

Democratic Socialist Republic of Sri Lanka

Ex-Post Evaluation of Japanese Technical Cooperation Project
“Project for Establishment of Japan - Sri Lanka College of Technology to
Strengthen Technical Education and Training in Sri Lanka”

External Evaluator: Tomoko Tamura, Kaihatsu Management Consulting, Inc.

0. Summary

This project was implemented with the objective of assisting the Department of Technical Education and Training (DTET), which is the supervisory organization of the Sri Lanka College of Technology (SLCoT) to gain the necessary capacity to establish and operate Colleges of Technologies (CoTs), which were planned to be established in every province of the country, by gaining experience in establishing NVQ¹ levels 5 and 6 training courses at SLCoT; and thereby contributing to producing middle-level technicians. Enhancement of technical education and training programmes for development of workforce was an important task in the middle- and long-term development plan of the country, both at the time of planning and completion of the project. There was a development need in the country to improve technical education and produce workforce which meets the demands of industry. These plans and needs were also in line with the strategy of Japanese assistance to Sri Lanka. Therefore, relevance of the project is high.

The project purpose was not achieved by the time of project completion mainly because: accreditation of the national skill standard and endorsement of the curriculum of the NVQ levels 5 and 6 training courses had been delayed, and as a result SLCoT was not able to accumulate the know-how for training course delivery; DTET was not sufficiently committed to solving issues in the course delivery; the long-term JICA experts were not dispatched as planned, and as a result the progress of project activities was affected. At the time of the ex-post evaluation, the managerial and technical capacity of DTET for training course delivery had not developed up to the expected level, and the project had not contributed adequately to the creation of workforce with NVQ levels 5 and 6 qualifications. The impact created by the project is less prominent than what was expected, and therefore effectiveness and impact of the project is low.

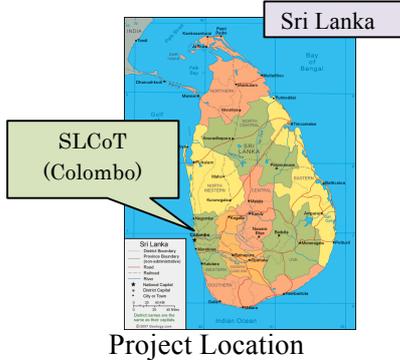
Although the project period was within the plan, the project cost exceeded the plan. Therefore, efficiency of the project is fair. A specific plan to transfer resources of CoTs, such as achievements in the operation of NVQ levels 5 and 6 courses, knowledge and experience of the instructors and equipment, to University Colleges which are to be established all over the country in future, has not yet been prepared. DTET has several problems in terms of operation of the institute and technical aspects, such as a chronic shortage of staff, inability to take effective measures to enhance the quality and quantity of instructors at CoTs, and to activate

¹ NVQ: National Vocational Qualification. There are levels 1 to 7 for the NVQ in Sri Lanka. NVQ levels 5 and 6, which were introduced by the project, are to produce middle-level technicians, including supervisors and process managers. Those who pass the assessment of NVQ levels 5 and 6 are given a National Diploma.

relationships with industry. Therefore, sustainability of the project is low.

In light of the above, this project is evaluated to be unsatisfactory.

1. Project Description



Project Location



Training in the Metalwork Course at SLCoT

1.1 Background

At the time of planning the project, the government of Sri Lanka planned to upgrade nine of the twenty-nine Technical Colleges (TCs) in the country to be CoTs, which would conduct training for NVQ levels 5 and 6 diploma courses, and thereby produce middle-level technicians. At that time, the country had introduced Competency Based Training (CBT)² and was making it a mainstream training methodology, with the objective of providing training that reflected the needs of industry. In this regard, the framework of the NVQ had been developed up to level 4. In order to introduce technical training of NVQ levels 5 and 6 based on CBT, it was necessary to: develop the framework of the NVQ, including accreditation of the National Skills Standard which defines the skills required by industry for workers of this level; obtain endorsement of the curriculum which is to be used in the training courses to train the skills specified in the NVQ; install necessary infrastructure, tools and equipment for the training; provide training to instructors; and prepare teaching materials. The government planned to develop this framework by obtaining assistance from donor agencies. This technical cooperation project selected SLCoT³, which is located in the city of Colombo in the Western Province, out of the nine TCs scheduled to be upgraded to CoTs, and to provide the necessary assistance to introduce model training courses for NVQ levels 5 and 6, and then to disseminate the know-how of training course delivery to the other CoTs. It was planned that the Asian Development Bank (ADB) would provide assistance to the government from 2000 to 2011 to develop an implementation framework for NVQ levels 5 and 6, and to establish the eight other CoTs in the country.

² The CBT (Competency-based Training) method was introduced because conventional training, which was training-provider-oriented and curriculum-based and did not consider the needs of industry, had been found to be ineffective. The CBT method is to provide training so that trainees obtain the necessary skills for the labour market. In CBT, a qualification is offered by evaluating the skills of the trainees after training.

³ SLCoT was called Maradhana Technical College at the time the project commenced.

1.2 Project Outline⁴

Overall Goal		<ol style="list-style-type: none"> Quality of the manpower trained in TCs/CoTs meets the the labor market demand. CoTs are established and managed by utilizing lessons and experience of SLCoT.
Project Purpose		DTET gains managerial and technical capacity to establish CoTs in each province by introducing model courses of NVQ levels 5 and 6 in SLCoT to train middle-level technicians.
Outputs	Output1	NVQ levels 5 and 6 model training courses are introduced and conducted effectively in SLCoT in the fields of information and communication technology (ICT), mechatronics and metalwork.
	Output2	DTET establishes a system for the training courses to fulfill the industry's needs.
	Output3	Management capacity of DTET for training delivery of the NVQ levels 5 and 6 courses and for implementation of career guidance/counseling and textbook development and skills competitions is improved.
	Output4	Know-how in the fields of implementation of NVQ levels 5 and 6 courses, industry collaboration, career guidance/counseling and skills competitions is accumulated in DTET through the establishment of the 3 model courses in SLCoT to share it with other TCs/CoTs.
Inputs		<p>Japanese Side:</p> <ol style="list-style-type: none"> Experts: 8 for long-term and 18 for short-term Twenty-four trainees received for counterpart training in Japan Five trainees for Third-Country Training Programme Equipment : 300 million yen Local cost : 35 million yen <p>Sri Lankan Side:</p> <ol style="list-style-type: none"> Thirty-three counterparts Land and facilities, classrooms and project office Cost for refurbishment of classrooms and workshops
Total cost		707 million yen
Period of Cooperation		July, 2005 - June, 2010 (5 years)
Implementing Agency		Ministry of Vocational and Technical Training (Current Ministry of Youth Affairs and Skills Development)
Cooperation Agency in Japan		Employment and Human Resources Development Organization
Related Projects		<ul style="list-style-type: none"> - Skills Development Project (ADB): March, 2000 – January, 2007 - Technical Education Development Project (ADB): January, 2006 - August, 2011

⁴ This is the project outline described in PDM version four. This ex-post evaluation was conducted based on PDM version four, although the PDM was revised to version five after the terminal evaluation of the project (see details in the section on effectiveness and impact).

1.3 Outline of the Terminal Evaluation

1.3.1 Achievement of Project Purpose at the time of the Terminal Evaluation

Training courses for NVQ levels 5 and 6 were introduced at SLCoT. However, there were several issues with regard to delivery of the training courses; therefore it could not be considered that the system for delivery of the training courses by DTET had been established. Dissemination of know-how of SLCoT on course delivery to other CoTs also had not been started. Although the report of the terminal evaluation did not mention the prospect of achieving the project purpose clearly, the possibility of achieving the project purpose by the time of completion of the project was not considered to be high, as it pointed out that “Further effort and active involvement in the project by SLCoT and the supervising authorities would be essential to achieve the project purpose”.

1.3.2 Achievement of Overall Goal at the time of the Terminal Evaluation

The establishment of CoTs in every province of the country, which was one of the overall goals of the project, had been achieved with assistance from ADB by the time of the terminal evaluation of the project. The degree of contribution by the project to achieve another overall goal, the development of workforce by TCs and CoTs, was evaluated to be limited mainly because outputs and project purpose of the project had not been achieved to the expected level.

1.3.3 Recommendations at the time of the Terminal Evaluation

It was recommended to the Ministry of Vocational and Technical Training and DTET: to conduct a study to analyze the problems that SLCoT was facing at that time with regard to administration of the training courses and teaching capacity of the instructors, and to implement measures to improve the course delivery; to ensure the budget for operation and maintenance of the machinery and equipment used for the training courses; and to allocate necessary staff members to maintain the quality of the model courses. It was recommended to SLCoT: to conduct review meetings periodically; to introduce student training record books; to implement monitoring of the training courses by utilizing the results of a questionnaire survey of students and others; to improve the delivery of training courses based on the monitoring results; to develop further collaboration with relevant industries; to continue sharing the experience and lessons of SLCoT with the instructors of other CoTs; to continue the in-service training programme conducted by the instructors of SLCoT; and to improve the administration of the in-plant training.

