

I. Outline of the Project		
Country : Republic of El Salvador		Project title : The Project for the Strengthening of Teaching Quality of MEGATEC La Union
Issue/Sector : Technical and technological education		Cooperation scheme : Technical Cooperation
Division in charge : Economic Infrastructure Dept.		Total cost : 20.7 million JPY
Period of Cooperation	(R/D) : October 2008	Partner Country's Implementing Organization : Ministry of Education of El Salvador (MINED) MEGATEC La Union
	(Extension) : (F/U) :	
Related Cooperation :		
<p>1. Background of the Project</p> <p>The Republic of El Salvador (hereinafter referred to as “El Salvador”) has small national land, compared to the number of population, and limited natural resource. That is why human resource development, especially training of technicians in the service industry, is a key for future development in the country. Especially, in the eastern region which is affected by the civil war, economic and social development is still behind, and the Port of La Union, constructed by the Japanese Yen Loan, is expected to be a trigger of development of commercial and tourism industry in this region. Besides, with the open of the Port of La Union, human resource development in the area of Port Administration and Operation (hereinafter referred to as “AOP”) and in regional industry is an awaiting solution for development in the eastern region.</p> <p>On the other hand, the Ministry of Education El Salvador (hereinafter referred to as “MINED”) set forth human resource development and strengthening of competitiveness in the long-term policy, “National Education Plan 2021”, published in March 2005. As a concrete measurement, “MEGATEC program” was announced. This Program has a main goal to strengthen the system of technical education from high schools to colleges, and established curriculum of high technical education, referred to specific character of each region.</p> <p>Under this background, MEGATEC La Union, whose goal is human resource development for the Port of La Union and regional industry in surrounding areas, was constructed by collateral fund (見返り資金) of the World Bank and the Japanese government. MEGATEC La Union established four technical careers and started to accept the first promotion in February 2006<sup>4</sup>. While teachers with specialization were secured and classes started, it is hard to say that didactical competences of teachers are sufficient. In addition, didactical materials and curriculum for technical careers of Logistic and Custom (hereinafter referred to as “LyA”) and AOP, which are new technical careers for ITCA-FEPADE managing MEGATEC La Union, were undeveloped. Because of this, in August 2008, the technical cooperation whose objective is to improve the teaching quality of MEGATEC La Union was requested to the Japanese government.</p>		

<sup>4</sup> At present, there are seven technical careers.

## 2. Project Overview

### (1) Overall Goal

Human resources at the technical or higher level are produced for development in the eastern region.

### (2) Project Purpose

Academic and technical education imparted at MEGATEC La Union has been improved in order to respond to development in the eastern region.

### (3) Outputs

Output 1 : Didactical competences of the teachers in MEGATEC La Union have been strengthened for performance in all technical careers.

Output 2 : Functions of Assistance for Students (A/S) of MEGATEC La Union have been improved to facilitate the promotion and placement efficiently.

Output 3 : Technical competences of the teachers at MEGATEC La Union have been strengthened for performance in technical careers of LyA and AOP.

### (4) Inputs

**Japanese side** : Total Cost JPY 20.7 million

Long-term Expert Two    Equipment USD 48,189.89

Short-term Expert Three    Local cost USD 102,062

Trainees received In total 22

**Salvadoran Side** :

Counterpart 13    Land and Facilities : Classrooms in MEGATEC La Union, Project office etc.

## II. Evaluation Team

Members of Evaluation Team	Taiji Kawakami : Executive Technical Advisor, Economic Infrastructure Dept. JICA Ryouichi Kawabe : Assistant Director, Economic Infrastructure Dept. JICA Yuki Fukuda : Consultant, Binko International Ltd.
----------------------------	--

Period of Evaluation	23/10/2011 ~ 11/11/2011	Type of Evaluation : Terminal
----------------------	-------------------------	-------------------------------

## III. Results of Evaluation

### 1. Achievement of Outputs

#### (1) Output 1

**[Indicator 1] A Manual of the new didactical methodology is elaborated.**

**[Indicator 2] Training related to the new didactical methodology are given by the counterparts at least twice.**

**[Indicator 3] At least 80% of full-time employed teachers of the MEGATEC La Union have been trained in the new didactical methodology.**

At the terminal evaluation, a manual of the new didactical methodology was completed. In elaborating this manual, personnel from MINED and ITCA-FEPADE Headquarter.

