which allowed each country to share experiences and the process of improvement with one another and facilitated the utilization of examples of other countries.
- With the five countries sharing the progress through the network, positive motivation for competition was developed, contributing in the promotion of project activities.

Factors that lowered the efficiency can be explained as follows. Because it took considerable time for the research for understanding the current situation of the C/P activities process, the launch of the central committee was delayed. Also, the delay of activities due to different external factors in each country (outbreak of the new influenza and dengue fever, reorganization of the Ministry of Health with the start of the new administration, declaration of the state of emergency following the outbreak of the coup, restriction of working hours, support and cooperation after the Haiti earthquake, etc.) resulted in the decline of efficiency.

(4) Impact

1) Prospect of the achievement of the overall goal

Among the target countries of the project, nursing care provided by those who received the training improved in terms of several components after the implementation of the project. It is judged that this was achieved because the nursing education is a highly practical one,

contributing in improving the quality of nursing education. At present, countries other than the targets of the project are also showing interest in the project, through opportunities such as the presentation of the achievements of the project at the academic meetings or expert group meetings in Central America and the Caribbean including countries other than the targets of the project. It is expected that the actual outputs of the project may be incorporated in other countries by continuing the current activities, so it is judged that the prospect of the achievement of the overall goal of the project is high.

2) Positive impact

- The outputs of this project were explained at the COMISCA (Consejo de Ministros de Salud de Centroamérica). The progress of the project was reported in the Health Plan for Central America and the Dominican Republic 2010-2015 by SICA. Also, at the COMISCA held in June 2010, the outputs of the project activities were reported, which drew the interest of the health ministers of Central American countries.
- The appointment of health ministers (vice minister for Guatemala) as the project director resulted in mandating their participation in the JCC, which contributed in raising political awareness of the project as well.
- Through the sharing of activities related to the curriculum preparation implemented in Guatemala and Nicaragua through the network of the five countries, activities related to curriculum standardization are implemented individually in the Dominican Republic.
- The introduction of the nursing process theory allowed nurses to collect more information from patients and provide information useful for doctor's diagnoses. As a result, doctors started to credit nurses as a member of the team medical care.

(5) Sustainability: somewhat high

Technical sustainability is expected to be high. Because the central committee of each country acquired capacities for training planning and implementation, and because the thematic learning was also being carried out voluntarily, it is possible to continuously implement activities even after the termination of the project. However, evaluation by the students, who are the ultimate beneficiaries of the project, is being delayed and it is required that the monitoring of training should be implemented appropriately. In addition, with the staff of the ministry of health being allocated as NPTM, playing a central role in operating and managing the project in each country, the capacity is already developed to continuously implement activities even after the termination of the project.

Sustainability is also evaluated as high in terms of the framework. The committee system for the continuous implementation of activities by C/P even after the termination of the project, and the activities of the committees are considered as activities of the nursing divisions of the ministries of health. Further, the appointment of nurses association presidents and the representatives of

nursing education to the project also contributed to increasing the sustainability after the project termination. In addition, the implementation of the project under the cooperation of the five countries reinforced the framework wherein the countries support one another, such as El Salvador supporting the other four countries or the four countries supporting each other. Development of communication tools is indispensable in maintaining this framework. It is scheduled that the communication system using the resources inside and outside of the project is being developed, such as the establishment of a video conference system under the cooperation of the Foundation for the Development of Nursing (Fundación para Desarrollo de la Enfermería: FUDEN), which is a Spanish NGO, also contributing to increasing the sustainability. In Honduras, the center of the project implementation system is not in the Ministry of Health but set in the School of Nursing of the National Autonomous University of Honduras (UNAH). In order to increase the project sustainability in the future, cooperation from the divisions of nursing of the ministries of health will be essential.

Financial sustainability is not necessarily high. Output for increasing the sustainability is included in the project design, and although NPM, NPTM and the advisory committee of each country have been going through negotiations with the ministries of health and other donors for obtaining the necessary budget, securing the budget is difficult in reality. However, in the area of reproductive health, FUDEN had been implementing projects in the five targeted countries of this project. The Reproductive Health Committee of Guatemala had already implemented the training project of the JICA project by using the training expenses provided by FUDEN, utilizing the human resources developed through the project. In order to increase the project sustainability in the future, it is necessary to show the specific achievements of this project to the ministries of health, the Pan American Health Organization (PAHO), and other donors such as FUDEN, and to ensure the funding for activities.