2. Outline of the Evaluation Study

2.1 External Evaluator

Tomoko Tamura, Kaihatsu Management Consulting, Inc.

2.2 Duration of Evaluation Study

Duration of the Study: September, 2013 - October, 2014

Duration of the Field Study: November 5 - 16, 2013 and February 28 - March 5, 2014

3. Results of the Evaluation (Overall Rating: D⁵)

3.1 Relevance (Rating: ③⁶)

3.1.1 Relevance to the Development Plan of Sri Lanka

Both at the time of planning and completion of the project, the medium- and long-term national development plan of the country⁷ emphasized the need to enhance technical education and vocational training programmes to develop high-quality workforce and to create employment for the youth. Therefore, the objective of the project is consistent with the development plan of the country.

3.1.2 Relevance to the Development Needs of Sri Lanka

At the time of project planning, the unemployment rate of the country was as high as 8.8 per cent (2002) and it was especially high among the youth. Primary and secondary education was widely available in the country; however opportunities for tertiary education were limited as the enrolment capacity of the universities was increasing only slowly. Therefore, a large number of youth, who had received primary and secondary education but did not have any vocational skills, left school every year; therefore, it was necessary to eradicate unemployment among the youth by expanding a programme of technical education and vocational training. There was a shortage of middle-level technicians in the country, and this shortage should be met by providing the necessary training. SLCoT was selected as the project site as it is located in the city of Colombo, the center of the country's economy, and had an advantage for securing employment opportunities for the students and promoting collaboration between the colleges and industry. Three training areas, information and communication technology (ICT), mechatronics and metalwork, were selected, as the country did not have training courses on ICT and mechatronics at that time although the demand for workforce was high, and there was a high demand for middle-level technicians in metalwork from industry.

The unemployment rate among 15-year-olds and above had been improving, and was 7.7 per

⁵ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory.

⁶ ③: High, ② Fair, ① Low.

⁷ *Creating Our Future, Building Our Nation* (July 2004) was the national plan of the country at the time of planning the project. *Mahinda Chintana* (2006~2016) was the national plan of the country at the time of completion of the project.

cent⁸ at the time of completion of the project in 2010. However, that of the youth between 20 and 29 years old was still as high as 13.8 per cent in 2010.⁹ The demand for middle-level technicians was also high. The CBT method had been introduced to the training programmes and as a result the programme was improving gradually: however, further improvements to the programme were needed to produce the workforce that would meet the needs of industry.

As mentioned above, the objective of the project – the expansion of technical education - was in line with the development needs of the country both at the time of planning and completion of the project.

3.1.3 Relevance to Japan's ODA Policy

The Country Assistance Policy of Sri Lanka (2004) at the time of project planning listed assistance for peacebuilding and rehabilitation as one of the important areas of assistance. As examples, assistance for human resource development and economic infrastructure development were mentioned. Assistance for vocational training and management was stated as a priority area. In this way, the project had relevance with Japanese cooperation policy.

3.1.4. Appropriateness of the Plan and Strategy for Project Implementation

The project expected DTET to obtain and utilize the experience and lessons learned from the training course delivery in SLCoT, and to solve any problems SLCoT faced when providing training. It also strategically planned to enhance the administrative and technical capacity of DTET which is necessary to establish and operate CoTs throughout the country, through the above-mentioned experience and lessons. The capacity of DTET was not enhanced by the completion of the project in spite of such strategy, mainly due to delay in endorsement of the curriculum, the problem of input, such as JICA experts not being dispatched as planned, and inadequate commitment of DTET to the project, as mentioned later in this report. In general, utilization of the experience and solving the problems were some of the roles and responsibilities of DTET, the supervising authority for CoTs, including SLCoT. Therefore, the strategy of the project, which aimed to enhance the capacity of DTET through activities in SLCoT, was appropriate.

This project has been highly relevant to Sri Lanka's development plan and development needs, as well as Japan's ODA policy. Therefore, its relevance is high.

3.2 Effectiveness and Impact¹⁰ (Rating: ①)

The PDM¹¹ of the project was revised from PDM version four to PDM version five after the terminal evaluation of the project. The main revisions were: the target of overall goals, project

⁸ Source: *Labour Force Survey Annual Report 2010*, Department of Census and Statistics, Sri Lanka.

⁹ Ibid.

¹⁰ Sub-rating for Effectiveness is to be put with consideration of Impact.

¹¹ PDM: Project design matrix.

purpose and the outputs, which had referred to DTET, were revised to refer to SLCoT; and the second overall goal was changed to “experience of SLCoT is utilized by other CoTs”, as the other CoTs had already been established at the time of the terminal evaluation. The reason for the target of the project purpose being changed from DTET to SLCoT at the time of the terminal evaluation was that most of the activities of the project were conducted at SLCoT. At the time of the ex-post evaluation, the external evaluator firstly studied the background and appropriateness of this change. As a result, it became clear that the ex-post evaluation should be conducted based on PDM version four, not the modified PDM version five. It is true that the project conducted most of its activities at SLCoT. However, the project had conducted its activities and provided various inputs for around four and a half years before the time of the terminal evaluation, and it was aiming to enhance the capacity of DTET to manage the CoTs in the country by obtaining experience from SLCoT. Therefore it is apparent that the project had the objective of enhancing the capacity of DTET throughout the project period. It was also true that DTET was not deeply involved in the project activities as mentioned later. However, it is not appropriate to modify the project purpose just before completion of a project. In addition, as the terminal evaluation was conducted based on PDM version four, the basis of the terminal and ex-post evaluations is the same.

3.2.1 Effectiveness

3.2.1.1 Project Output

The following four items were identified as the outputs of the project, which were necessary to achieve the project purpose.

1) Output 1

Output 1 was “NVQ levels 5 and 6 model training courses are introduced and conducted effectively in SLCoT in the fields of ICT, mechatronics and metalwork”. The following describes indicators of the output and their status of achievement on completion of the project:

- (1) The endorsed National Skill Standard and Curriculum Outlines of the three model courses become available: Not achieved.
- (2) Appropriate syllabuses and teaching materials for the model courses are developed: Not achieved.
- (3) Equipment necessary for the model courses are purchased and installed: Achieved.
- (4) Training infrastructure necessary for the model courses established: Achieved.
- (5) Counterpart staff gain sufficient knowledge to teach in the model courses: Not achieved.
- (6) Adequate weekly and monthly training schedules for each course are formulated: Achieved.
- (7) More than 80 per cent of the full-time students of the first batch complete their course and obtain their diploma, and part-time courses are established: Not achieved.
- (8) Monitoring is conducted periodically and lessons learned are reflected in the courses and documented: Not achieved.

Development of the National Skills Standard for the NVQ levels 5 and 6 was undertaken by NAITA (National Apprentice and Industrial Training Institute), and development of the curriculum for the same was undertaken by UNIVOTEC (University of Vocational Technology) at the time of the project implementation. It was planned that they would be endorsed by TVEC (Tertiary and Vocational Education Commission).¹² However, the above-mentioned work was significantly delayed. The National Skills Standard for NVQ levels 5 and 6 was accredited by January 2010;¹³ however, their curriculum had not been endorsed before completion of the project¹⁴. Therefore, the SLCoT developed teaching materials and conducted training based on a draft of the Skills Standard and a tentative curriculum, as the endorsed curriculum was not available.

Instructors of the model courses were provided with opportunities to improve teaching skills through technical transfer from JICA experts, and in the training programmes conducted in Japan and in third-party countries. However, there were several instructors among those who were teaching the new courses - ICT and mechatronics - that could still not develop teaching skills up to the required standard. There were some complaints from students with regard to inadequate teaching skills of the instructors.

Forty-seven per cent of students who completed training in the ICT and metalwork model courses in 2008 passed their assessment at NVQ levels 5 or 6 and obtained their diploma. This NVQ pass rate was lower than what was planned by the project, which was eighty per cent. This was mainly because implementation of the NVQ assessment was delayed for almost a year and was conducted in March 2010; by then those students who had already obtained employment were busy with their work, and could not find enough time to prepare for the assessment. Inadequate teaching skills of the instructors could have been another reason. The mechatronics course was commenced in 2008 due to a delay in procurement of training equipment; therefore the first batch of students on this course were still being trained on completion of the project.

Part-time courses were not conducted mainly due to a shortage of instructors. Questionnaire surveys were conducted with students at the end of the training courses as a part of course monitoring; however the findings and lessons learned from the surveys were not reflected in the courses or documented.