The pilot training for teachers was implemented in July 2011. Fifteen teachers (twelve from

MEGATEC La Union : 6 full-time employed teachers and 6 part-time employed, three from ITCA-FEPADE San Miguel) participated in this training. After the pilot training, evaluation of the training was carried out. Based on the evaluation, the manual was revised. With the revised manual, the second training for teachers will be implemented in December 2011. Prospective participants are 15-20 full-employed teachers in MEGATEC La Union.

As mentioned above, the manual of the new didactical methodology was elaborated (achievement of indicator 1), and the training related to the new didactical methodology will be given by the counterparts twice (possibility of achievement of indicator 2). If given, it is possible that 80% of full-employed teachers (23 out of 29 teachers) will be trained (possibility of achievement of indicator 3). Hence, at the completion of the Project, it is probable that didactical competences of the teachers in MEGATEC La Union be strengthened for performance in all technical careers.

(2) Output 2

**[Indicator 1] A Promotional Pamphlet, which is adapted to the situation of MEGATEC La Union, is elaborated.**

**[Indicator 2] The number of applicants is maintained at least 50% of the maximum capacity (1,000) of MEGATEC La Union.**

**[Indicator 3] Events for improvement of the placement program of MEGATEC La Union are held at least four times.**

According to the Project documents, in order to improve the function of A/S, the core group for output 2, including personnel of A/S, reviewed and analyzed its functions. Through this analysis, improvement and weak points were identified and the action plan for the promotion and the placement was developed.

A Promotional Pamphlet had been elaborated for six months in collaboration with teachers, students, graduates in MEGATEC La Union, ITCA-FEPADE, MINED, and related companies, and has been distributed since September 2010. Apart from elaborating the Promotional Pamphlet, some activities for the promotion were implemented, such as making DVD for promotion, School Guidance and open campus.

The number of applicants for 2011 is 998, which is increased twice as much as that of the year or 2010 (349). Besides, at the beginning of November 2011, there are 505 applicants for 2012, which results from activities for promotion.

Four events for improvement of the placement have been already implemented (in September and November 2010, and in April and May 2011). In addition, the Guide of Placement was elaborated for distributing in the seminar on the Placement. Apart from organization of events, as the activity for the Placement, the database system for follow-up graduates has started to be established.

As mentioned above, the Promotional Pamphlet was elaborated (achievement of indicator 1), and the number of applicants will be maintained over 500 (achievement of indicator 2). Besides, events for improvement of the placement were held four times (achievement of indicator 3). Therefore, it is possible that functions of A/S of MEGATEC La Union are improved to facilitate the promotion and placement efficiently.

### (3) Output 3

**[Indicator 1] A plan of training for the strengthening of technical competences of the teachers in the careers of LyA and AOP is elaborated.**

**[Indicator 2] Didactical materials of the careers of LyA and AOP are reviewed at least twice.**

A plan of training for the strengthening of technical competences of the teachers in the careers of LyA and AOP was elaborated by Japanese short-term experts and the core group for output 3, based on grasp of present situation of each career (class observation and verification of teaching materials); and opinions from graduates, personnel of the Port of La Union and other related companies. On the basis of the Plan, the custom-made training had been carried out in Japan for 51 days from June 17, 2011 to August 6, 2011, and six teachers in the career of LyA and AOP had participated in the training. Apart from this custom-made training, the total of three teachers were dispatched to Japan for taking part in ready-made trainings.

