

# Vocational Training Center

## Project Sites

### Asunción



## 1. Background and Objectives of Evaluation Survey

This evaluation upholds the Vocational Training Center (Centro de Entrenamiento Vocacional: CEV) as a representative example of human resources development cooperation to stimulate economic development in South America, and objectively assesses, from a broad, third-person perspective, the promoting and inhibiting factors of the effects of cooperation on training to cultivate mid-level engineers to form the foundation of economic development in South America. The objective was to draw lessons and recommendations for similar future project in the South American region, particularly for planning and implementation of human resources cultivation cooperation, which contributes to socio-economic development from an outside expert's point of view.

## 2. Evaluated Projects

Project for Construction of the Vocational Training Center (FY1977, Grant aid)

Vocational Training Center (February 1978-February 1983, Project-type technical cooperation)

## 3. Members of Evaluation Team

### Team Leader:

Mr. Takaaki NAGASAWA, Staff Writer and Deputy Editor, Commodity News Section, The Jiji Press Ltd.

### Evaluation Planning:

Mr. Aiichiro YAMAMOTO, Senior Assistant to the Managing Director, Office of Evaluation and Post-Project Monitoring, JICA

### Vocational Training:

Ms. Minako SATO, Oriental Consultants Co. Ltd.

## 4. Period of Evaluation

22 August 1998-5 September 1998

## 5. Results of Evaluation

### (1) General Evaluation

We appreciate how the CEV has been able to continue to

scrape up operating expenses despite the impoverishment of the Government of Paraguay, while there are some projects whose sustainability has not been sufficiently secured due to poor budgetary resources. In particular, the fact that "95% of the machinery and tools supplied by Japan 20 years ago is still running today," is nothing short of miraculous. Furthermore, this is happening not in Japan, but in Paraguay. No, we don't think that even Japanese treat equipment this carefully.

In terms of the instructors' low level of skills, because they have accurately grasped the fundamentals, they have arrived at a level where they will soon be able to catch up, if re-education is undergone at the site. While it is regrettable that the Paraguayan government has failed to renew machinery and increase instructors' skills, it is impossible to expect 100% perfection. Rather, the Paraguayan side deserves praise for the incredible achievement of having maintained the CEV.

The original purpose for establishment of the CEV, which was to cultivate basic technicians, has been satisfactorily achieved. Most of all, for individuals who come from rural areas, particularly young people at low income levels who have a burning desire to learn and those who have not been able to find satisfactory employment because for some reason or another were only able to graduate from primary school, the CEV has functioned as their gateway to success in society.

However, what are required in Paraguay at present are mid-level and high-level engineers rather than basic technicians. For this purpose, in September 1997 JICA began a five-year cooperation project entitled "Japan-Paraguay Skill Development Promotion Center" through the National Service for Professional promotion (Servicio Nacional de Promoción Profesional: SNPP). Through the promotion of electrification policies following the establishment of MERCOSUR and the completion of the Itaipu hydroelectric plant, the introduction of new technologies, the further development of factory automation and the spread of household appliances have progressed more than anticipated in Paraguay. Accordingly, the cultivation of engineers to respond to the rapid changes in the industrial structure has quickly become an important issue. It would be advantageous if a smooth transition from the CEV to the SNPP could be made. The issue for the Government of Paraguay is into what form to develop the CEV. The Paraguayan side faces obstacles to

good training results due to insufficient equipment.

## (2) Results of a Questionnaire Survey of Currently Enrolled Students

The CEV targets training "principally at unskilled people who have completed education above the primary level." The purpose of the training is to provide basic skills to those people in a short period of one year. In that one year, trainees work hard and do their best despite economic adversity, and, as long as they graduate, receive employment and manage to make a living. Particularly for students who come from low-income families, this is a good thing.

In a questionnaire survey conducted through this evaluation on 164 currently enrolled students, "because I want to acquire vocational skills" was the most popular reason for applying to the CEV. The philosophy of the CEV, when it opened its doors on 20 July 1979, was "to cultivate basic technicians that are able to survive in the labor market by providing vocational training within a short term of one year to individuals who for some reason or another had to leave school and only completed primary education." (Principal Piera). As far as what can be seen from the survey, this philosophy remains the same today. Of the current students, one was chosen from each of the school's nine courses, and they were interviewed in two groups. The following are examples of their responses:

- 1) "Because my family was poor, I came here to acquire vocational skills. The fact that the classes here are almost free is a big help. The highest costs are food expenses and the bus fare. There are fees for uniforms and other things no matter what school you attend. Since my parents don't have to pay very much, they are happy.
- 2) "My father had previously studied at the CEV, and now he works in an iron factory. I came here because my father told me to succeed him at the factory."
- 3) "I don't want to be assigned to military service. The good thing about the CEV is that I only have to spend three months in the army. There aren't any tuition fees and what's more, I can acquire vocational skills. I often say to my friends, 'In this day and age, you can hope for anything.' Everyone in this area and in Asunción knows about the CEV, but out in the country hardly anyone does. Vocational training itself is not well known in Paraguay. They should publicize it more."

## (3) The Trend Towards Younger CEV Students and the Resulting Change in Their Needs

Some aspects of the CEV have changed in the past 20 years. For example, the students are growing younger. Originally, students who were 40 or 45 received training along with students in their teens, but now, the vast majority of the students are teenagers. According to a questionnaire survey of the 164 currently enrolled students, 53 students, or one in three, were 17 years old. The next largest groups were 18-year-olds (35) and 16-year-olds (22). Excluding five students who were unaccounted for, the oldest student was a 25-year-old in the electronic maintenance course. According to Mr. Rolon, the team leader (counterpart) of the electrical work course, "Originally, there were students in their 40's, but today, these people have become parents. The knowledge that you can't get



The evaluation team interviewing school principal Piera (The Japanese flag is displayed in the principal's office at all times)



A scene depicting electrical work training

a job with a primary school education has spread throughout the country, and so many parents now think that you must by all means graduate from secondary school and high school. Now, the vast majority of our students have graduated from secondary school." Although the age of trainees was not regulated in the original plan, students are now required to be at least 16 to participate.

Additionally, although only a primary school education is required for admission, the entrance ratio of students with only a primary school education is relatively low. Because students must be 16 years old or older, and because there is an entrance examination, according to school principal Piera, "it would be difficult to enter the CEV having only graduated from primary school."

Technical education and vocational training in Paraguay have heretofore been divided into two clear concepts: that conducted by the Ministry of Education and Culture targeting recent graduates who have completed primary and secondary school education, and that conducted by the Ministry of Justice and Labor targeting workers 18 years of age and older who have already entered the labor force. However, according to SNPP director Jose Alberto Allo Acevedo, "the ministries were extremely inconsistent and disorganized at the time the CEV was opened."

Under the Ministry of Education and Culture there are vocational training centers like the CEV, technical high schools, and vocational high schools, and under the Ministry of Justice and Labor there is the SNPP. The methods and objectives of the two types are completely different; for example, the CEV, as its name indicates, is aimed at cultivating basic technicians in the process of continuing their school education. On the other hand, the SNPP is aimed at cultivating more mid-level engineers through an incremental and modular formula. At the same time, ten schools of the National Agricultural Mechanization School have been established across the country under the Ministry of Agriculture and Livestock for the purpose of researching and disseminating agricultural machinery. Outside of the government, private schools in all fields of industry and agriculture have been established, but like private schools in any country, the level of facilities and education is as high as the fees. The CEV is unique amongst Paraguay's technical education and vocational training institutions, and has therefore played a groundbreaking role.

To begin with, Paraguay is a country of young people; 50% of the national population of approximately 5 million people is under the age of 20 and 70% are under 30. This group of young people is steadily being integrated into the labor force. However, Paraguay's primary industry is agriculture, and it is clear that the amount of the labor force that agriculture can absorb is limited. As Paraguay's local industry is not very advanced, there is almost no niche in which the young labor force can participate in the labor market. It is an indisputable fact that the technological level required to respond to these demands has not been achieved. All of the positions for mid-level engineers in key industries may be filled by foreigners from neighboring countries such as Brazil and Argentina, and this may have increased the numbers of unskilled and unqualified Paraguayan unemployed. In particular, a response to MERCOSUR in terms of human resources is a life-or-death issue for Paraguay, and the sense of crisis is strong: "It is extremely important to conduct vocational training for young people. If we do not, we will lose all of our jobs to engineers from other countries" (Minister of Education and Culture Celsa Bareiro).

#### **(4) Companies' Evaluation of Work Ethic Cultivated by the CEV**

Technical cooperation with the Japanese side ended in February 1983, and the Paraguayan side has continued to manage and maintain the facilities for 15-and-a-half years. A total of 3,364 people had graduated by 1997. Although there were only 134 graduates in the fiscal year that the CEV opened (July-December 1979) due to the fact that the school's opening was delayed, since FY1980 (from the beginning of training in February to the end of training in December) there have been more than 200 graduates each year as planned.