Model training courses of NVQ levels 5 and 6 were introduced to SLCoT; however there were several issues in the operation of the courses. Therefore, Output 1 had been achieved only

¹² NAITA (National Apprentice and Industrial Training Institute) operates several training institutions according to the apprentice system, and is also in charge of the in-plant training for universities, TCs and CoTs in the country. UNIVOTEC (University of Vocational and Technical Education) was established in 2008 with the assistance of ADB. It has faculties of industrial and vocational technology and training technology. It operates the undergraduate programmes of NVQ level 7. Students who studied at CoTs and obtain NVQ levels 5 or 6 can continue their studies at UNIVOTEC. TVEC is a strategic commission which is in charge of development of policies and programmes of technical education and vocational training, quality control of education and training, and other areas. NAITA, UNIVOTEC and TVEC are under the purview of the Ministry of Youth Affairs and Skills Development.

¹³ National Skills Standards for ICT and metalwork courses were accredited in December 2009, and that for mechatronics was accredited in January 2010.

¹⁴ Although the tentative curriculum had been developed, endorsement of the curriculum was delayed as it took more time than expected to coordinate the administrative process for the endorsement. This was because there needed to be consistency between the skills standard and curriculum of NVQ levels 5 and 6 and that of the existing NVQ levels 3 and 4. Work for endorsement of all courses, not only for the three model training courses conducted in the project, was carried out at the same time.

to a limited degree.

2) Output 2

Output 2 was “DTET establishes a system for the training courses to fulfill industry’s needs”. The following describes indicators of the output and their status of achievement at the end of the project:

- (1) Technical Committee is formed for each model course and meetings are held more than three times a year: Not achieved.
- (2) Industries visit the model training courses to monitor and evaluate the courses three times a year: Not achieved.
- (3) Recommendations are made by industry to improve the courses: Achieved.
- (4) Survey on the needs of industry is conducted continuously: Not achieved.
- (5) System of in-plant training is established and students of the model courses gain experience in industry: Not achieved.
- (6) Short-term courses are held: Achieved.
- (7) Periodical industrial placement for counterpart staff is implemented: Not achieved.

Technical committees, which included some representatives of relevant industries as members, were formed at every model course of SLCoT. Meetings were held periodically soon after formation of the technical committees. The committees provided advice and assistance for development of teaching materials. However, members of the committees gradually lost interest and meetings were stopped because the committees did not have any authority to review and decide ways to improve the training courses, and there was no review and improvement of the courses conducted according to the advice of the committees. Monitoring and evaluation by representatives from industry was supposed to be conducted three times a year. However, it was not continued for the same reason. A survey on the needs of industry was conducted only once, as there was no staff member in charge of the survey at DTET. Industrial placement of instructors was not realized as it was difficult to find industries which would accept them as trainees. In-plant training for students was introduced. However, it was still at a trial-and-error stage, and systems for administration of the training, and monitoring and evaluation of the students’ progress with acquiring skills, had not been institutionalized. In this way, the system for in-plant training had not yet been established.

In this manner, the system for conducting training courses to meet the needs of industry had not been established; therefore, Output 2 had not been achieved.

3) Output 3

Output 3 was “Management capacity of DTET for training delivery of NVQ levels 5 and 6 courses and for the implementation of career guidance/counseling and textbook development and skills competitions is improved”. The following describes indicators of the output and their status of achievement by the end of the project.

- (1) More than 90 per cent of students are using the career guidance/labor market information

available at SLCoT: Achieved.

- (2) Individual counseling is held for more than 5 students per month: Achieved.
- (3) Career guidance seminar is held for applicants to give ideas on course-related employment: Achieved.
- (4) Career guidance seminar is conducted for CoT students 11 times a year: Achieved.
- (5) A system of conducting periodic studies to ensure the relevance of the quality and level of training is established: Not achieved.
- (6) Results of the studies are effectively used to improve quality and level of training: Not achieved.
- (7) The teaching materials, such as textbooks, visual tools, etc., that have been developed are used effectively and appreciated at all CoTs/TCs: Not achieved.
- (8) Skills competitions are held continuously, and budget is allocated to make the events financially sustainable: Not achieved.

The students of SLCoT utilized the services of the career guidance center positively. Career guidance became a part of the training courses from 2009. However, the activities on evaluation of the quality and level of the training, and improvement of the training course delivery as a result of the evaluation, were not conducted adequately. Therefore, the system to ensure the adequacy of the quality and level of training was not established at either SLCoT or DTET. As a part of project activities, the survey to study the level of satisfaction of students of the model courses was conducted every year; however, the results of the survey were rarely analyzed or utilized for improvement of the next training courses, as the stakeholders of the project did not pay much attention to the results. The level of achievement of Indicator 7 is unknown, as no survey was conducted on the status and effect of utilization of the textbooks and teaching materials developed by the project.

A National Skills Competition was introduced to provide incentives and encourage skills development of the students and instructors, and it was conducted every year from 2005 to 2007. In 2008, although the competitions were conducted in the provinces, the national competition was cancelled due to a shortage of funds. The competition was not held in 2009 or 2010.

In this manner, Output 3 was only achieved in relation to career guidance.

4) Output 4

Output 4 was “Know-how in the fields of implementation of NVQ levels 5 and 6 courses, industry collaboration, career guidance/counseling and skills competitions is accumulated in DTET through the establishment of the three model courses in SLCoT to share it with other TCs/CoTs”. The following describes indicators of the output and their status of achievement at the end of the project:

- (1) Documents on delivering NVQ levels 5 and 6 courses are prepared: Achieved.

- (2) Technical Committees/Advisory Councils are established in other TCs/CoTs: Not achieved.
- (3) The improved system to collect and update labor market information is introduced in other TCs/CoTs: Achieved.
- (4) Know-how to support students' job placements is introduced in other TCs/CoTs: Not achieved.
- (5) Studies are conducted in other TCs/CoTs to ensure the relevance of the courses: Not achieved.
- (6) Seminars and workshops are held by counterpart staff of the Project: Achieved.

With regard to know-how on training course delivery of NVQ levels 5 and 6 courses, several manuals were prepared (see Indicator 3 of the project purpose), and in-service training for instructors in other colleges was conducted by the counterpart instructors of SLCoT, so that know-how on teaching the courses was disseminated.¹⁵ With regard to a system to collect and update labor market information, the Career Guidance Unit of DTET installed a database system for job vacancies to all the twenty-nine TCs and eight CoTs in the country, and provided relevant staff of the colleges with training on operation of the system. This system was similar to the one the project had introduced to the career guidance center at SLCoT. As a result, a system for collection and updating labour market information was introduced to other colleges. Know-how to support students' job placements was introduced to other TCs/CoTs; however this was a result of a programme conducted at that time with the assistance of ADB; there was no particular contribution to this from the project.

As mentioned in Output 2 and Output 3, SLCoT could not implement activities with collaboration of industry or assure relevance of the courses adequately; therefore, SLCoT was not in a position to accumulate the know-how on these areas. Therefore, sharing know-how on these areas with other colleges was not realized.

As mentioned above, several manuals were prepared and SLCoT and DTET shared the know-how gained by the project with other colleges only with regard to teaching skills of the courses and collecting and updating information on the labor market, but not in other areas such as collaboration with industry and assuring the relevance of the courses; therefore, Output 4 was achieved partly.

3.2.1.2 Achievement of Project Purpose

The project purpose was "DTET gains managerial and technical capacity to establish CoTs in each province by introducing model courses of NVQ levels 5 and 6 in SLCoT to train middle-level technicians". The status of achievement of the indicators of project purpose is explained as follows:

¹⁵ The in-service training was conducted seven times in total during the project period with the participation of eighty-three instructors from other colleges.

1) Indicator 1

Indicator 1 was “90 per cent of the students who complete the model courses obtain expected level of course-related employment”. As Table 1 shows, the ratio of the first batch of students who completed the model courses and obtained course-related employment was 50 per cent and 18 per cent for ICT and metalwork courses respectively. These figures were lower than what was planned.¹⁶

Table 1 Status of Employment of the First Batch of Students of the Model Training Courses

Courses	Engaged in Course-related Employment	Engaged in Course-unrelated employment	Unemployed/ went on to higher study	Total
ICT	10 (50%)	6 (30%)	4 (20%)	20 (100%)
Metalwork	3 (18%)	0 (0%)	14 (82%)	17 (100%)

Note: Employment status at the time of the terminal evaluation of the project of the first batch students, who studied in the model training courses from January 2007 to the end of 2008.

Source: Achievement grid attached to the report of the terminal evaluation of the project.

The first batch of students of the model courses completed the course by the end of 2008. However, the first assessment of the NVQ was delayed and conducted in March 2010, as a result of the delay in accreditation and endorsement of the National Skills Standard and the curriculum. Therefore, the first batch of students had to find employment without having a certificate of NVQ. Six students from the ICT course engaged in employment that is not related to the training course for this reason. Three students of the metalwork course obtained employment in the company they went to for in-plant training. Other students were seeking employment that they could commute to from their homes, which would provide the expected level of salary.