Didactical materials of the career of LyA and AOP, referred to contents of lectures and materials obtained in Japan, are reviewed with support by Japanese short-term experts. Some concrete review points are identified, such as increasing visual information (e.g. chart, photos and illustration) and adding new themes which had not been adopted.

As mentioned above, a plan of the training for teachers in the career of LyA and AOP was elaborated and the training was implemented (achievement of indicator 1). In additions, didactical materials will be reviewed by participants of trainings in Japan at the end of the Project. Hence, it is possible that technical competences of the teachers at MEGATEC La Union are strengthened for performance in technical career of LyA and AOP.

### 2. Achievement of Project Purpose

**[Indicator 1] Among graduates, of the MEGATEC La Union, who are employed, at least 80% of them are placed in the eastern region.**

**[Indicator 2] The satisfaction level of the companies in the eastern region that employ graduates of the MEGATEC La Union marks more than 80%.**

Among all employed graduates in each promotion, the rate of those who work in the eastern region is 76% for the 3<sup>rd</sup> promotion, and 82% for the 4<sup>th</sup> promotion. Especially, over 90% of the graduates from the career of LyA and AOP work in the eastern region.

According to the investigation implemented in October 2011 to companies employing graduates<sup>5</sup>, it is confirmed that all companies (15 companies) have high level of satisfaction. The following chart shows the result of the investigation.

---

<sup>5</sup> Follow-up surveys by ITC-FEPADE for the graduates and companies are conducted at the moment when it pasts one and half years to graduate. The graduates targeted for the survey of 2011 is the 3<sup>rd</sup> promotion (graduation in April 2010) .

Chart : Questionnaire survey of the companies employing the 3<sup>rd</sup> promotion<sup>6</sup>

	Excellent	Very good	Regular	Bad
How do you think of human resource development by ITCA-FEPADE?	15%	85%	0%	0%
How is working attitudes of the graduates?	21%	79%	0%	0%
The relevance between human resource development which the graduates received and actual duties of companies.	21%	72%	7%	0%

Reference : Questionnaires survey by A/S

According to data obtained at the present, as indicator 1 and 2 have been already fulfilled, it can be mentioned that the Project Purpose is almost achieved.

Furthermore, it should be considered that all companies responded to the questionnaires are those related to AOP. This is because graduates from other technical careers have already left their jobs, which leads to the difficulty in following them. Henceforward, it is desirable that the follow-up survey be strengthened in order to grasp the need of companies.

### 3. Achievement of Overall Goal

#### **[Indicator] Percentage of human resources at the technical or higher level increases in the eastern region.**

Since 2006 when MEGATEC La Union founded, it produces human resources at level of technicians every year. At the moment of the final evaluation, there are 488 second-year students, and they will graduate from MEGATEC La Union in April 2012. As teachers will begin to teach students with the new didactical methodology and the career of LyA and AOP will use revised materials, it is expected that graduates received better education will be produced.

As mentioned above, it enables MEGATEC La Union to develop human resources at level of technicians every year, and to produce them constantly. Therefore, the Overall Goal will be achieved in the future.

### 4. Summary of Evaluation Results

#### (1) Relevance : Very High

In the National Development Plan, “Plan Nacional Quinquenal de Desarrollo 2010-2014”, six priority development areas are presented. Out of them, revitalization of the economy and creation of employment is related to the Project whose objective is assistance of regional development in the eastern region through human resource development.

The long-term education policy, “Plan Nacional de Educacion 2021”, announced by MINED in 2005 has four goals, and development of technico is indicated as one of these goals. The concrete measure is MEGATEC Program (increment and strengthening of demand for technical careers in higher education).

<sup>6</sup> Questionnaires for companies employing the graduates are common to all institutions managed by ITCA-FEPADE. The satisfaction level is evaluated with some questions related to satisfaction.