In Paraguay's small labor market, in which it is difficult to find a job, companies welcome graduates of the CEV, and the job-finding rate of CEV graduates has been high, although the rate has been falling recently due to the economic slump. The most frequently praised reason for the high rate is that CEV graduates' discipline, decorum, and responsibility are evaluated very highly. Principal Piera praises its successes: "The



A graduate of the electrical course on duty

assessment of the CEV by the industry is high. This is primarily because they value basic skills, discipline, and responsibility. As a result, many employment requests are made by companies." Of course, this kind of evaluation should be primarily heard from the graduates' workplaces. One person in charge of a such a company corroborated Principal Piera's statement, emphasizing that, "What is good about CEV graduates is their responsibility. They can safely be trusted with work."

Ms. A is a 24-year-old female. She works as a program editor for a Paraguayan television station. After graduating from high school, she entered the CEV and studied the electronic maintenance course, after which she was employed by the television station in 1993. But the skills she learned at the CEV are not what is most valued at her place of work. About those skills, she said, "I learned the necessary fundamentals, but I wasn't really prepared." Rather, what is praised by the company is her strong sense of responsibility towards her job. "The skills of CEV graduates are relatively low compared to those of graduates of other vocational training centers and technical schools. However, they have a deep sense of responsibility. Even if ordered to come to the television station at 3 a.m., CEV graduates would obey that request." A person in charge of the television station added, "Graduates from other technical schools tend to change jobs after obtaining skills, but CEV graduates would not do that."

Mr. B is a 19-year-old male. He graduated from the plumbing course in 1997, and was then hired by a mortar piping company 8 months ago. He brought up the following as good things he learned from the CEV: (1) discipline and sense of responsibility; (2) high expertise of the instructors; (3) the good curriculum; and (4) being able to find a stable job after graduation. He was also evaluated very highly by the company: "He has learned the skills on site, but because he already knows the basics, he is easy to instruct" and "He has a strong sense of responsibility and is able to tackle his work seriously."

### (5) Analysis of the Work Ethic at the CEV

The reputation of the CEV is fairly good. Apart from technology levels, the evaluation of it as an educational institute and the assessment of its good results in finding jobs are high. In terms of the salaries and treatment of the instructors, the CEV has firmly established its position as a model for technical schools in Paraguay, and it will no doubt be able to see its success spread throughout Paraguay through the implementation of this project. The basis for CEV's high evaluation is its cultivation of human resources who have a strong sense of responsibility and value diligence and decorum. The following points have made the biggest contribution to the cultivation of the CEV:

- \* It hired the most competent people with enthusiasm for education as instructors, from the principal on down.
- \* The students were motivated by the instructors and responded well to instruction.
- \* The salaries and treatment of the instructors were good, and they rarely changed jobs.
- \* Because students were able to acquire vocational skills in one year with almost no tuition and the employment rate was high, it received strong support from the students' families.
- \* Because the authority in charge of the CEV was the Ministry of Education and Religion, the graduates received a certificate of completion, which helped in their employment. The Ministry of Justice and Labor does not award certificates of completion.
- \* The students were given special treatment, allowing them to shorten the normal two years of compulsory military service.

Each point was raised separately, but the existence of a mechanism that interrelates all of these aspects is crucial. This is the management system for materials and tools established together by the instructors and the Japanese experts. Through the thorough implementation of a management system coordinated with students' uniform numbers, the students learned the importance of and responsibility for treating tools with care. Also, the fact that the instructors were strict about cleaning was effective for the thorough maintenance of order. It is certain that this management system contributed greatly to CEV's success.

The following are comments from the instructors, including Principal Piera, regarding the management system:

- \* I am proud of the fact that the original philosophy at the time the CEV was established, which was to enable people who have been separated from the educational system to acquire training in a short period of time and enter the labor market, has been maintained. I am also pleased that operation of the CEV, including cleaning, is maintained entirely by in-house staff, and that 95% of the equipment provided by Japan in 1979 is still running well 20 years later. While some tools, like screwdrivers, have become worn down, they are still in a condition where they can be used. This is a result of the strong appreciation of the principal, instructors, and students for the efforts of the Japanese side towards the CEV (Principal Piera).