2) Indicator 2

Indicator 2 was “Youth applying for the model courses increases 10 per cent annually”. As Table 2 shows, all the courses had enough applications to fill their available 20 places each in general; however the ratio of increment went up and down, and did not increase by 10 per cent annually as planned. The number of applicants for the metalwork course increased in 2010 as a result of the career guidance center conducting public relations activities especially for that course.

¹⁶ As mentioned in the section on Output 1, students of the mechatronics training course graduated from SLCoT after completion of the project.

Table 2 Number of Applications for the Model Training Courses

Years	2007		2008		2009		2010		2011	
Courses	Applied	Applied	Increase/ decrease	Applied	Increase/ decrease	Applied	Increase/ decrease	Applied	Increase/ decrease	
ICT	194	180	-8%	157	-15%	209	25%	177	-18%	
Mechatronics	230	128	-80%	72	-78%	80	10%	95	16%	
Metalwork	78	52	-50%	38	-37%	87	56%	14	-521%	

Source: Tabulated by the External Evaluator based on figures in the report of Terminal Evaluation of the project

3) Indicator 3

Indicator 3 was “Manuals/documents developed in SLCoT and DTET are utilized in other CoTs”. The project team produced the CoTs’ operation manual, career guidance master plan and industry relations manual, which were the summary of their experience on operation of NVQ levels 5 and 6 training courses at SLCoT. These were shared with other colleges and stakeholders of the project at a seminar held by the project on completion of the project. However, at the time of the completion of the project, these manuals were defined as reference material; whereas the “NVQ Framework”¹⁷, which had been produced by TVEC with assistance from ADB¹⁸ had been distributed to all CoTs and was defined as a formal manual for operation of the courses.¹⁹

The project expected DTET, the supervising institution of SLCoT, to gain necessary capacity in the future operation and management of all CoTs in the country by participating in activities on the introduction of model training courses of NVQ levels 5 and 6 at SLCoT, and by taking a leadership role in solving various issues on operation and management of the courses. At the completion of the project, as mentioned earlier, SLCoT had several issues, such as the need to enhance teaching capacity of the instructors, and lack of progress with collaboration with industry. SLCoT also had other issues which were not described in the above-mentioned indicators, such as: screening of applicants at the entrance exam had not been conducted properly, and there was a significant difference between the curriculum and the skills and knowledge of students at the time of enrollment.²⁰ However, according to project reports and discussions with the relevant agencies at the time of the field survey, it was pointed out that there was inadequate commitment and leadership from DTET in solving these issues during the

¹⁷ While the manuals documented by the project describe the operation of NVQ levels 5 and 6 training courses at SLCoT based on the experience of the project, the manual produced by ADB/TVEC is a comprehensive one about the operation of the vocational qualification system, including description of the NVQ and skills standards, background and process of curriculum development, methodology and standard of NVQ assessment, etc.

¹⁸ Technical Education Development Project (January 2006 to August 2011).

¹⁹ National Vocational Qualifications Framework of Sri Lanka, Operation Manual, October 2009, Tertiary and Vocational Education Commission.

²⁰ Besides the entrance exam, another reason for the gap was that students who complete level 3 often find it difficult to follow the training courses of NVQ level 5 as there is a big difference between these levels (even though students who have completed NVQ levels 3 and 4 are eligible to enter the courses of NVQ level 5). This was particularly noted in the ICT and mechatronics model training courses.

project, and enhancement of the operational and managerial capacity of DTET, which was the project purpose, had not been realized.

The project purpose had not been achieved mainly because: SLCoT had just produced the first batch of graduates from two of the three model courses, and had obtained experience in operation of the training cycle, including planning, implementation, monitoring, evaluation and improvement, only once by the time the project was completed, and, therefore, was not in a position to address the issues with regard to training course delivery; participation of DTET in the project was not adequate due to chronic shortage of staff and lack of commitment of the then directors; and the project team could not take strong leadership to promote enhancement of the capacity of DTET as the long-term JICA experts were not dispatched as planned.²¹

The project purpose had not been achieved because the enhancement of operational and managerial capacity at DTET through the introduction and operation of NVQ levels 5 and 6 courses at the SLCoT had not been realized.

3.2.2 Impact

3.2.2.1. Achievement of Overall Goal

The two overall goals of the project were “Quality of the trained manpower in TCs/CoTs meets the labor market demand” and “CoTs are established and managed by utilizing lessons and experiences of SLCoT”. The overall goals were revised in PDM version five after the terminal evaluation; however, this ex-post evaluation was conducted according to the overall goals in PDM version four, as mentioned earlier.²²

1) Overall Goal 1

The first overall goal was “Quality of the trained manpower in TCs/CoTs meets the labor market demand”, and there were five indicators to measure the level of achievement of the goal:²³

- (1) 70 per cent of students of the TCs/CoTs obtained course-related employment on/immediately after completion of the courses: Relevant data was not available.
- (2) Applications from the youth to TCs/CoTs increase by 2 per cent annually: Achieved.
- (3) Every course obtains a sufficient number of qualified students according to their seating capacity: Not achieved.
- (4) Drop-out rates of students reduce from the present 20 per cent to 10 per cent: Not achieved.

²¹ Refer to the section on efficiency of this report for the status of participation of DTET in the project and the actual period when the JICA experts were dispatched.

²² The status of the overall goals of PDM version five, “Lessons and experience of SLCoT on management and course delivery are utilized by other CoTs” and “Quality of the trained manpower in SLCoT meets the labour market demand”, are also explained in the section on Indicators 1 and 2 of the overall goals respectively as reference information.

²³ The project aimed at enhancement of the capacity of DTET in operation of CoTs. However, the indicators for the first overall goal indicator show that it was expected that the project would have an impact not only on SLCoT, but also on all CoTs and TCs. This was because it was expected that enhancement of the operational capacity of DTET would have a positive impact on the operation of CoTs and TCs which are under the purview of DTET.

(5) DTET produces 1,000 technicians of NVQ levels 5 and 6 annually: Not achieved.

The external evaluator tried to obtain necessary data of the twenty-nine TCs and nine CoTs in the country that are under the purview of DTET, to study the level of attainment of the above-mentioned indicators at the time of the ex-post evaluation. There was no data for Indicator 1, as a comprehensive study about the employment status of former students had not been conducted. The recent status of Indicators 2, 3 and 4 are shown in Table 3. As planned by the project, the number of applicants to TCs and CoTs in 2011 and 2012 increased compared to the previous years. The average utilization ratio of the capacity of the training courses also increased year by year, from 69 to 75 per cent and then to 86 per cent; however it did not reach the planned ratio of 100 per cent. The average latest drop-out rate in 2012 for all the courses was 15 per cent, which was lower than the 20 per cent at the time of project planning; however, it was higher than the planned rate of 10 per cent. As for Indicator 5, the number of middle-level technicians who completed CoT training courses under DTET and obtained NVQ levels 5 or 6 is estimated as 240, which was fewer than the planned number of 1,000.²⁴ In this manner, three out of the five indicators were not achieved; the fifth indicator, the number of technicians of NVQ levels 5 and 6, which was significantly related to the human resource development aimed at by the overall goal, was much lower than planned. Thus, the first overall goal had not been achieved.

Table 3 Status of Operation of the TCs and CoTs

Items/Years	2010	2011	2012
No. Applied (year-to-year comparison)	35,023	45,653 (30%)	50,384 (10%)
No. Registered (year-to-year comparison)	15,822	17,210 (9%)	19,705 (14%)
Capacity (approximate figures)	23,000	23,000	23,000
Utilization Rates of the capacity	69%	75%	86%
Drop-out Rates (average of nine CoTs)	n/a	18%	15%

Source: Tabulated by the External Evaluator based on the records submitted by DTET.

As a part of the ex-post evaluation, the status of operation of the model training courses of SLCoT and employment of former students of the courses were studied to ascertain the level of contribution of the courses to the human resource development.

The three model training courses introduced by the project had been conducted without any interruption, and every year students who completed the courses participated in the labour market. It was witnessed when visiting workplaces of former students that some of them are

²⁴ The number of students who enrolled to NVQ levels 5 and 6 training courses in the colleges under the purview of DTET was 515 in 2012. The number of students, who passed the assessment of NVQ levels 5 and 6 was estimated as 241, with the assumption that the dropout rate is 15 per cent and the pass rate of the NVQ assessment is 55 per cent. These percentages were given by DTET during an interview.

performing well in the workplace and utilizing the skills obtained in the training courses. See “Box” for an example.

Box: Interview with a Former Student at his workplace : An opinion of the first-batch student of the ICT course

I studied theory of ICT comprehensively at SLCoT, and it was very useful for me to perform well in my job, software development. Recently, I was promoted to assistant manager. I had never even touched a computer before I enrolled at SLCoT. I’m very lucky to have obtained an opportunity to study in the college and got a job as a specialist. I’m very grateful to everyone at SLCoT who helped me to study. When I look back at the course, I may feel that the training we underwent was somewhat with limitations as the instructors did not have working experience in the industry. I would suggest increasing the number of lessons conducted by external instructors and enhance the training course. The college may invite former students like me as a volunteer instructor, if it has a shortage of budget to do so.

However, there are some concerns about the human resource development by the model courses of SLCoT. Table 4 shows the number of students of the model courses who enrolled, completed the course, passed the department examination conducted by DTET and passed the NVQ assessment. A sufficient number of students entered the ICT and mechatronics courses every year for their capacity of 20 each, while metalwork courses received fewer students than their capacity in recent years which shows that the course has been underutilized.²⁵

More than 80 per cent of the students who enrolled in the courses completed the course study every year. However, 43-61 per cent of those who completed the course study passed the department examination. The ratio of those who passed the assessment of NVQ levels 5 or 6, out of those who completed the course study, was only 33-53 per cent.²⁶ Considering that Output 1 planned an 80 per cent pass rate for NVQ levels 5 and 6 among the first batch of students on the model courses, the above-mentioned actual figure was much lower than what was originally expected by the project.

According to interviews with staff and instructors of DTET and SLCoT, the reasons for the lower pass rate was mainly because: teaching capacity of the instructors, especially ICT instructors, had not been enhanced adequately, although the level of the skills standard and curriculum of NVQ levels 5 and 6 became high as they were developed to meet industry’s needs; there are some students who have difficulty in following the training of their course, particularly those on the metalwork course, as their basic academic ability at the time of enrollment was fairly low; and some students, particularly on the metalwork and mechatronics

²⁵ The number of students enrolled to the metalwork course in recent years has also been less than the capacity. There were 4 in 2013 and 14 in 2014. According to the Director of SLCoT and senior management of DTET, there are only a few applicants to the course as some people consider metalwork as a “3D job” (dangerous, dirty and demanding). DTET plans to increase the number of students by introducing a weekend course for employees in industry from 2014, and adding a new category for enrolment for the course.

²⁶ The department examination is held by DTET. There is a mid-term examination and a final examination. Only students who pass all the subjects of these examinations are eligible to sit for the assessment of NVQ levels 5 and 6.

courses, cannot pass the department examination and NVQ assessment because they do not have adequate English proficiency.²⁷ In order to overcome some of the above-mentioned issues, intensive lessons for English and Mathematics, and gap-filling courses for those who have not studied particular subjects, were introduced by DTET to all CoTs and conducted at the beginning of training courses from 2012.

Table 4 Performance of Students of the Model Courses after Project Completion

Year	Item	ICT	Mechatronics	Metalwork	Total (%)
2010	Enrolled	45	24	17	86
	Course completed	39	21	12	72 (84%)
	Passed department exam	17	13	1	31 (43%)
	Passed NVQ assessment	17 (44%)	7 (33%)	1 (8%)	25 (35%)
2011	Enrolled	20	22	12	54
	Course completed	19	21	9	49 (91%)
	Passed department exam	17	7	6	30 (61%)
	Passed NVQ assessment	17 (89%)	7 (33%)	2 (22%)	26 (53%)
2012	Enrolled	24	22	11	57
	Course completed	22	18	6	46 (81%)
	Passed department exam	11	9	0	20 (43%)
	Passed NVQ assessment	6 (27%)	9 (50%)	0 (0%)	15 (33%)

Note: "Course Completed" are those who completed the course study with the successful attendance rate.

Percentages shown in the table indicate as follows:

"Course completed": Completed the course study/enrolled x 100

"Passed department exam": Passed DTET exam/completed the course study x 100

"Passed NVQ assessment": Passed assessment of NVQ 5 or 6/completed the course study x 100

Sources: Number of students who enrolled, completed the courses and passed department exam were given by DTET, and the number of students who passed NVQ assessment was given by TVEC.

The status of employment of former students of the model courses of SLCoT was also studied. As Table 5 shows, the sample beneficiary survey for former students conducted in the ex-post evaluation shows the employment rate was 75 per cent on average.²⁸ The employment rates of students who studied the mechatronics and metalwork courses were as high as 90 and 86 per cent respectively, while that of the ICT course was 58 per cent and comparatively low.²⁹ The

²⁷ The department examination and the assessment of NVQ levels 5 and 6 are conducted in English, because of the need for middle-level technicians to use English in their workplace.

²⁸ The external evaluation team conducted telephone interviews with 113 former students of the model courses, whose telephone numbers were correct on the list given by the college. This is 38 per cent of all former students of the model courses, i.e. 301. The interviews were conducted in November 2013. The team defined "former students" as those who completed the course study. Those who dropped out were excluded.

²⁹ During and after completion of the project, the number of ICT training courses in both public and private institutions was increasing rapidly in Sri Lanka; however, the demand for manpower in the ICT sector in the country has been limited due to the impact of the global financial crisis, Lehman's fall. This is probably the main reason that

ratio of former students who are engaged in course-related employment out of those who are employed was 71 per cent on average of the three courses; and 57, 88, 63 per cent for the ICT, mechatronics and metalwork courses respectively. The figure for the ICT course was again the lowest among the three.

Table 5 Status of Employment of Former Students of the Model Courses (N=113)

Items	ICT	Mechatronics	Metalwork	Total
a. Employed (including self-employment)	23	26	19	68
b. Looking for employment	17	3	3	23
c. Not looking for employment due to study, sickness, etc.	16	6	0	22
d. Total (a + b+ c)	56	35	22	113
e. Employment Rate (a/(d-c) x 100)*	58%	90%	86%	75%
f. Engaged in course-related employment	13	23	12	48
g. Percentage of those engaged in course-related employment out of the total employed (f/a x 100)	57%	88%	63%	71%

*Note: "e. Employment rate" is the ratio of those who are employed out of the samples excluding those who are not looking for an employment due to study or sickness.

Source: Beneficiary Survey

In this way, the model courses of SLCoT contributed to some extent to the development of human resources, which was aimed at in the overall goal of the project. The status of employment of graduates of the mechatronics and metalwork courses is satisfactory, although there are some problems, such as the pass rate at NVQ levels 5 and 6 for students of the model courses not reaching the level the project originally expected, and the metalwork course having less students than its enrolment capacity.

2) Overall Goal 2

The second overall goal of the project was "CoTs are established and managed by utilizing lessons and experiences of SLCoT". The CoTs were established during the project with the assistance of ADB. Therefore, in the ex-post evaluation, the external evaluator studied whether DTET was improving the operation of training courses at CoTs in the country by utilizing the experience and lessons learned from SLCoT, because this overall goal of the project aimed to utilize the experience and lessons learned from the project in other CoTs in the country.

As mentioned in the section on project purpose, there were several problems with regard to the operation of the model courses at SLCoT at the time of completion of the project. The external evaluator studied the status of operation of the training courses at CoTs during the ex-post evaluation, and found that some problems had been solved and course delivery had been improved to some extent. Examples of these improvements are: revision of the curriculum of

the employment rate of the ICT course students is comparatively low.

the mechatronics course, introduction of a gap-filling course, mid-term examination³⁰ and intensive courses for English and Mathematics; and improvement of the screening process at enrollment. Some of the improvements addressed concerns of instructors of the model courses at SLCOT at the time of the project implementation. According to interviews conducted with instructors of the model courses at SLCOT and staff of DTET at the time of the ex-post evaluation, it was confirmed that these improvements were implemented based on suggestions and proposals made by the instructors of the model courses and the director of SLCOT. It was, therefore, understood that the experience and lessons learned from the project were utilized to solve these problems in the course delivery.

However, a programme to activate relationships with industry, and implementation of short-term courses for employees of industry, were not conducted successfully in CoTs or in SLCOT even at the time of the ex-post evaluation, because DTET was still unable to promote these programmes positively.³¹ Some SLCOT instructors still find it difficult to teach several modules in the curriculum of NVQ levels 5 and 6; however, this problem of inadequate teaching skills of the instructors had not been solved even at the time of the ex-post evaluation, partly because during the project period the capacity-building of SLCOT instructors was conducted mainly by training in Japan, and a system was not introduced for DTET to plan and implement a capacity development programme within the country.³² It was also found that there are not enough instructors for the course delivery in some CoTs. However, DTET was still unable to implement drastic measures to solve this problem either.³³ At the time of the ex-post evaluation, SLCOT and DTET were not aware of the manuals developed by the project; therefore, it was not possible to find out if these manuals were utilized after completion of the project.

In this manner, DTET introduced several improvements for operation of CoTs after completion of the project by utilizing the experience of SLCOT; however, with regard to the promotion of industry relationships and development of capacity and quantity of instructors, what was achieved by SLCOT and the degree of knowledge and experience gained from this achievement were not sufficient, and, because of this, DTET was not able to disseminate the

³⁰ The mid-term examination was introduced to ensure progress was made with the learning process in stages.