The eastern region where MEGATEC La Union is located had been affected by the Civil War, and economic and social development still falls behind. On this account, economic and industrial development in the eastern region and employment security are required. It is expected that MEGATEC La Union produce human resources in the eastern region, such as in tourist industry, fishing industry, LyA and AOP. On the other hand, although MEGATEC La Union started its curriculum in 2006, didactical competences of teachers was not sufficient, and didactical materials and curriculum of LyA and AOP, new-established technical careers, were not elaborated. Therefore, MEGATEC La Union was required to improve keeping step with the development of the Port of La Union.

According to the country data book El Salvador 2010 published by the Ministry of Foreign Affairs, one of basic guidelines for technical cooperation is regional development emphasized in the eastern region. Besides, out of four prioritized areas, “revitalization of economy and expansion of employment” and “social development” are relevant to the Project.

As mentioned above, the Project is consist with Salvadoran governmental policies, the development needs and the Japanese development cooperation policy; therefore, it can be evaluated that the relevance of the Project is very high.

## (2) Effectiveness : Intermediate

The Project Purpose is almost achieved, as described in 2. Achievement of the Project Purpose. However, in the survey of satisfaction of companies implemented in October 2010, limited companies (those related to AOP) responded to questionnaires. This is because most of graduates have already left their jobs, which results from great mobility of human resources in El Salvador. Another considering point is the target of the survey. The result of this survey is that of the evaluation targeted to graduates from MEGATEC La Union before April 2010 and companies employing them. As they graduated from MEGATEC La Union one year after the start of the Project, in order to confirm appropriately outputs of the Project, it is necessary to implement continually the survey.

Additionally, at the beginning of the Project, the expansion of employment in the surrounding region was expected through opening of the Port of La Union. However, due to the delay of the open of the Port of La Union, one of the important assumptions, which is “there is a need for human resources as the number of graduates grows”, has not been fulfilled. That is why it is hard to say that the industry of regional development in the eastern region is revitalized, and the regional needs have not been clear at the present. Fortunately, as the regular liner has entered service to the Port of La Union once a week since September 2011 and the regional industry is growing little by little, it is important for MEGATEC La Union to reflect its curriculum, based on monitoring of trend of the regional industry.

As the contributing factors to the Project, high commitment to the Project by C/P and appropriate monitoring, such as periodical meetings and modification of Plan of Operation(hereinafter referred to as PO) were recognized. Besides, no obstacle to achieve the Project Purpose is identified.

Considering these situations, at the present, while the Project Purpose is almost achieved, in order to confirm outputs more appropriately and to reflect the trend of regional industry to curriculum of MEGATEC La Union, continual monitoring is essential; therefore, it is evaluated that the Effectiveness is intermediate.

### (3) Efficiency : High

The plan of inputs indicates that two longer-term experts are dispatched, and they are appointed during the Project as planned. Although the short-term experts were also appointed, the timing of the appointment was later compared to the plan because it took more time to find experts in Japan. To solve this late appointment, PDM and PO were revised. As a result of this revision, the Project proceeds following the revised PO, and achievement of outputs were not affected by the late dispatch of short-term experts.

During the Project, C/P is always assigned. Those from MEGATEC La Union were divided into three core groups and implement activities of each output. According to documents of the Project, while some C/P were changed due to resignation, this replacement of C/P has not affected activities of the Project. Some reasons are recognized, such as implementation of activities by each core group and high commitment of new C/P to the Project.

At the terminal evaluation of the Project, a total of 22 persons participated in trainings held in Japan or the third country. Of them, four persons were resigned at the terminal evaluation. However, one of them continues to implement training for other personnel of MEGATEC La Union. According to questionnaires for ex-participants (responded by nine), trainings were evaluated very positive and all of them answered that they can put contents of trainings to account for present duties.

As described above, although there were some problems such as the late dispatch of Japanese short-term experts and change in C/P members, activities of the Project have not been affected too much due to appropriate solution taken. Hence, the efficiency of the Project is high.

### (4) Impact : High

Practice of the new didactical methodology developed by the Project and implementation of classes using revised materials for the career of LyA and AOP will continue after the completion of the Project. Through this, human resources at the technical or higher level, which receive high quality of education, will be produced.

By implementing the Project, following unexpected impacts were recognized :

- The new didactical methodology of MEGATEC La Union, developed as an output of the Project, is highly evaluated by ITCA-FEPADE Headquarter. As a result, ITCA-FEPADE Headquarter recommends to implement the training of this new didactical methodology not only in MEGATEC La Union but also all institutions managed by ITCA-FEPADE.
- The Committee of Student Assistance (in Spanish, Comite de Apoyo Estudiantil) was established, which is consisted of the Student Welfare Department and representatives of each technical career. The Committee is official one approved by the director of MEGATEC La Union.
- Collaboration between MEGATEC La Union and companies was established. Teachers, trained in Japan, in the career of LyA and AOP planned and implemented the training course for other teachers and personnel of related companies, and transmit knowledge and information obtained in Japan. Besides, one career established the committee with companies,

and they share needs of companies and contents of education. They will collaborate for revising curriculum of the career.

As indicated above, the Overall Goal will be achieved in the future, and some positive impacts are recognized; therefore, impact of the Project is high.

(5) Sustainability : High

Human resource development at level of technicians and technologists in El Salvador is placed as one of the long-term national education plan by 2021. In addition, as the MEGATEC Program is a part of the national education plan, it is considered that MEGATEC La Union will continue to provide education in the future.

At present, MEGATEC La Union has 83 staffs in total, who are 66 teachers (29 for full-employed and 37 part-time employed), six staffs of education management, ten of school management, and seven for A/S. According to questionnaires, there are some concerns for lack of personnel of A/S (especially in promotion and the placement), and of teachers (especially for AOP). The number of personnel of A/S, which engages in promotion and placement, increased one to two, and the situation is improved little by little.

The budget of MEGATEC La Union is distributed by MINED. That is why its financial situation has been stable since 2006 when it opened. As long as the policy is not diverted, the budget will be allocated continually. According to the director of MEGATEC La Union, this budget is sufficient for managing the school. In addition, budget for activities developed by the Project, such as training of the new didactical methodology, and promotion and placement, are also allocated (referring from Action Plan 2012).

C/P has had already technique for the new didactical methodology because the core group 1 elaborated a manual, and implemented the training. The action plan for 2012 has been already elaborated, and the training of the new didactical methodology is included in this plan.

As for the promotion and the placement, some activities implemented in the Project (such as school guidance, collecting information of companies, visiting companies, follow-up survey of graduates and the placement seminar) is planned. Staffs for these activities are not only personnel of A/S but also coordinators of each career.

After the training in Japan, teachers in the career of LyA and AOP are revising materials actively. Revised materials will have been used since 2012, and it is expected that classes be implemented by these materials. As there is lack of equipment for practice in MEGATEC La Union, the practice class is held at the Port of La Union.

As mentioned above, there is no problem on policy and institutional aspect, operational aspect, financial aspect and technical aspect; therefore, the sustainability of the Project is high.

## 2. Factors that promoted realization of effects

### (1) Factors concerning to Planning

The factor that promoted realization of effects is not only technical assistance by Japanese experts but also that of trainings in Japan and the third country. Through them, teachers who tend to focus on the



school life could have experience in another country, and have new motivation to teaching. Some unexpected activities were recognized, for example teachers participating in trainings in Japan and the third country have lectures to institutions outside MEGATEC La Union (e.g. personnel of the Port of La Union).

#### (2) Factors concerning to the Implementation Process

During the Project, the periodical meeting has been held quite frequently, whose participants are C/P from MINED, ITCA-FEPADE Headquarter, MEGATEC La Union, Japanese experts and JICA El Salvador Office. It leads to the unexpected positive impact, such as diffusion of the new didactical methodology.

Additionally, with high commitment to the Project by C/P, changes in C/P members have not affected the Project.