<Bilateral cooperation>

(1) Relevance: high

A new health policy was announced in El Salvador after the change of administration in June 2009. The El Salvador National Health Policy Strategy 2009-2014 includes a strategic item that lists the detection of abnormalities and care in the area of reproductive health during the periods of pre-pregnancy, prenatal and perinatal stages as the prioritized issues. This policy is consistent with the project purpose and the overall goal of this project. Although the continuous education was not being systemized before the implementation of this project, management according to the training management cycle based on the planning, implementation, evaluation and feedback became available with the implementation of the project. This means the project also meets the needs of the Division of Nursing of the Ministry of Health and the Western region of health. This

project implements activities that directly contributes to the achievement of the Millennium Development Goals (MDGs), and also corresponds with the ODA policy of Japan. Japan is implementing a project on the area of continuous midwifery education in Paraguay, and it is possible to utilize know-how and human resources accumulated through said project. Thus, the superiority of Japan in implementing the project is also high.

(2) Effectiveness: high

The Nursing Division of the Western region of health became able to operate the training management cycle with the Outputs 1 and 2 of the project. Due to various external factors in El Salvador, some activities could not be carried out as planned during the latter half of the project. However, monitoring was implemented to about 60% of the trainees, which uncovered some parts that are not pertinent to the reality of the training, resulting in the revision of the training content. Thus, it is judged that the project purpose can be achieved by the termination of the project. Although Output 4 is not being achieved according to the indicator, activities to achieve this output were originally considered as projects for establishing a basis for development throughout the country assuming the achievement of the overall goal and further sustainability. Therefore, this will not significantly affect the achievement of the project purpose.

(3) Efficiency: somewhat high

Facilitators developed by receiving facilitator training reached the level of being able to operate training by themselves, although they sometimes require advice from the Nursing Division of the Ministry of Health. Items that contributed in increasing the efficiency upon deriving the outputs are as follows.

- Facilities related to the training implemented under the input of the project directly contribute to the reproductive health training that is the main body of the project. Especially the pregnancy care provided with the Doppler instrument introduced contributes to developing the affection of mother and her family towards the baby in the womb.
- Collaboration between the project and JOCVs resulted in higher efficiency. The specific factors include instructions in the area of midwifery, support of the training operation and the follow-up for reinforcing the skills acquired through the training.
- Implementation of an efficient C/P training utilizing the output of the past technical cooperation projects by Japan in Paraguay, and the utilization of the third country experts also worked to improve efficiency.

On the other hand, as for the Outputs 3 and 4, which involve the Continuous Education Steering Committee, the input did not result in achieving results. Because the monthly regular meeting of the nursing department managers of the national hospitals throughout the country was abolished with the reorganization of the Ministry of Health in June 2009, it became difficult to hold the meeting of the Continuous Education Steering Committee and the creation of a framework to

support training operations on a nationwide scale was forced to stop, resulting in the reduction of the project efficiency.

(4) Impact

1) Prospect of the achievement of the overall goal

In the Santa Ana Department, improvement of various services is observed, such as the development of pregnancy examination rooms, implementation of pregnancy care involving staff of various positions in the health center, and the increase of the number of pregnancy examinations implemented. Although the evaluation of these services is not implemented systematically, they are evaluated by pregnant women who are the ultimate beneficiaries through measures such as hearings at the time of monitoring. However, in the Sonsonate Department and Ahuachapán Department, although facilitators were developed in June 2010, specific plans for implementing the training remain an issue in the future. Further, while the number of maternal deaths in the western area in 2009 was 17, the causes of death included those that are controllable or preventable by nursing care during pregnancy, such as gestational hypertension syndrome. It is possible that the provision of nursing care and health instructions according to individual needs may contribute to lowering the number of maternal deaths in the future. In the western area, more than 700 deliveries per year in 2009 were assisted by traditional midwives, but none of them resulted in the death of the mother. Because the number of traditional midwives in Santa Ana Department decreased from 223 in 2008 to 92 in 2009, it should be less likely that the number of the maternal death occurring with traditional midwives will increase in the future. Thus, in order to improve nursing services in the area of midwifery, it is necessary that the funds for training are secured in the western area, and training is implemented in the Sonsonate Department and Ahuachapán Department.