- \* Take, for example, the storeroom for the equipment for the electronics course. Each student has a plate with their number on it, and when they want to use a piece of equipment, they remove it from its hook, and hang the number plate on the hook instead. Therefore, it is obvious from a glance which person is using what equipment. When they bring back the equipment, their number plate is returned (Instructor C of the electronic maintenance course).
- \* If a tool breaks due to age, it's no problem, but if a student breaks a tool due to carelessness, it is his/her responsibility to pay for it. It's the same system at private companies in Paraguay: if an employee is careless and breaks something, they must pay compensation. This system isn't imposed all of a sudden; everyone here is notified about it beforehand (Instructor C of the electronics course).
- \* The numbering system is symbolic of the order at the CEV. Wearing a number on your back is associated with militarism, and the Japanese side strongly disliked the introduction of the system, which seemed to belie personal dignity by treating people like objects. However, eventually the Paraguayan side went ahead and introduced it at their own suggestion. If the students do something wrong outside of the facilities, you can immediately identify them by their number (Principal Piera).
- \* The first things the students do when they arrive in the morning are to check the tools and machines and open the windows. Because there is an evening session of the CEV, they are required to perform a check again when the daytime class is over. They even have to take out the trash. If they violate the rules three times, they are made to remain even later and clean the yard, etc. (Principal Piera).
- \* Order at the CEV is much stricter than at regular schools and secondary schools. We tell the students that they will be going out into society and entering the homes of customers to repair household appliances, and that because a certain degree of danger is involved with electricity, they must conduct repairs with great care for the safety of customers as well as themselves. Or, if they enter repair factories, they will be using expensive machinery. Every day, we have to implant in them the knowledge that they cannot fool around with high-level machinery. As a result of that training, in addition to the efforts of the instructors, we have tools that were provided 20 years ago and are still being used, and tools whose replacements we have not yet had to use. We have used them very carefully. At another facility, they would have been broken 15 years ago (Instructor C of the electronic maintenance course).

### (6) Current Issues

#### 1) Insufficient Operating Funds

The original purpose of the CEV at the time of establishment has been achieved, and its reputation in the labor market has solidified. However, the CEV, after 20 years has passed, has been hit by new changes such as the lack of training materials due to the current impoverishment of national finances, and the establishment of MERCOSUR, and is standing at a critical crossroads.

What it confronts most often is the lack of training



materials. One of the reasons the CEV is rated so highly by the industrial world is that it prepares its graduates to enter society by focusing on practice rather than theory. However, since the CEV cannot purchase training materials because of insufficient funds, it has fallen into a situation where it is unable to conduct satisfactory training.

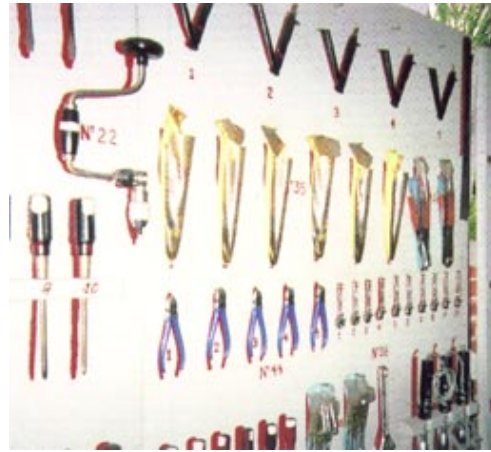
When I interviewed Instructor C of the electronic maintenance course, he complained, "The only problem is spare parts. Because there are no spare parts, when equipment breaks due to poor handling by a student, other students cannot use it. We can only show the equipment to them; we can't let them handle it all."

Instructor D of the plumbing course also emphasized, "When we are instructing the students, we can't really reinforce the training due to lack of training materials. "Things" cannot be acquired without practical training. The lack of practical training is a problem. When I graduated around 1990, I underwent a great deal of practical training, but now, they probably only get about 70% of that. We are making efforts to ensure that they do not lose their skills, but failure in front of a customer is different from failure here. I would prefer for them to fail at school."

"The engines used in the automobile maintenance course are 20 years old. The fuel type has already changed from carburetor-type to injection-type. Since they are basically the same, it's not as though they have become unusable, but the students will have to be retrained after they become employed," points out Instructor E of the automobile maintenance course.