³¹ The main reason that short-term courses for employees of industry were not conducted was that some instructors teach more hours than they should due to the shortage of instructors in the colleges; therefore, it was not encouraged to increase their teaching hours as a result of introduction of short-term courses. The reason that the activation of industry relationships was not realized is that staff posts for promotion of industry relationships in CoTs and in DTET were sometimes vacant or not full-time; and the “technical committee” or “advisory council”, which has members from the representatives from industry, do not have a right to make decisions on implementing measures to improve the training courses, which discourages participation of the industry representatives, as explained in “Output 2” of this report.

³² For example, the instructors of the ICT model course found they do not have sufficient skills to conduct the practical lessons of the modules, such as printing and graphic design, quality assurance of software development and database management. The need for improvement of the teaching capacity is explained in detail in “3.4.3 Technical Aspect of the Implementing Agency (Sustainability)” of this report.

³³ DTET calls for applications for instructors almost every year; however recruitment does not show much progress as there were only a small number of applicants who had the required qualifications for the posts. It is also because the salary of instructors is lower than that of the private sector in general. With regard to training for the instructors, DTET discussed this with the instructors and collected information about the modules for which they need to improve their teaching skills during the monitoring visits to the colleges; however, the necessary training had not been conducted as DTET could not find ready-made training courses for capacity-building of the particular modules, and also because it was difficult to find institutions which would accept the instructors for in-plant training.

achievement to other CoTs. Therefore, it is evaluated that part of the second overall goal had not been achieved.³⁴

3.2.2.2 Other Impacts

There was no negative impact on the natural environment caused by the project. There was no involuntary resettlement or land acquisition caused by the project. The external evaluator did not observe any other impact.

In summary, the project had not achieved its project purpose by the end of the project, because: SLCoT was not in a position to accumulate the know-how on course delivery as a result of the accreditation and endorsement of the National Skills Standard and the curriculum of the NVQ levels 5 and 6 courses being delayed; the commitment of DTET to solving issues on operation of the courses was not sufficient; and the long-term JICA experts were not dispatched as planned, and as a result the progress of project activities was affected. At the time of the ex-post evaluation, the managerial and technical capacity of DTET for course delivery had still not been developed up to the expected level, and the project’s contribution to the creation of a workforce with NVQ levels 5 and 6 was also limited. In this manner, the impact created by the project is less than the plan and, therefore, effectiveness and impact of the project is low.

3.3 Efficiency (Rating: ②)

3.3.1 Inputs

Table 6 shows the planned and actual input of the project.

Table 6 Planned and Actual Inputs of the Project

Inputs	Plan	Actual
(1) Experts	- 220 man-months for Long-Term (Chief advisor, ICT, mechatronics, mechatronics and project coordinator) - 3-4 persons per year and 30 man-months in total for Short-Term	- 8 persons and 128 man-months for Long-Term (Chief advisor, ICT, mechatronics, mechatronics and project coordinator) - 18 persons and 33 man-months for Short-Term
(2) Trainees received	Fields of training (training in Japan): Technical education administration: 1; Operation and management of CoTs: 6;	Fields of training: 24 in total. The subjects of the training were as planned.

³⁴ The status of achievement of the first overall goal of PDM version five, “Lessons and experience of SLCoT on management and course delivery are utilized by other CoTs”, was explained in “3.2.2.1.1”, Overall Goal 1 in this report.

Inputs	Plan	Actual
	Training for instructors: 12; 19 in total	
(3)Third-Country Training Programs	Not planned	Total 5 persons trained in Malaysia, Philippines and Singapore
(4) Equipment	ICT (computer-related equipment), mechatronics (component processing and control machinery for practical training), metalwork (cutting, welding and testing machinery): 250 million yen in total	300 million yen. Items purchased were as planned
Total Project Cost	660 million yen	707 million yen
Total Local Cost	Amount not specified (refurbishment of classrooms and workshops)	LKR 30 million (items for expenditure were as planned)

3.3.1.1 Elements of Inputs

The long-term JICA experts on metalwork and coordinators were dispatched as planned. However, the chief advisor, experts on ICT and mechatronics were not dispatched as planned. The period of assignment of the first chief advisor was completed in June 2008. The successor had fallen sick and went back to Japan in November 2008. After that, no one was dispatched for the post of chief advisor until the end of the project as an appropriate candidate was not available. The period of assignment of the first ICT expert was completed in March 2007. After that, no one was dispatched although there were requests from the Sri Lankan side. Several short-term experts on ICT were dispatched to fill the vacancy for the long-term expert. The first expert on mechatronics fell sick and went back to Japan in March 2006. The post was vacant for around 3 months until the replacement was dispatched. As a result of these issues, the actual period of assignment of the long-term experts was 128 man-months in total, whereas it was planned to be 220 man-months (58 per cent against the plan). In order to make up for the absence of the long-term experts, several short-term experts were dispatched additionally and 3 Sri Lankan consultants were assigned on career guidance, industry relations and know-how dissemination.

The JICA expert team of the project could not take adequate initiatives with regard to monitoring and improvement of the training courses and enhancement of the capacity of DTET, because there was no chief advisor in the second half of the project period. Although the long-term expert on mechatronics was only absent for three months, this resulted in a delay in selection and procurement of equipment for the course, and a consequent delay in commencement of the course, as the time of the absence was an important period for the

selection process.

3.3.1.2 Project Cost

The project cost for the Japanese side was planned as around JPY 660 million. It was actually JPY 707 million and exceeded the plan (107 per cent against the plan). It seems that the increase in the cost of equipment and number of participants to the training programme in Japan was probably the cause of the increase in project cost.

3.3.1.3 Period of Cooperation

The period of cooperation was planned as five years from August 2005 to July 2010, and was actually five years as planned (100 per cent).

The level of participation in the project and effort for management of project progress rendered by the Sri Lankan project stakeholders was not strong enough to produce the expected results within the project period. For example, meetings of the project management committees and steering committees chaired by the Director General of DTET were not held periodically in spite of repeated requests made by the JICA experts; and meetings of the joint coordination committee of the project chaired by the Ministry of Vocational and Technical Education, which were planned to be held biannually, were not held for a period of one and a half years from 2008. The above-mentioned inadequate commitment and progress management was one of the causes of the delay in project activities and achievement of the outputs.

Although the project period was within the plan, the project cost exceeded the plan. Therefore, efficiency of the project is fair.

3.4 Sustainability (Rating: ①)

3.4.1 Related Policy towards the Project

The medium- and long-term national development plan of the country was the same both at the time of planning and completion of the project; this stresses the need to enhance technical education and vocational training programme to develop high-quality industrial workforce. The development programme of the technical education and vocational training sector of the country by the Ministry of Youth Affairs and Skills Development is *Skills Development in Sri Lanka – Achievement and Way Forward (2013 / 2014)*.³⁵ The programme considers technical education for NVQ levels 5 and 6 to be important in the future, too, for producing middle-level technicians that are in high demand in the labor market.

As mentioned in the programme, the Ministry is going to establish twenty-five University

³⁵ *Skills Development in Sri Lanka, Achievement and Way Forward, 2013/2014*, Ministry of Youth Affairs and Skills Development.

Colleges all over the country; these will conduct NVQ levels 5 and 6 diploma training courses, with the aim of further promoting production of middle-level technicians and ensuring opportunities for higher study for the youth who have completed their basic education. The University Colleges are going to conduct NVQ levels 5 and 6 technical education in forty-four subjects. As of March 2014, at the time of the field study of the ex-post evaluation, the Ministry was preparing buildings and classrooms for the colleges and processing recruitment of lecturers, so that several colleges would be opened in 2014. The Ministry was in negotiations with ADB and the World Bank to obtain financial assistance for technical education and vocational training, including the establishment of the colleges.³⁶

The Ministry and TVEC explained the reason for establishing University Colleges to expand training of NVQ levels 5 and 6, instead of utilizing CoTs, was that there were a lot of obstacles to expanding NVQ levels 5 and 6 training in CoTs, which are under DTET, and that it is difficult to take drastic measures to overcome these obstacles. One reason, for example, is that it is difficult for DTET to recruit the necessary number of instructors with adequate capability, because their salary and allowances are the standard for civil servants in DTET, and are generally lower than those of employees of private companies and instructors in private training schools and university lecturers. Another reason is that it takes a long time for the staff union of DTET to show their acceptance of the various new programmes introduced in CoTs.³⁷ According to the Ministry, University Colleges will be established under UNIVOTEC, and will be categorized as universities. Therefore, University Colleges will be able to recruit persons with higher capability for teaching staff, as they will have the status and benefits of “university lecturers”. The Ministry also plans to operate five out of the twenty-five colleges to be established in partnership with the private sector, to meet the needs of the labor market more precisely and also to ensure employment opportunities for the students. The Ministry stated that the establishment of University Colleges is a positive strategy to promote technical education of NVQ levels 5 and 6 more effectively.