2) Positive impacts

- Improvement of nursing service provided to trainees after training is evaluated by the directors of the facilities they belong to, and the Continuous Nursing Education Steering Committee in the Western region was inaugurated autonomously under the initiative of the Director of the Western region of health.
- Facilitators of the Reproductive Health Committee trained in the project are working as instructors for the members of the Reproductive Health Committee in three countries under the regional cooperation.
- Facilitators are voluntarily implementing cascade-type training for their colleagues at the hospital they are working outside of the implementation of regular trainings, in order to improve the pregnancy care.

(5) Sustainability: somewhat high

Technical sustainability is high. The Reproductive Health Committee inaugurated by the facilitators of the Santa Ana Department has already acquired the ability to implement activities according to the training management cycle even after the termination of the project. It is judged that the Reproductive Health Committee can continuously implement training and evaluate monitoring in cooperation with the Western region of health.

Institutional sustainability is also expected to be high. Improvement of nursing care provided by the trainees is observed by the heads of the facilities they belong to, and as a result, there is a movement to inaugurate the Continuous Education Steering Committee in the Western region under the initiative of the Western region of health for supporting the activities of committees. If said steering committee works effectively in the future, it will become possible to continue the activities even after the termination of the project, which should result in higher institutional sustainability. The training room developed by the project is maintained with the Ministry of Health paying the utility costs. Because the continuous use of the facility after the termination of the project is permitted, the continuation of training activities is also guaranteed.

Financial sustainability of the project may not be sufficient. Although the Human Resources Development Department of the Ministry of Health is currently formulating the three-year National Training Plan 2010-2012, continuous education training is planned to be implemented basically based on regional authority, and the Ministry of Health does not have a budget related to continuous education. Thus, training will be hereafter implemented mainly by the Western region of health, so it becomes necessary to obtain budget from donors and other sources. It is planned to empower the Continuous Education Steering Committee above with a fundraising function. It is necessary in the future to clarify the function assumed by the Continuous Education Steering Committee and to increase the financial sustainability.

3-3. Factors that promoted the realization of effects

- (1) Continuous instructions by the Japanese experts who were engaged in the previous phase and instruction system by the joint team including the trained C/Ps in El Salvador

In this project, experts (chief advisor and work coordinator) who were in charge of the Project for Strengthening Nursing Education, which was implemented successfully in El Salvador from 1997 to 2002 instructed the trainees, and provided technical instructions to the other four countries under a consistent teaching method based on the experiences of the El Salvador project. Further, human resources in El Salvador developed in the previous project are maintaining an excellent relationship of trust with the Japanese experts since said project, and were engaged enthusiastically in providing technical instructions to the neighboring four countries and in answering the trainees' questions regarding everyday work, based on their past experiences.

- (2) Best practices in El Salvador and the improvement of the awareness of parties involved in each country to achieve the goal

In this project, relevant parties of countries other than El Salvador were able to find the human resources developed, systems established and efforts made through the past project in El Salvador (Project for Strengthening Nursing Education implemented from 1997 to 2002), and hear about the past process directly from on-site human resources. They felt that, "A country under a similar environment and with a similar type of human resources was able to reach this level. Surely we can make an effort to achieve the same thing." The neighboring countries raised their motivation by setting the case of the successful country as their goal, and were able to implement activities with the clear awareness of goals.

- (3) Implementation framework through central and regional committees considering the sustainability

As explained above, in this project, thematic activities were implemented under the central/regional committee system based on the past achievement of cooperation in El Salvador. Through this effort a framework wherein both central and regional committees serve their roles while completing the implementation of training and monitoring at the regional level was established. With the nationwide system for continuous education involving several tens or sometimes several hundreds of regional committee members, rather than involving only a few members of the central committee as the person responsible for each theme, it was possible to establish a stable framework wherein the activities can be continued with only limited impact from the replacement of nursing division managers, nursing school presidents (faculty chairmen) or nurses association presidents, if any. Also, because the implementation of activities through regional committees introduced by the project was a timely one that is consistent with the trend of the decentralization of health administration that is progressing in Central and South American countries, it was accepted smoothly by the directors of the departmental health bureaus.

- (4) C/P training in El Salvador that supported the training program under central/regional committees system

As explained in (3) above, it can be pointed out that the lectures in C/P training sessions implemented in El Salvador before the launch of the central and regional committees on the preparation of teaching plans, preparation of educational materials and the nursing ethics for all five themes provided in the period of one week, rather than merely conveying the content, for the aim of making C/Ps training instructors themselves for each theme in their country, contributed to the smooth development of training by these committees in each country.

- (5) Frequent visits and instructions to each country

This project targeting the five countries is based on El Salvador, and the Japanese expert leader and Salvadoran instructors provided instructions to each country. The Japanese expert leader and

Salvadoran human resources (especially the project technical manager for regional cooperation) visited the neighboring four countries twice a month, for four days each, to instruct four to five committees and have a meeting with project managements each time. On such occasions, they met the C/Ps in person and directly provided technical instructions and consultation.

(6) Sense of cooperation and competition among C/Ps of different countries and the communication tool that supported it

In general, the Central and South American regions have many things in common in terms of social and economic backgrounds including the history, language and religion, and it is an area with a strong sense of cooperation and competition among the countries. Through the third country training implemented from 2002 to 2006 in this region, an approach for extensive implementation of activities had been paved. Against such a background, this project set the same goal for five countries. Although each country has different issues, they shared information on progress and issues, learned tips for resolution from the cases of other countries, and implemented the same activities. The sense of cooperation and competition in the region existed as a basis for supporting such project activities, and by providing the common platform in the form of a project, relevant parties of each country positively utilized and constantly reinforced this sense of cooperation and competition to add a synergy effect in realizing project outputs. This was supported by remote communication tools such as Skype and a video conferencing system, which enabled technical instructions and sharing of information/issues on a daily basis among the countries where there is no time difference, contributing largely in the success of the project.

(7) Participation of personnel at the health minister level in each country in the project and active approaches to the ministers that made such participation possible

Health ministers (vice minister in the case of Guatemala) are the people in charge of this project in each country. The deep understanding of these minister-level officials regarding the project, as seen in the fact that the ministers traveled beyond the borders to gather for the JCC, made it possible to implement project activities with the strong backup of these ministers.

(8) Efforts made by C/Ps

As explained in (7) above, there was a top-down driving power from ministers to carry the project forward. However, C/Ps in charge of on-site activities also made efforts and achieved results to motivate the ministers, in response to approaches from the Japanese experts. This provided the synergy effect on the success of the project from both the decision-making and on-site levels.

3-4. Problematic issues and factors that caused such issues

Delay of activities due to external factors

Due to external factors common to all the five countries (the declaration of the state of emergency following the outbreak of the new influenza) and different external factors in each country (for instance, the declaration of the state of emergency following the outbreak of the coup and the frequent replacement of the ministers of health in Honduras, and the restriction of working hours in Nicaragua), some of the originally planned activities were left unfinished. It must be noted that the delay of project activities due to such external factors is the item that has no small effect in inhibiting the achievement of the project purpose and the overall goal.

3-5. Conclusion

<Regional cooperation>

Approaches are made actively in each country towards the achievement of the project purpose, which is "the improvement of the capacity of basic nursing education instructors in five countries." In addition to the "regional nursing," "nursing process" and "collaboration between education and on-site training," which are the basic factors of the basic nursing education, central and regional committees are inaugurated under many themes in the area of reproductive health in many countries. This means that the basis for the framework to develop human resources for nursing was developed in each country. A system for giving instructions within the region of the five countries was also established under the initiative of the Japanese experts and Salvadoran experts. The network among the nursing instructors in the region of five countries was also formulated by utilizing communication tools such as Skype. Through this network in the region, the sense of cooperation and communication was generated among the nursing instructors groups of different countries. This can be evaluated highly as contributing largely to improving the capacity of human resources and ensuring sustainability. Even after the termination of the project, it is highly probable that the activities for the improvement of the capacity of the basic nursing education instructors will be continued and developed autonomously. While the basis for the development of instructors and the system of instruction was established in both the central and regional levels, due to external factors such as the outbreak of the new influenza, activities for the instructions given from the trained instructors to students (Output 1) and the standardization of education curriculums in Guatemala and Nicaragua (Output 2) remained insufficient.