The CEV's operating expenses are covered by the regular budget of the Ministry of Education and Culture as well as an independent budget made up of entrance and tuition fees from the night course that opened in 1985, but these funds are virtually eaten up by personnel costs, and thus do not cover materials and tools. The regular budget is allocated along a route from the Ministry of Finance to the Ministry of Education and Culture to the CEV. The problem is likely that the CEV cannot use its independent budget freely. According to school principal Piera, "In the future, I would like to secure independent financial resources, such as through the loan of classroom facilities. Tuition fees accumulated from the computer course (a course established independently by the Paraguayan side after the end of Japanese cooperation) and other courses are first collected by the Ministry of Education and Culture, and then credited to the CEV, but due to bureaucratic procedures, it takes a long time to be returned." This makes it difficult for the CEV to purchase materials with its own independent judgment. Even if the Ministry of Education and Culture does their best, the root of this problem will not be solved until inflexible bureaucratic system is addressed, because national budget allocations do not flow smoothly under this system.

The evaluation team arrived in Paraguay on 25 August, exactly ten days after the inauguration of the new administration led by President Cubas (on 15 August)<sup>1)</sup>. After a close examination of the budget deficit it had inherited from



Various tools arranged by a numerical system

the previous administration, it became clear that the amount was several times higher than realized. As a result, the new administration proclaimed its sixth presidential ordinance and halted all financial outlays other than personnel expenditures. There was even a proposal put forth to cut all personnel expenditures except for those for hourly workers, which had a great impact on economic cooperation projects in Paraguay. Financial outlays are becoming even stricter with the institution of emergency measures such as cutting overtime for civil servants. For the time being, there is no reason to expect that the CEV's cash flow situation from financial authorities will be relaxed. The lack of machinery and tools will likely continue.

## 2) Maintaining and Heightening the Skill Level of the Instructors

Another serious issue concerning the CEV, along with the financial issue, is the reduction in skill level of the instructors. This seems to be because funds are insufficient to cover enhancing skills. Although private companies hire CEV graduates based on the evaluation of their discipline and responsibility, they actually want personnel who are well-prepared. An agent for dealerships and repair centers for Japanese automaker Suzuki and Korean automaker Daewoo was severely critical: "CEV graduates cannot immediately work effectively at the time of employment because they don't possess the necessary skills. We don't hire people without some kind of work experience, such as an internship, even if they are CEV graduates. What we need most are people who can respond to the newest technologies in the field of electronics. Competition in the automotive maintenance sector is fierce, and so you have to have the skills to compete. Since CEV instructors' skills have already become out of date, they require retraining."

Oditec, a company that installs refrigerator/freezer systems and air-conditioning, stressed the following about a 26-year-old freezer technician hired four years ago: "When he was hired, he had the basic knowledge but not the skills. Electronification of freezer equipment is progressing very rapidly, and knowledge and skills in electronics are necessary." It has become clear that there is a gap between the level of skills demanded by companies and the level of skills offered by the graduates.

Nearly all of the employers also pointed out the necessity of technical English. A representative from Oditec stated, "All of the manuals are written in English. I wish that all of the students would learn technical English." A graduate of the plumbing course employed at COMAGRO, a company that installs mortar pipes, also raised technical English, along with computers, as matters that should be taught at the CEV in the area of plumbing.

### 3) Aging of the Instructors

The fact that the instructors are growing older will also become a major issue. Although this was not the case before, salaries of CEV instructors have become good recently, and payment is provided without fail, unlike in the private sector. The promise of a quasi-stable income in addition to 60 days of holidays (45 in summer and 15 in winter) makes the position very desirable.

In addition, because the societal assessment of the position is high, the instructors are comfortable with their lot. As only two instructors have changed jobs and 4-5 have retired in 20 years, the rate of CEV instructors is remaining in their jobs is "abnormally" high compared to other vocational schools in Paraguay and abroad. According to Principal Piera, "One of the instructors who changed jobs left to work as an instructor for Shell, but still occasionally teaches at the CEV. Another one runs his own business. Although he had a private company since the start of the CEV, the work became too much and he was forced to quit."

The age makeup of the 15 former counterparts that responded to the questionnaire was: seven in their 50s, five in their 40s, one in his/her 30s and one in his/her 60s (One was unaccounted for). The greatest number of respondents (11) replied that they had worked at the CEV between 16 and 20 years. The other 10 instructors who responded included five in their 30s, but despite their young age, four had worked at the CEV for 10 years or more.

The reasons raised by the former counterparts and other instructors for "overstaying their welcome" at the CEV were primarily "because I like teaching," followed by "good treatment." "Good treatment" included the opportunity for training in Japan.

The National Technical College is often compared with the CEV. However, in contrast to the CEV, which is a technical training school whose primary object is to provide vocational training, it doubles as a science high school that emphasizes theory over practice. 80% of its students continue on to college. Mr. F, who works in the school's electronic maintenance course, points out that, "because equipment can't be replaced and teachers' salaries are bad, the teachers are always changing." Most of the schools' instructors are university students, and so when they graduate, they go into the well-paying private sector.

Concern over aging has sprouted even amongst the CEV instructors themselves. "There are a lot of instructors who will retire in a few years. This is one of our troubles. After we retire, what will the generation who is following in our

footsteps do? The reason we love the CEV is because we have worked here so long, but we are also worried about how the next generation will take over." (Instructor G in the civil work and construction course).

### 4) The Necessity for Measures to Adapt to the Changes in Private Companies and Labor Markets

While private companies' analyses of the skills of the CEV have become stricter, the CEV seems to have a poor sense of the crisis. The fact that instructors do well in terms of salaries and treatment and enjoy "the good life" should not necessarily be criticized, but the tendency to become "complacent" with their situation and lose their rigor towards skill improvement is alarming.

The fact that some of the instructors study nights and Saturdays at universities is impressive: "Because I can't expect to increase my technical skills, I at least want to improve my teaching skills to the level of instructors in other countries." However, the low skill level in Paraguay is greater than they realize. Even if the instructors teach enthusiastically, if the skills they teach are not very useful in society, what is the point of teaching? "Since the equipment is basically the same, it's not as though they have become unusable, but the fact that graduates will have to be retrained when they become employed is a problem. There are companies with strong needs for technicians with newer technology." (Instructor E of the automobile maintenance course).

While not the case with basic technicians, a state has been reached where mid-level engineers can be independently cultivated in Paraguay through the establishment of institutions like the SNPP. In the future, the cultivation of engineers in more high-tech areas will become an issue. At present, these areas are dominated by foreign workers from Argentina and Brazil. The rapid cultivation of Paraguayan human resources that can replace these foreign workers has become a pressing issue.

An important donor agency of financial cooperation for Paraguay along with Japan is the Inter-American Development Bank (IDB). The IDB has been providing loans to Paraguay while maintaining a mutually complementary relationship with JICA. Mr. Francisco Baquero, a native of Ecuador who is Deputy Representative of the Paraguay and was interviewed in this study, pointed out the severe situation in the country. "Whether you decide to join MERCOSUR or not, you have to liberalize markets and compete. Paraguay has not been able to make preparations for this great change." He also emphasized that, "The only keyword for Paraguay to join the international market is education." Until now, the role of the CEV has been to cultivate basic technicians, but with the development of MERCOSUR, the time has come to change that role.

### (7) The Opinion of the Minister of Education and Culture Regarding the Future Role of CEV in Paraguay

With the development of regional common markets, especially MERCOSUR, the international issues Paraguay is currently facing are the intensification of international

competition and the establishment of social infrastructure. Paraguay is able to compete satisfactorily with other MERCOSUR member countries like Brazil and Argentina in major export products such as soybeans and cotton, but there is a significant lack of competition in terms of manufacturing due to a poor industrial base and small company scale. "Because it is unable to prepare for increased competition, Paraguay is at a big disadvantage" (Mr. Baquero). Mr. Baquero, who had previously pointed out "in order to conquer this, the keyword is education," also raised as another disadvantage to Paraguay the poor social infrastructure as compared with neighboring countries. This is a major barrier to foreign investment.

On 25 August, Minister of Education and Culture Bareiro held a conference with the evaluation team, where she revealed a plan to organize CEV's regional development and secondary and higher education. She indicated her desire to establish a second and third CEV outside of Asunción-in the three most-developed regions and in completely undeveloped regions such as Chaco. The Asunción CEV is involved with engineering courses such as electronics and electricians, but in rural areas where the principal activities are stockbreeding and pasturage, the Minister would like to focus on vocational training in processing of agricultural products. Paraguay already has agricultural mechanization schools, but "there is only one training center and it cannot satisfy much demand. I think it would be good if we could establish another agricultural training center," she expressed. However, in terms of the prospect for timing, she only stated that it was included in the strategy plan for 2020." Her plan seems to remain in the planning stage.

Paraguay initiated a reform of the educational system starting in 1993, and a trial run was begun in FY1998. Instead of the present three stages of primary education (compulsory education = six years of primary school), secondary education (secondary school = three years of a regular course or technical course, high school = three years of a humanities course or a technical course, for a total of six years) and higher education (universities, advanced technical institutes, and teacher training colleges), primary education was made into nine years of basic education (compulsory education) and beyond that, a secondary education system consisting of three years of high school was established. Universities became higher education. The Minister stated that, in the future, "The CEV should provide vocational training for secondary school graduates or higher education graduates," indicating her desire to develop the CEV from the present primary vocational training institution to a secondary/higher technical education institution.

However, there is already an active vocational training facility aimed at mid-level and advanced engineers in the form of the SNPP managed by the Ministry of Justice and Labor, so if Minister Bareiro were to push for her idea, it would be necessary to clarify the relationship between the CEV and the SNPP. Even Minister Bareiro has recognized that there has been little policy coordination between the Ministry of Justice and Labor and the Ministry of Education and Culture in the field of vocational training. It seems as though intergovernmental policy coordination is a top priority: "In the future, each ministry will present various plans and projects, and these will be integrated by the Technical Secretariat of Planning, which



Graduates of the automobile maintenance course on duty

will examine relevant plans and projects and work to avoid overlap." (Minister Bareiro)

#### **(8) Paraguay's Tendency to Depend on Aid**

Japan's total assistance to Paraguay is 189.6 billion yen (total sum from 1959 to 1997). When the evaluation team interviewed Juan Gauto, editor-in-chief of ABC, one of Paraguay's leading newspapers, he said, "For us, receiving assistance from a rich country like Japan is a great honor. I think of this as reciprocation for the warm welcome that Paraguay has given to Japanese immigrants. In 25 years, we have received the equivalent of 400 million dollars in aid from Japan, but when I go to international gatherings of journalists, people say 'What on earth did Paraguay do to receive so much aid?'" Japanese aid is deeply appreciated in Paraguay.

Even sticking only to the CEV project, Principal Piera expressed his feelings frankly during a discussion with the evaluation team, "The thing I am most afraid of is that we will be forgotten by the Japanese government." Similar sentiments were heard from one of the team leaders, Instructor H of the electrical work course. "I am dissatisfied with the lack of training materials. Even though we have these training courses, we can't teach them. Even when we request equipment, it never comes. Even the principal cannot do anything. The students want to learn. Therefore, if we were discarded by the Japanese government, we would be in trouble. We have only acquired these tools and machines thanks to the Japanese government. If Japan abandoned us, all of our hopes would die." he entreated.

The Paraguayan side has probably become dependent on its "birth parent." "I always think only good things about Japanese people, and I hope that our exchanges and cooperative relationships never end. Technical cooperation is important in order to catch up with technological progress. We aren't requesting the same scale of aid as in former times. We only ask that Japanese aid does not dry up completely" (Instructor I

from the machining course). Even for parents, it is necessary to consider how to relate with their grown-up sons and daughters.

Japanese aid has been characterized as "short but full." In comparison, the principle of European donors is "long-lasting but frugal." The Swiss Government has conducted cooperation for 20 years towards the Caacupe Agricultural Mechanics School, which was established through Swiss financial cooperation. However, it further reduced the budget year by year, and in FY1998 it discontinued cooperation entirely; "We are currently in the midst of investigations as to what to do now," says school principal Juan Fretes.

At any rate, the CEV has been a great success. From the perspective of project continuity, certainly the minimum necessary level of technical aid is necessary. However, further developing and enhancing the project will basically be the responsibility of the Paraguayan side. The seed has been sown, and has firmly taken root in Paraguayan society. As far as the CEV is concerned, the work of the Japanese side should be finished. But it is very difficult to draw a clear line around aid. "In Paraguay, the rich and the poor do not often become friends. The reason why is that, if you help a poor person once, he will say "Oh, today, I don't have any paper, could you lend me some?" and the next day it will be, "I want to buy clothes; will you buy me some?" "I hate walking, will you buy me a car?" It goes like that. Once you start with wants, there is no end to it. Even in terms of economic cooperation with Japan, there might be that type of dependence in Paraguay" (Editor-in-chief Gauto). It is extremely important that Paraguay amend its tendency to depend on aid.

## 6. Lessons Learned and Recommendations

### (1) Investment Plan for Equipment and Human Resources

In this project, because 95% of the provided equipment (including small tools) has been maintained well and is being utilized, and because all counterparts (excluding those who have retired) who received training in Japan have continued working for the CEV, the efficiency of technology transfer is extremely high.

