

Country Name	The project for capacity building in CTTI
Islamic Republic of Pakistan	

I. Project Outline

Background	In Pakistan, Construction Technology Training Institute (CTTI) ¹ was the only vocational training center with courses for maintenance and repair of construction and other heavy machinery in addition to automobile maintenance. Although there were high employment needs for its graduates, the curriculum had not been revised since 1986. There was a need to revise the curriculum based on the requests and needs of industry, to give guidance to the teachers accordingly, to provide necessary equipment, and to further strengthen the job placement service.		
Objectives of the Project	Through (i) updating of the curriculums for the targeted courses; (ii) training of instructors to be able to teach the new targeted courses in line with the updated curriculums, and (iii) strengthening of placement support provided the CTTI, the project aims at provision of quality technical education and placement support at CTTI based on the latest industrial needs in Pakistan, thereby contributing to provision of qualified technical human resources to major industries by CTTI. 1. Overall Goal: Qualified technical human resources trained at CTTI is provided to major industries. 2. Project Purpose: Quality technical education and placement support are provided at CTTI based on the latest industrial needs.		
Activities of the Project	1. Project site: Islamabad 2. Main activities: Needs assessment of labour market for industries, review and revision of the curriculums of the 5 targeted courses ² and finalization of the teaching materials for the new curriculums; training of instructors for the 5 targeted courses, trial lessons by the trained instructors, evaluation of the trial lessons and feedbacks; basic survey on current placement support and development, implementation and institutionalization of the action plan for strengthening the placement support system. 3. Inputs (to carry out above activities) Japanese Side 1) Experts: 5 persons 2) Trainees received: 8 persons 3) Equipment: Equipment to conduct the updated curriculums and the targeted courses 4) Local cost Pakistan Side 1) Staff allocated: CTTI officials and teaching staff 2) Building and facilities 3) Local cost		
Project Period	(ex-ante) April 2015-April 2017 (actual) December 2015-March 2019	Project Cost	(ex-ante) 307 million yen, (actual) 450 million yen
Implementing Agency	Construction Technology Training Institute (CTTI)		
Cooperation Agency in Japan	Overseas Vocational Training Association; Asia Engineering Consultant Co., Ltd.; Ingerosec Corporation		

II. Result of the Evaluation

<Special Perspectives Considered in the Ex-Post Evaluation>

- The Overall Goal Indicator (“The employment rate is more than 80%”) was interpreted to be “The employment rate of the CTTI graduates (targeted courses) more than 80%” according to the understanding of CTTI at the time of project implementation, which was confirmed through the field survey.³ The average employment rate in the past 5 years (Pakistan Fiscal Year (PFY)⁴ 2017-2021) was checked because (i) the Project Completion Report presented the average employment rate in the past 5 years as the latest result of this indicator and (ii) the action plan for placement support system prepared under the project was implemented from the end of 2016.

1 Relevance/Coherence
[Relevance] <Consistency with the Development Policy of Pakistan at the Time of Ex-Ante Evaluation > The project was consistent with the development policy of Pakistan, the Pakistan Vision 2025 (2014), at the time of ex-ante evaluation, which set forth development of human and social capital, including improvement of quality of education such as improvement of relevance of the curriculum to the development needs. <Consistency with the Development Needs of Pakistan at the Time of Ex-Ante Evaluation > The project was consistent with the development needs of Pakistan for capacity building of CTTI at the time of ex-ante evaluation as mentioned in “Background” above. <Appropriateness of Project Design/Approach> No problem attributed to the project design/approach was confirmed. Thus, the project design/approach was appropriate.

¹ The institute was initially established as the Construction Machinery Training Center (CMTC) under the Japanese grant aid project (1984).

² The targeted courses consisted of Construction Machinery Engine Mechanic (CMEM) course (6 months), Construction Machinery Hydraulic Mechanic (CMHM) course (6 months), Construction Machinery Operator (CMO) course (6 months), Construction Machinery Planning & Employment (CMP&E) course (1 month), and Construction Machinery Supervisory (CMS) course (1 month).

³ It is noted that the original Overall Goal indicators stated in the Ex-ante Evaluation Sheet also targeted the graduates of the targeted courses.

⁴ PFY is from July to June.

<Evaluation Result>

In light of the above, the relevance of the project is ③⁵.

[Coherence]

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with the Japan's ODA policy to Pakistan at the time of ex-post evaluation. The Country Assistance Policy for the Islamic Republic of Pakistan (2012) included an assistance for "increasing competitiveness of the manufacturing industries" under one of the three priority areas of "Improvement of economic infrastructure".

<Collaboration/Coordination with other JICA's interventions>

Any collaboration/coordination between the project and other JICA's intervention was not clearly planned at the time of ex-ante evaluation.

<Cooperation with other institutions/ Coordination with international framework>

Any cooperation/coordination with other institutions was not clearly planned at the time of ex-ante evaluation.

<Evaluation Result>

In light of the above, the coherence of the project is ②.

[Evaluation Result of Relevance/Coherence]

In the light above, the relevance/coherence of the project is ③.

2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the Time of Project Completion>

At the time of project completion, the Project Purpose was mostly achieved as planned. Under the project, the curriculums for the 5 targeted courses were updated at CTTI. The average pass rate of the completion exams was 91-100% for the 5 targeted courses⁶ (target figure: more than 90%) (Indicator 1). According to the results of the questionnaire survey conducted by the project, the average satisfaction rate of the graduates with the updated curriculums was 93-100% for the 4 targeted courses (CMHM, CMO, CMP&E, and CMS),⁷ but 86% for CMEM (target figure: more than 90%) (Indicator 2).

<Continuation Status of Project Effects at the Time of Ex-Post Evaluation>

By the time of the ex-post evaluation, the project effects have been continued.

As for the 6-month targeted courses (i.e., CMEM, CMHM and CMO), the updated curriculums have been continuously utilized at CTTI except for the semester starting from July 2020, when the sessions were suspended due to the COVID-19 pandemic. The updated curriculums of the 1-month courses (i.e., CMP&E and CMS) have not been utilized at CTTI except for CMP&E conducted in July 2019 due to insufficiency of the number of applicants. In total, 661 persons have been enrolled in the targeted courses with the updated curriculums (859 persons in total including those graduated before the project completion). It is worthwhile mentioning that, in 2019, the updated curriculums of all the 5 targeted courses were approved by National Vocational and Technical Training Commission (NAVTTTC), the competent authority of national vocational and technical training in Pakistan, including curriculum development, and became part of their syllabus as well. