

Simplified Ex-Post Evaluation for Grant Aid Project

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Project Name	The Project for the Improvement of Educational Equipment of Nursing	January 2010 – December 2010

I Project Outline

Country Name	Republic of Nicaragua	
Project Period	November 2004-March 2006	
Implementing Agency	Ministry of Health, National Autonomous University of Managua, National Autonomous University of Nicaragua, León	
Project Cost	Grant Limit: 242 million yen	Actual Grant Amount: 201 million yen
Main Contractors	Sirius Corporation	
Main Consultants	International Techno Center CO., Ltd.	
Basic Design	“El Estudio de Diseño Básico del Proyecto para el Mejoramiento de los Equipos Educativos de Enfermería en la República de Nicaragua”, Japan International Cooperation Agency (JICA) and International Techno Center Co., Ltd., Octubre 2004	
Related Projects (if any)	“El Proyecto de Fortalecimiento de la Educación Básica y Permanente de Enfermería en el Salvador, Guatemala, Honduras, Nicaragua y República Dominicana”	
Project Background	In Nicaragua, 9 out of 11 schools of nursing are placed either in national universities or under the control of the Ministry of Health. With the progress of medical technology, nurses are required to acquire advanced knowledge and skills. However, due to the delay in responding to such changes and the aging of medical equipment, nurses were unable to acquire necessary knowledge and skill through appropriate practical training.	
Project Objective	To provide nursing schools of national universities or the Ministry of Health with nursing educational equipment, in order to improve their practical training/education, to rectify the gap in educational environment between nursing schools and to raise the standard of medical services to be provided by nurses.	
Output[s] (Japanese Side)	<ol style="list-style-type: none"> 1. Procurement of equipment for nursing education (*) 2. Giving technical advice to teachers on how to teach students by making advantages of nursing equipment provided and also on how to maintain them. (*)Equipment procured: Multipurpose patient training mannequins; Newborn training mannequins; Expectant mother training mannequin; Intramuscular injection simulators; Uterine cervix dilation simulators; Intravenous injection simulators; Practical obstetric training sets; Vital signs examination sets; Electrocardiographs; Incubators; Beds, etc.	

II Result of the Evaluation

Summary of the evaluation
<p>This project covered the following 9 nursing schools of national universities (1-4) or under the control of the Ministry of health (5-9): 1. Nursing School of the Health Technology Institute, Managua National Autonomous University (hereinafter referred to as MNG); 2. Nursing School, MNG Juigalpa (No replies obtained); 3. Nursing School, MNG Matagalpa (MTG); 4. Nursing School of Medical Department, National Autonomous University of Nicaragua, León (Leon); 5. Jinotepe Nursing School (JTP); 6. Puerto Cabezas Nursing School (PC), 7. Blue Fields Nursing School (BF); 8. La Trinidad Nursing School (TRD); 9. Ocotal Nursing School (OCT). Through this project, nursing training/education equipment was provided to these schools and the instruction and guidance were given to their teachers on the operation and maintenance of these equipments and on the methods of teaching using them.</p> <p>Compared with other Latin American countries, Nicaragua is lagging behind in improving health and medical services, and fostering of medical professionals, especially nurses, is urgently needed. This project intended to suitably meet the needs and policies of both the target country and Japan. By the provision of training equipment as well as implementation of the technical guidance as a soft component of this project, the lesson contents by teachers were improved, the understanding of the students deepened and the level of their nursing skill was raised. Thanks to the higher level of nursing education thus made available to local areas, more students were now enrolled in local nursing schools, who otherwise had to leave home to go to other nursing schools. Also, owing to the technical guidance of this project, the nursing training equipment provided have been well maintained by the good operational and maintenance methods instructed to the teaching staff, and most of the equipment is still used in good condition. On the other hand, when repair work is necessary, not all equipment is repairable due to the constraint of the school budget, and consumables or spare parts are not always replenished in a timely manner. While there is only one equipment out of order and not in use, we need to strengthen the system for their operation and maintenance to ensure higher sustainability.</p> <p>In light of the above, this project is evaluated to be highly satisfactory.</p> <p><Recommendations> <Recommendation to the nursing schools (Leon, PC and MTG)> Some cases have been reported, in which teachers could not figure out how to use their nursing training equipment. Supplementary instruction and guidance is desired on how to use them (including the method of teaching), by the two teachers at each nursing school who took part in given technical guidance in this project. (At Leon nursing school:Enf.Joba Fanny Jaime and Enf.Nubia Meza, at PC nursing school:Enf. Darling Welter Sam and Enf. Rubén Abelardo Ceferino , and at MTG nursing school:Enf.Aura Marina Vargas and</p>

<Constraint in making evaluation>

As the reply was not sent in by one of the 9 nursing schools covered by this project to our questionnaire, this evaluation has been made based on the information obtained from the remaining 8 schools.

1 Relevance

(1) Relevance to the Development Plan of Nicaragua

The “National Development Plan (Plan Nacional de Desarrollo 2003)” at the time of planning this project set the improvement of health and medical service as the challenge in its chapter “Toward integral and sustainable social policy.” As one of the ways to achieve it, the “Plan of Development of Nursing 2004-2007 (Plan de Desarrollo de enfermería 2004-2007) was laid out, which pointed to the necessity of capacity building of nurses, who are able to respond to the technical and scientific demands of the people. Even now, in the “National Plan of Human Development (Plan Nacional de Desarrollo Humano (2008-2012))”, “development and equality in society” is set as one of the national goals. Nicaragua regards the fostering of health and medical professionals and technical workers (including nurses) capable of responding to the needs of the nation as the urgent issue, so that every person can enjoy quality health/medical services free of charge.

(2) Relevance to the Development Needs of Nicaragua

At the time of the planning, the improvement of the low health/medical indicators (mortality rate of pregnant and parturient women, infants, under-five, etc.) was seen as an important national agenda, but human resource in the area was insufficient both in quality and quantity. Especially in the field of nursing education, lack of laboratory training, gap between educational contents and actual situations, and lack of funds were viewed as problems. Still now, in Nicaragua’s national policy on health (Política Nacional de Salud), the necessity of training medical professionals capable of providing medical service to meet the needs of the nation is emphasized, and the Ministry of Health also sees the aging of nurses and unskilled nursing practices as problems. The importance of fostering young nurses and improvement of overall nursing skills are emphasized. The challenge for each nursing school is the lack of laboratory training opportunities, educational equipment and reference books on nursing.

(3) Relevance to Japan’s ODA Policy

“Assistance Policy on Nicaragua (2002)” at the time of planning the Project designated the “field of health and medical services” as one of the priority areas of support. Special emphasis was laid on the development of local human resources and community participation in the field of medical and public health (including nursing management and nursing education).

In light of the above, the implementation of this project was fully in accordance with Nicaragua’s development policy, development needs and Japan’s ODA policy, and therefore evaluated to be highly relevant.

2 Efficiency

(1) Project Output

Outputs from the Japanese side were generated as planned. The technical training on the method of teaching making use of the equipment provided was also implemented as scheduled in most cases.

(2) Project Period

It took 14.7 months to complete the Project (101% of the time planned), almost according to the plan of 14.5 months.

(3) Project Cost

The actual cost was 2.01 million yen (87% of the plan), as opposed to the planned cost of 2.42 million yen. Due to the fair bidding, the procurement was made within the estimated price.

The project cost was within the plan and the project period was almost as planned; therefore the efficiency of the Project is high.

3 Effectiveness / Impact

(1) Effectiveness (quantitative effect)

As opposed to the target of 100% students’ completion of laboratory classes on the care of pregnant and parturient women, the delivery assistance and the care for newborn baby, in 6 nursing schools, 100% completion was achieved. Therefore the target has been met by the schools covered by the Project. (Confirmation was not obtained from 2 schools, which did not give the figure in their replies.)

(2) Expression state of indirect effects and other positive/negative indirect effects

Following effects were confirmed by the nursing schools: 1) After the implementation of the Project, the number of students of each nursing school increased in 6 schools. (MNG: 431 students → 743; MTG: 31→258; Leon: 161 →176; JTP: 459→480; PC: 132→176; BF: 70→ 225) (No answer was given by 2 schools.) 2) Some schools reported that students who had to leave home to get nursing education would now go to local nursing schools. This seems to be one of the reasons for the increased number of students. 3) As more laboratory classes are included in the curriculum, teachers are giving lessons in more hands-on forms. Especially, as they can connect theories with practices, students are able to understand the subjects more deeply and acquire the knowledge more firmly. Students are also more positively participating in the classes and their motivation and interest is increasing. 4) According to the observation of teachers, laboratory classes have helped students acquire nursing skills more accurately. 5) In giving actual nursing service after their graduation, students are able to face patients with greater confidence, which they have acquired through the laboratory classes in their

schools. They are also more careful in treating patients.