### 3. Factors that impeded realization of effects

#### (1) Factors concerning to Planning

A problem on indicator of PDM was identified. As the great mobility of human resource in El Salvador (which is related with the retention rate of employment among the graduates) and a period when the C/P institution conducts the follow-up survey were not identified fully, it is impossible to evaluate appropriately the achievement of the Project Purpose at the completion of the Project.

#### (2) Factors concerning to the Implementation Process

Due to the delay of dispatch of short-term experts related to output 3, the PO was forced to modify.

### 4. Conclusion

It is possible that outputs of the Project will be achieved at the completion of the Project. While it is identified that the Project Purpose is almost achieved at present, it is necessary to grasp more accurate outputs and trend of local industry.

It can be concluded that “Relevance”, “Efficiency”, “Impact” and “Sustainability” are high. As for inputs, while some negative points are recognized, they did not affect in process of the Project due to appropriate monitoring and periodical meetings. Besides, the periodical meetings result in unexpected positive impacts. As development of human resources at level of technicians is prioritized in Salvadoran governmental policy, the institutional and financial sustainability are high. As C/P has actively participated in all activities of the Project and has initiative to implement them, technical sustainability is also high.

In order to grasp “Effectiveness” appropriately, it is essential to monitor the achievement of the Project Purpose in the future. It is expected that MEGATEC La Union maintain and develop its knowledge and experience obtained through the Project.

### 5. Recommendations

#### (1) Recommendations until the Project

To achieve outputs of the Project, the Project team and C/P are required to continue the following activities;

- To implement the training of the new didactical methodology for over 15 full-employed teachers (Output 1).
- To complete the establishment of data base system for follow-up of graduates and companies (Output 2).
- To complete the modification of teaching materials of LyA and AOP (Output 3).

#### (2) Recommendations after the Project

After the completion of the Project, in order to enhance the achievement of the Project Purpose and fulfill the Overall Goal, the followings are recommended.

- In order to produce technicians with constant level, it is desirable that the training of the new didactical methodology be expanded. During the Project, the training for full-employed teachers is focused on. However, in order to unify the quality of teaching in MEGATEC La Union, it is essential to implement the training for part-time employed teachers. In addition, it is useful that the training will be implemented for teachers of affiliated schools with MEGATEC LaUnion.
- In order to correspond to needs of regional development and companies in the eastern region, it is desirable to conduct the follow-up survey of graduates and companies employing them. It is expected that MEGATEC La Union will grasp information on graduates, making use of the data base system developed during the Project.
- It is recommendable that the career of LyA and AOP maintain and strengthen coordination with related institutions (such as private companies and CEPA). While MEGATEC La Union makes a point of practice training, it is hard to implement the training due to the limit of infrastructure (e.g. lack of necessary equipment). At present, the practice training will be provided in collaboration with related institutions. In the future, it is expected to have more coordination with them, such as dispatching part-time lecturers from these institutions.

### 6. Lessons Learned

#### (1) Periodical meetings with related institutions of the Project

The Project has held the meeting with MINED, ITCA-FEPADE Headquarters, MEGATEC La Union, and JICA El Salvador Office frequently in order to share information and knowledge. Accordingly, it was taken appropriate measure to prevent the delay of the Project and some unexpected positive impacts were observed.

#### (2) Grasp of possible Japanese inputs before the Project

During the Project, dispatch of short-term experts was delayed as compared to its original plan because it was difficult to encounter with experts concerning output 3. That is one of the reasons why PO should have been modified. To avoid this situation, before starting the project, it is important to

grasp whether Japan has enough resources (especially human resources) which will be input by the project.

### (3) Outputs and indicators of PDM

Although activities of the Project have been implemented actively, it is evaluated that the effectiveness of the Project is intermediate. It results from the setting of outputs and indicators of PDM without grasping sufficiently situations such as the area where there is great mobility of human resources and the period when the C/P institution implements the follow-up survey. The achievement of the Project Purpose hereby cannot be evaluated at the completion of the Project. It is necessary to set indicators of the achievement with understanding adequately the local situation.