The Ministry further explained that the NVQ levels 5 and 6 training courses which are conducted in CoTs, including SLCoT, will be gradually transferred to the University Colleges; however, the detailed plan for the transfer, for example, which University Colleges the model courses of SLCoT will be transferred to, had not been documented. The Ministry also explained

³⁶ ADB’s news release dated 31st March, 2014 said that ADB’s Board of Directors has approved a US\$ 100 million loan for the Sri Lankan government’s Skills Sector Development Programme.

³⁷ As mentioned in “1.1 Background” of this report, prior to commencement of the project the Sri Lankan government promoted transfer of the technical education and vocational training courses conducted by public institutions from a curriculum-based to a competency-based training (CBT) system and introduction of a qualification system based on NVQ. At the time of the ex-post evaluation, the majority of training courses under DTET offered qualifications according to the NVQ system. However, some courses were still conducting training according to the conventional system, and transfer to the NVQ system has not been completed even 10 years after its introduction. According to the ADB report, *The National Qualifications Framework for Skills Training Reform in Sri Lanka, 2011*, transfer to the NVQ system did not show planned progress due to insufficient understanding of CBT among the staff unions and staff of DTET, and resistance to change. However, the Director General of DTET issued a letter addressed to all directors of the colleges to conduct all courses based on the NVQ system. Therefore, the speed of transformation could accelerate in future.

that the resources, experience and lessons taken from the project will be utilized for administration of the University Colleges as much as possible. However, a specific plan for utilization has not yet been prepared. It is anticipated that there will be limited utilization of the instructors at CoTs because it is necessary to have a university degree to be a lecturer at the University Colleges.³⁸ In this manner, at the time of the ex-post evaluation there was uncertainty with regard to the effective future utilization of the outcomes of the project, including the experience and achievements of the model courses at SLCoT and the resources of CoTs, as well as with sustainability of the project effects, given the present policy background.

3.4.2 Institutional Aspects of the Implementing Agency

DTET is responsible for operation and administration of the nine CoTs and twenty-nine TCs in the country, including personnel and financial management, implementation of entrance examinations and department examinations, monitoring and evaluation of training courses, and supervision of industry relationships and career guidance programmes. There are 2,211 staff members of DTET at present, including instructors and administration staff, while the approved cadre is 3,856 (a shortfall of 1,645). Among them, there are 521 instructors, which include “lecturers” who have a bachelor’s degree and general teaching staff called “instructors”, while the approved cadre is 1,161 (a shortfall of 640). DTET has a serious shortage of staff in this way. DTET calls for applications for instructors almost every year; however it is difficult to recruit persons with high capability, because the salary of the instructors is based on the standard of public servants in general and is comparatively low. Especially, DTET found it difficult to recruit instructors for the colleges in rural areas, because there are persons with technical skills for teaching, but they can only be recruited if they pass the test for general knowledge. In DTET head office and in the colleges, the posts for quality control of the training courses, relationships with industry and career guidance are sometimes vacant or do not have full-time staff in charge, and this is one of the causes for the programme for monitoring and evaluation of the courses and industry relationships not being conducted sufficiently. In this manner, DTET does not have an adequate solution to solve the shortage of staff, and, therefore, the organization does not have an established system to maintain the project effects in future.

In SLCoT, the post of deputy director, who is responsible for the monitoring of training courses, and several posts for administration were not filled. The number of instructors and lecturers for the model courses is eleven in total, although the approved cadre is sixteen (a shortfall of five). However, the training is conducted without any interruption as instructors

³⁸ The University Colleges will use the curriculum and teaching materials currently used in CoTs. The specific courses of CoTs to be transferred to particular University Colleges will be decided one by one, considering the demand of the workforce and priority of local industry at the location of University Colleges to be established. It is planned to transfer ownership of CoTs’ machinery and teaching materials to the University Colleges as much as possible for utilization, although there is no specific plan for this at the time of the ex-post evaluation. There would be limited utilization of the instructors in CoTs. There is no plan to transfer all the instructors at CoTs to the University Colleges, because there are instructors at CoTs who do not have a bachelor’s degree, and teaching posts at University Colleges require a bachelor’s degree. Those who have a degree are able to apply for a teaching post at the University Colleges. However, those who do not have a degree will most probably stay in CoTs or TCs.

undertake two duties or work for additional hours.

3.4.3 Technical Aspects of the Implementing Agency

The operations manual produced by ADB and TVEC is used for operation of NVQ levels 5 and 6 courses in CoTs. Application of the curriculum, examinations and NVQ assessments are conducted in accordance to the manual. As mentioned in the section on Impact of this report, DTET had introduced several measures to improve the operation of NVQ levels 5 and 6 courses, however, there are still some issues, such as activation of industry relationships and enhancement of the quality and quantity of the instructors. Therefore, the managerial and technical capacity of DTET with regard to the operation of NVQ levels 5 and 6 courses had not been developed up to the expected standard of the project, and there is no particular programme to improve the capacity up to the expected standard in future.

Capacity-building of instructors of the ICT course is an important task for DTET. To meet the needs of industry, the curriculum of NVQ levels 5 and 6 courses includes modules such as quality management of goods and services, teaching of which needs working experience in industry. However, the majority of instructors do not have working experience in the private sector and find it difficult to conduct practical lessons for these modules. DTET encouraged instructors to participate in training courses conducted by donor agencies and others to improve their teaching skills. However, DTET has not conducted a programme to improve teaching capacity of particular modules by arranging in-plant training, which is exactly what the ICT instructors require at the moment.³⁹ By taking the need for capacity development of the instructors seriously, DTET plans to commence technical training in 2014 for instructors and staff of the organization intensively by implementing the proposed 5-year programme, which was developed in 2014 and includes training for instructors on education methodology, computer and subject-related skills. However, at the time of the ex-post evaluation this programme was still a plan, and there was still no clear prospect of DTET solving the problem of capacity development of the instructors.

In this manner, managerial capacity of DTET on NVQ levels 5 and 6 courses, which were undertaken by the project, has still not reached the expected level, and there is no clear prospect for improvement in future; therefore, it is difficult to say that DTET has adequate technical capacity to maintain the project effects.

3.4.4 Financial Aspects of the Implementing Agency

Table 7 shows the amount of approved budget and actual expenditure of DTET in total and actual expenditure of the nine CoTs in recent years. The amount of approved budget and actual expenditure has been increasing annually by taking the price hikes into consideration. The

³⁹ The Ministry of Youth Affairs and Skills Development has identified a strong need for in-plant training for instructors, and conducted an in-plant training programme in 2013. Ninety-nine instructors of CoTs and TCs participated in the programme.

amount of actual expenditure is less than the approved budget because disbursement from the Ministry of Finance is sometimes delayed. The amount of budget for each college is sufficient in general to conduct training courses according to the defined curriculum; however, the allocation for materials and consumables for practical lessons is often not enough. The instructors managed to conduct such lessons by saving materials as much as possible, and reusing materials used by previous batches of students.

Table 7 Annual Budget and Expenses of DTET

(Unit: thousand rupees)

	Year	2010	2011	2012	2013
DTET	Approved budget	1,174,075	1,298,810	1,411,835	1,516,000
	Actual expenses	1,008,103	1,091,641	1,288,690	1,046,486*
9 CoTs**	Actual expenses	288,475	385,030	424,130	417,300*

Note : *Amount of actual expenses of 2013 is the total from January 2013 to end of October 2013.

** Amount of actual expenses of 9 CoTs is included in the amount of actual expenses of DTET.

Source: DTET

The equipment and tools provided by the project are utilized well except for some equipment on the mechatronics course.⁴⁰ This equipment and tools were provided with appropriate maintenance in general. However, the software installed in some equipment of the ICT and mechatronics courses had not been updated from the time they were provided, and, thus, the versions of the software are older than what is used currently by private companies in Sri Lanka. There is no plan to update them, as DTET does not have a system to allocate a budget for periodic update of the software of training equipment. There is a concern that the training courses using this equipment may become outdated and not meet the needs of the private sector.

Major problems have been observed in terms of the policy background, institutional and technical aspects of the implementing agency. Therefore, sustainability of the project effect is low.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was implemented with the objective of DTET, which is the supervisory organization of SLCoT gaining the necessary capacity to establish and operate CoTs, which were planned to be established in each province, through the experience of establishing NVQ levels 5 and 6 training courses in SLCoT, and thereby contributing to the production of middle-level technicians.

Enhancement of the technical education and training programme for development of

⁴⁰ A PIB controller and a PCB cutting machine for the mechatronics course were not being utilized because the operation manuals for the machinery had been misplaced after the instructor who was originally in charge of the relevant modules in the course was transferred.

workforce was an important task in the middle- and long-term development plan of the country, both at the time of planning and completion of the project. There was a development need in the country to improve technical education and produce workforce which met the demands of industry. This plan and needs were also in line with the strategy of Japanese assistance to Sri Lanka. Therefore, relevance of the project is high.

The project purpose was not achieved by the time of project completion mainly because: endorsement of the curriculum of NVQ levels 5 and 6 training courses had been delayed and, as a result, SLCoT was not able to accumulate the know-how for operation of the courses; the commitment of DTET for solving issues with operation of the courses was not sufficient; and the long-term JICA experts were not dispatched as planned, and as a result the progress of the project activities was affected. At the time of the ex-post evaluation, managerial and technical capacity of DTET for operation of the training courses had not been developed up to the expected level, and the project had not contributed adequately to the creation of workforce with NVQ levels 5 and 6 qualifications. The impact created by the project is less prominent than what was expected, and therefore effectiveness and impact of the project is low.

Although the project period was within the plan, the project cost exceeded the plan. Therefore, efficiency of the project is fair.

Although the project period was within the plan, the project cost exceeded the plan. Therefore, efficiency of the project is fair. A specific plan to transfer resources of CoTs, such as achievements in the operation of NVQ levels 5 and 6 courses, knowledge and experience of the instructors and equipment, to University Colleges which are to be established all over the country in future, has not yet been prepared. DTET has several problems in terms of operation of the institute and technical aspects, such as a chronic shortage of staff, inability to take effective measures to enhance the quality and quantity of instructors at CoTs, and to activate relationships with industry. Therefore, sustainability of the project is low.

In light of the above, this project is evaluated to be unsatisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Implementing Agency

(1) Transfer experience and resources of the project to the University Colleges effectively

The experience of the operation of NVQ levels 5 and 6 courses, knowledge and experience of the instructors, machinery and equipment of CoTs, including SLCoT, should be effectively utilized in the University Colleges to be established, so that none of it will be wasted. It is advised to develop a specified plan to utilize and transfer the resources of CoTs effectively and implement the same according to the plan at the time the training courses of CoTs are transferred to the University Colleges.

(2) Improvement of the pass rate of assessment of NVQ levels 5 and 6

The pass rate of assessment of NVQ levels 5 and 6 of students of the model courses is far below the initial target of 80 per cent. The pass rate is an important indicator to measure effectiveness and efficiency of the training. It also shows the level of contribution of the

training courses to the development of human resources with skills to meet the needs of industry. It is necessary for DTET to analyze the reasons for the low pass rate and implement necessary measures for improvement, for example, by improving teaching skills of the instructors and enhancing the training by inviting external lecturers from industry.

(3) Budget allocation for the update of software of machinery for training

The software installed in some equipment for the ICT and mechatronics courses of SLCoT had not been updated since they were provided by the project. DTET needs to allocate the necessary budget for periodic update of the software of this machinery, so that the training always meets market needs.

4.2.2 Recommendations to JICA

It is recommended that JICA keep in regular communication with the relevant institutions in this sector, such as the Ministry of Youth Affairs and Skills Development, DTET and ADB, and pay attention to the effective utilization of the effects of the project, especially as there is a plan that CoTs will be transferred to the University Colleges.

4.3 Lessons Learned

(1) Activities and objectives of the project should be more focused when a project is implemented along with the establishment of a new system

The project aimed to introduce the new training courses, improve the teaching skills of instructors, establish industry relationships, monitor and improve the training courses, develop managerial capacity of the implementing agency and utilize the project outcomes in other colleges - although it commenced without waiting for the establishment of a framework for the proposed NVQ levels 5 and 6 training courses. Although the project tried to achieve many things, only a part of the outputs were attained and the project purpose was not achieved due to the influence of the significant delay in establishing the framework of the proposed courses. If a project is going to conduct activities in accordance with a new system, without waiting for the establishment of its framework, it should be aware of the risks caused by a possible delay in establishing the framework and prepare a scenario and measures to be taken if it is delayed. The project design should be developed after narrowing down proposed activities according to the priority, which can be introduced and implemented steadily, taking the given time and resources into consideration.

(2) A focused and continuous effort for improving the teaching capacity of instructors should be made when a training course is introduced where the level is higher than existing ones, or where the curriculum intensively reflects the needs of industry

The project introduced training courses of a higher level than existing ones, based on a curriculum developed reflecting the market needs, in order to deal with an issue of shortage of middle-level technicians and to conduct training that meets market needs. However, the teaching capacity of instructors of the model courses had not been sufficiently enhanced, and this problem became one of the causes for the low pass rate of students for the department

examination and NVQ assessment. This is partly because the capacity development of SLCoT instructors had been conducted mainly through training in Japan, and a system for DTET to plan and conduct programmes for enhancing the capacity of instructors in the country was not introduced. A focused and continuous effort to improve the teaching capacity of instructors should be made when a training course of a higher level than existing ones, or whose curriculum intensively reflects the needs of industry, is introduced, as there could be a difference between the capacity of instructors and the newly-introduced curriculum. It is also important for the enhancement of sustainability of the project effects that the implementing agency establishes a system and activities during the project period to conduct programmes to enhance the capacity of instructors continuously utilizing resources in the country.

BOX : Suggestions and lessons learned from a comparative study of four technical cooperation projects of vocational training

While conducting this ex-post evaluation, a comparative study of technical cooperation projects was conducted to find their features and effects, by taking examples from four projects: “The Project for Instructors Training for Vocational and Training” in Uganda, “The Project on Strengthening the Programme of Expanding Automation Technologies Department (SPREAD)” in the Republic of Turkey, “The Project for Strengthening the Capacity of Training Management of Vocational Training Corporation” in Jordan and this project. The following suggestions and lessons were learned from the analysis of the main components of the four projects: (1) development and implementation of policies and systems of vocational training; and (2) strengthening of functions of vocational training centers.

1. Development and implementation of policies and systems of vocational training

When a project is implemented along with the development of new policies and systems for vocational training, a delay in the development or change in the systems can be a risk factor for the project to achieve its purpose or create the expected effects. With the project in Uganda, a qualification system was established as planned partly because the project activities included the activities to contribute to the establishment of the system; and the established system had facilitated the creation and continuation of the expected effect of the project. A change in the conditions of qualification of the instructors with the project in Turkey, a delay in the restructuring of Vocational Training Corporation assisted by the World Bank with the project in Jordan, and a delay in establishing a new vocational qualification system assisted by the Asian Development Bank with the project in Sri Lanka, gave a negative influence for the creation and continuation of the project effects. These examples suggest the importance of adequate study of the implementation capacity of the government institutions which are responsible for the development of the policies and systems, and the importance of collecting information on the contents and progress of the policies and the systems to be developed.

2. Strengthening of functions of vocational training centers

(1) Assistance with establishment of training management cycle

It is essential to assist the counterpart officers until they are able to operate the training management cycle independently in projects to assist the establishment of a cycle, which includes planning, implementation, monitoring, evaluation and improvement of training courses. With the project in Jordan, the training management cycle was further disseminated after the project, as a result of the staff of Vocational Training Corporation operating the cycle two to three times independently and also experiencing dissemination of the cycle to other training centers than the model training centers. As for the projects of Turkey and Sri Lanka, the counterpart officers could not gain adequate knowledge and experience of the cycle during the projects; therefore, they were not able to gain the necessary technical skills to operate the cycle on their own.

(2) Reflection of the needs of industry in the training courses

For introduction of measures to reflect the needs of industry in the training courses, it is important to establish a system that incorporates advice from industry representatives into the training courses immediately, not just to receive advice from them. With the project in Jordan, Curriculum Development Committees, which included industry representatives, were provided with authority to add training items, review the hours of practical lessons, etc. The project also introduced a system for decisions of the committees to be incorporated in the next training courses. This system was functioning at the time of the ex-post evaluation. Technical committees formed in the project of Sri Lanka, on the other hand, did not have authority to decide on revisions and improvement of the training courses; therefore, the suggestions of the committees were not incorporated into the revision and improvement of the training courses immediately. As a result, the industry representatives of the committees gradually lost interest in participating in the committees, and the committees became non-operational.

(3) Capacity building of the instructors

It is important for projects aiming at capacity building of instructors to adequately identify the gaps between the existing capacity of the instructors and what is required to conduct the training courses; and to establish a system for the implementing agencies to improve capacity of the instructors continuously by using resources available in the countries, in addition to the training sessions in Japan and technical transfer from JICA experts. With the project in Jordan, Vocational Training Corporation had planned and conducted in-plant training for the instructors during the project and has been continuing such trainings even after project completion. With the project in Uganda, no new master trainers, who conduct training for the instructors and managers, had been trained after completion of the project; this was a result of master trainers only being trained in Japan, and, therefore, the implementing agency had not learned how to carry out the training. With the project in Sri Lanka, capacity building of the instructors of the model training courses was mainly conducted in the training in Japan, and a system for the relevant ministry and department to plan and conduct measures for capacity building of

instructors had not been introduced by the project. As a result, some of the instructors having insufficient teaching skills was still a problem at the time of the ex-post evaluation.