In light of the above, as the result of the implementation of the Project, we can observe the expression of effects mostly in accordance with the original plan; therefore effectiveness of the Project is high.

4 Sustainability

(1) Structural Aspects of Operation Maintenance

The maintenance of the nursing educational equipment is done by the teachers who give lessons using the equipment, or by someone (designated teachers) in charge of the laboratory room. Nursing educational equipment in the preparation room next to the laboratory room is used by the teacher who actually give lessons, and is checked, cleaned and stored by the same teacher after use. Where a teacher is appointed full-time for the work of the preparatory room, that teacher is in charge of maintenance of the equipment. No particular problems have been reported so far over the structure of the operation maintenance.

(2) Technical Aspects of Operation Maintenance

In 7 out of 8 respondent schools, they set the necessary qualifications (bachelor's degree, master's degree, experience in actual nursing, experience in teaching, etc.) in employing teachers of nursing. After employment, senior teachers give training to the newcomers on the teaching methods using nursing education equipment over the period of several hours to 1 week (depending to schools). Out of 19 teachers who directly participated in the technical guidance of the soft component by the Project, 18 teachers are still working in the schools. The turnover ratio of teachers in these schools is generally low and the technical capability is maintained at each school. (The turnover ratio of 6 schools that replied to the questionnaire is below 20%. Others did not reply.) Except for 3 schools that reported such problems as new teachers not being able to handle the equipments, these schools are making good use of the equipment manuals and have no technical problems on the use of the equipment.

(3) Financial Aspects of Operation Maintenance

In 3 schools out of the 8 respondent schools, the budget from the national government increased during the period of 2003 – 2009. (TRD:Nicaraguan Cordoba Oro (hereinafter referred to as NIO) 1,062 (USD70) → NIO1,835(USD93), PC:NIO537(USD35) → NIO1,421(USD72), BF:NIO1,734(USD114)→NIO2,613(USD133) Unit: either 1000 NIO or 1000 USD) Two schools out of these 3 reported that the budget is not enough, as the expenses also increased. Three schools out of the 5 that did not give concrete information on the amount of the budget also reported that the budget is not enough. (2 schools did not respond.) In 6 schools out of the 8 respondents, problems have arisen over the replenishment of consumables or spare parts and the repair of the equipment.

(4) Current Status of Operation Maintenance

On simple equipment, daily checking is basically conducted and repair work is carried out when necessary, therefore most of the equipment is in good use. Regarding advanced equipment, in some schools, daily checking is not conducted due to the lack of technical staff or other reasons (OCT, TRD, PC, Leon). Except for one (Cardiograph in OCT), which is out of order and not in use, all equipment continues to be used. In the technical guidance as a soft component by the Project, the Nine Rules (***) were laid out in the operation maintenance of the equipment. Except for one school, where such rules are partially not observed, all rules are well observed. Regarding the replenishment of consumables and spare parts and repair of the equipment, more than half of the respondent schools have designated supplying agents, acknowledger of the application, persons in charge of ordering or contracts. But due to the constraint in their budget, not all the applications for purchase or repair are approved within the school. For example, regarding the securing of designated 18 parts important for maintenance, 2 schools answered that all parts are available, while 3 schools indicated that about half (7 – 10 items) of the parts are difficult to secure and the other 2 schools said they have difficulty in securing all of them. Also, about half of the respondent schools answered that their internal procedure takes too much time to secure these parts in a timely manner. Regarding the function of the agents, 3 schools out of the 5 that gave the relevant information said their local agents provided repair work, while the Local Health and Medical Service System (SILAIS) provides repair work for one school.

In light of the above, mild degree of problems is recognized in the financial aspect of the Operation Maintenance; therefore the sustainability of the effectiveness expressed in this project is fair.

(*)Foreign exchange rate : US1=NIO15.16 (2003), US1=NIO19.63 (2009)

(**) Nine Rules: (1) Storage need ventilation and humidity should be excluded; (2) After use, equipments have to be cleaned and returned to original place with the original number; (3) Equipment used with artificial blood or other liquid requires water removal and one day dry; (4) Person in charge has to be assigned for storage and laboratory room; (5) Mannequin and simulator should be covered by cloth; (6) equipments and laboratory room can be used submission base of application form; (7) Schedule, teaching staffs who accompany, equipments to be used, subject, lab theme has to be described on the application form; (8) Operation manual has to be read before use; (9) Manuals are accompanied when the equipments are lent.