From the factors above, it is concluded that the extension of the project period for another one year, with the input of the resources of third countries such as El Salvador and Paraguay developed through past projects as well as the Japanese experts, is necessary in order to complete the unfinished activities.

<Bilateral cooperation>

As for the "improvement of the quality of continuous education training in the area of midwifery for

the nursing professionals in the Santa Ana Department,” which is the project purpose, activities such as the preparation of the training program and the establishment and implementation of the training monitoring method, were implemented as planned. Consequently, the human resources and the implementation framework to continue and develop the training program autonomously in the Western region of health were sufficiently developed. With the improvement of skills of and services provided by nurses who went through the training program, the evaluation among the pregnant women is improving. In addition, nurses are becoming more respected by health professionals such as physicians at medical facilities, and there are also voluntary activities carried out such as the formulation of medical teams under the initiative of nurses. Further, nurses trained in the project are now starting to give instructions on the area of reproductive health as the instructors for regional cooperation. In the future, it is expected that the introduced training program further takes root in other departments based on the self-help efforts of the Ministry of Health of El Salvador, resulting in the continuation and development of midwifery education to nurses not only in the western area but throughout the country. The bilateral cooperation will be terminated as planned.

3-6. Recommendations

<Regional cooperation>

- (1) Formulation of activity plans for accomplishing the training and monitoring/evaluation (recommendation to the project and to the ministry of health of each country)
- (2) Thorough implementation of training to the basic education instructors for nursing process, regional nursing, collaboration between education and on-site training and reproductive health, ensured by the regional committees (recommendation to the project and to the ministry of health of each country)
- (3) Continuation of activities towards the standardization of nursing education (preparation of curriculums) (recommendation to the project in Guatemala and Nicaragua and to the ministry of health of each country)
- (4) Promotion of reflecting the elements such as the “nursing process,” “regional nursing,” “collaboration between education and on-site training” and “reproductive health” in health policies; continuous operation of central and regional committees and permission by the ministry of health for participating in the activities of each committee (recommendation to the ministry of health of each country)
- (5) Support for the preparation of training manuals and guidelines on each theme and the standardization of models (recommendation to the ministry of health of each country)
- (6) Implementation of training and the continuation of monitoring/evaluation utilizing the internal and external resources based on self-help efforts of each country (recommendation to the ministry of health of each country and to the project)

- (7) Continuous training of instructors for each theme and their utilization in each country (recommendation to the project and to the ministry of health of each country)
- (8) Support for the information exchange among the officials of each country through the continuous holding of video conferencing (recommendation to JICA)
- (9) Further diffusion of education to the basic nursing education instructors, and the consideration of the utilization of regional communities and south-south cooperation (recommendation to the ministry of health and institutions for the development of nursing human resources of each country, to the project and to JICA)
- (10) Expansion of the nursing network in the region to areas other than nursing (i.e. formulation of medical team in response to emergency) (recommendation to the ministry of health and of each country, to the project and to JICA)

<Bilateral cooperation>

- 1) Formulation and implementation of plans for the continuous education training, monitoring and evaluation in the area of midwifery for nurses (provided by the Nursing Division of the Ministry of Health), assuming the nationwide development in the future) (recommendation to the Western region of health, to the Ministry of Health and to the project)
- 2) Implementation of training, monitoring and evaluation in the western area and the securing of funds for continuous implementation; maintenance of educational materials, supplied materials and equipment and training facilities (recommendation to the Western region of health, to the Ministry of Health and to the project)
- 3) Preparation of an operational and management manual for continuous education by the Continuous Nursing Education Steering Committee in the Western Area in the future (recommendation to the Western region of health, to the Ministry of Health and to the project)
- 4) Capacity development of instructors in the area of reproductive health in the regional cooperation and the reinforcement of their role to promote information sharing (recommendation to the Western region of health, to the Ministry of Health and to the project)

3-7. Lessons learned

<Regional cooperation>

- 1) Efficient and constant creation of the human resources development framework through the establishment of central and regional committees and the effectiveness thereof
Upon the development of the project within each country, the successful example of the Project for Strengthening Nursing Education implemented in El Salvador in the past (which established the central and regional committees, developed instruction through the cascade system from the central level to the regional level, and from the regional level to the individual nursing education

instructors in the region, to achieve the establishment of a system and thorough instruction for the basic nursing education) should be taken into consideration. Under such framework, each country made approaches through the establishment of central/regional committees for each theme, and a system to develop high-quality nursing human resources at low cost has been developed not only at the central level but also at the regional level. In order to realize the fixation of constant activities throughout the country, it is inefficient and is also poor from a continuity basis to implement training and to try to diffuse the output only from a single source (at the central level). Thus, the activity strategy based on this central/regional committees system contributed to the successful development of the project.

- 2) Reinforcement of the development activities through the participation by health ministers in the project

In this project, covering the extensive region including five countries, officials at the level of health minister, who are the project directors of each country, participated in the JCC. This resulted in raising the awareness of and commitment in the project activities at the top level of the governments.

- 3) Utilization of communication tools, maintenance of motivation through on-site instructions given by the experts on a regular basis, and the formulation of the sense of cooperation and competition among the countries

This project constantly utilized remote communication tools such as Skype and video conferencing systems. At the same time, thorough on-site instructions were given through frequent visits by Japanese and Salvadoran experts to each country. Consequently, it succeeded in establishing communication among the relevant parties, which may become rather shallow in a project covering five countries, and in obtaining the opportunity to share questions, uncertainties and best practices on a daily basis.

- 4) Effective and efficient utilization of the resources of third countries

This project utilized the human resources of third countries, namely from El Salvador, Mexico and Paraguay. They are primarily the human resources developed in the past JICA projects. Compared with experts from developed countries such as Japan, there are advantages such as cost efficiency, effective instructions given in the same language as that of the beneficiaries, and the beneficiaries being able to receive instructions from human resources from countries with a similar environment. Thus, the C/P of the beneficiary country had a stronger realization of the efficiency.

- 5) Effectiveness of instructions through practice-oriented training program

This project prioritized the practice-oriented training and the implantation of practical work by the trainees themselves after the training for developing the capacity of nursing education instructors. In the past, nursing education instructors used to give instructions to the nursing

students solely relying on the theory and without the practical experience, and therefore the new graduate nurses were observed as not being able to accurately apply even the basic nursing skills to the patients in many countries. However, with the nursing education instructors practicing by themselves after receiving the practice-oriented training, they became able to provide effective and convincing instructions to the students.

6) Effectiveness of utilizing the single project design matrix (PDM) in an extensive project

While this project is an extensive project covering five countries, human resources and levels vary widely among different countries. Thus, there had been a discussion on whether to operate the project by preparing PDMs separately for each country or by preparing a single PDM common to all five countries, but, in the end a common PDM for all five countries was introduced. As a result, relevant parties of all five countries shared the same information on the purpose, activities, progress and issues from a same standpoint, which worked to develop the sense of cooperation and competition, and contributed to an effective project operation and implementation of activities.

<Bilateral cooperation>

1) Smooth implementation of activities based on the past project outputs (committees system)

Similarly to the regional cooperation, this project introduced the method of giving instructions from the central level to the regional level, and from the regional level to the individual nursing education instructors in the region, which is the system utilized in the Project for Strengthening Nursing Education implemented in El Salvador in the past. The smooth implementation of the project activities was possible based on the experiences of the successful case in the past.

2) Changes in the recognition of nurses among physicians according to the improvement of the capacity of nurses

With the improvement of skills of and services provided by nurses who went through the training program, evaluation among the pregnant women is improving. In addition, nurses are becoming more respected and evaluated highly by health professionals such as physicians at medical facilities.

3) Hearing the sound of the heart of the baby in the womb securely with the Doppler instrument and developing the feeling of affection among mother and her family towards the baby

The project provided Doppler ultrasonic instruments. Through the utilization of the state-of-the-art equipment that is not usually utilized on-site, it became possible to hear the sound of the heart of the baby in the womb securely during pregnancy examination and at the time of delivery. The importance of this fact was recognized by the relevant parties. At the same time, the equipment provided an opportunity for mothers and their families to confirm the sound of the heart of the baby in the womb, which had the effect of developing the affection of mother and her family towards the baby and further strengthening family ties.

4) Improvement of the quality of pregnancy care through the formulation of a medical team under the initiative of nurses

Nurses who underwent training by the project recognized the importance of improving the quality of pregnancy care in the medical facility as a whole. They motivated other health professionals to formulate a medical team for the improvement of pregnancy care, and voluntarily started to improve the quality of pregnancy care.