On the other hand, this evaluation study found that, because only old-fashioned equipment has been retained and counterparts' desire to acquire new technologies has not increased, there are fields (electrics and electronics) in which industry demands cannot be responded to. From the point of view of theoretical learning, this may not be a problem, but from the point of view of acquiring vocational skills and entering society, the renewal of training equipment and instruction in the newest technologies is essential for this type of vocational training center. One way of thinking is the "long-lived but frugal" cooperation such as that practiced by Switzerland for more than 20 years in the Caacupe Agricultural Mechanics School project. In order for this to be achieved through the partner country's self-help efforts, it is necessary, from the start of the project, to instruct the partner country in constructing a long-term investment plan for development of human resources and facilities.

The condition that counterparts don't change their jobs is generally indispensable for technical cooperation projects.

In the case of the CEV, instructors' salaries were increased across the board in the Government's plan to ensure the success of Japan's technology transfer, and as a result, the retention rate of counterparts who continue working for the CEV reached an astounding 100%. On the other hand, 15 years after the end of Japan's actual cooperation, the instructors have continued to grow older (approximately half are in their fifties), obstructing the promotion of younger staff members. Consequently, personnel expenses have increased, and the negative outcome of scant investment in machinery and facilities has appeared. This is thought to be a special case, but as a lesson for the future, it is important to advise the partner country to pay attention to the balance of personnel expenses and equipment expenses in the face of limited budget allocation.

### (2) Cooperation Planning

Of the nine courses outlined in the planning stage of this project, only the printing course was not one of the subjects of Japanese cooperation. A clear reason for this was never determined, despite inquiries from interested parties, but whatever the reason, various accidents such as electrical leaks have occurred due to the fact that the printing equipment has become outdated, and the safety management of the school has been compromised. Also, the fact that instructors in the printing course were the only instructors who did not receive training in Japan prevented a feeling of unity with their colleagues. As vocational training schools are forums that conduct technical training in multiple disciplines, when cooperation is implemented, it is desirable to do so as comprehensively as possible.

### (3) Japanese Traditions and Social Aspects

Observing the good management and maintenance of the equipment and the strong discipline of the students, one receives the impression that Japanese qualities that no longer exist even in Japan are alive at the CEV. Originally this was thought to be a result of the steady guidance of the Japanese experts, but as equipment and tools were also managed properly in the Swiss cooperation involving the Caacupe Agricultural Mechanics School project, it was conjectured that perhaps this was grounded in the Paraguayan side's acceptance of developed countries' technical training.

For example, all of the tools used by the students at the CEV are numbered, and the students wear uniforms with the same numbers on them. This makes it clear what student is responsible for what tool. When a hearing was conducted, it was the Japanese experts who introduced the management method of numbering tools, but the idea to also have the students wear uniforms with those numbers was a proposal from the Paraguayan counterparts. The fact that vocational training schools in Paraguay originally had a tradition of almost military-like discipline was a factor in the smooth adaptation of the Japanese way of doing things.

It was again recognized that consideration of the social, cultural, and traditional aspects of a country's educational system was extremely important to the implementation of an effective



education/vocational training project.

#### **(4) Gender Considerations**

There are only a handful of female students at the CEV. There is some inequality in women's advancement in Paraguayan society, but when looking at the content of the courses, considering the circumstances of 20 years ago when this cooperation started, it was somewhat inevitable that gender consciousness would be inadequate. However, judging from the fact that over half the students taking the computer course, which was implemented using computers provided through JICA's follow-up cooperation and targeting general members of society, are women, it is thought that this course will increase female student enrollment at the CEV. When vocational training projects are implemented in the future, it will be necessary to conduct a survey beforehand on conditions for social advancement and employment options for women in that country, and to establish training courses and plan curricula that encourage women's participation.

#### **(5) Organization Management**

In general, in schools and vocational training centers in developing countries, principals and directors have a great deal of management authority and their terms of office are long compared to ministry officials. Consequently, the success or failure of a cooperation project depends largely on the capabilities of the principal or director and his/her comprehension of Japanese technical cooperation.

In the case of the CEV, because successive principals have been enthusiastic about education, popular with instructors, and well-informed about Japan and JICA, the project was implemented smoothly during the cooperation period, and even after the end of the cooperation remained sustainable despite financial constraints.

When this type of cooperation is implemented, it is necessary to present to the partner country some conditions (leadership ability towards subordinates, negotiating ability with the directing ministry or agency) concerning the selection of principal or director at the beginning of the cooperation period.

---

<sup>1)</sup> In Paraguay in March 1999, there was a change from the Cubas Administration to the Macchi Administration.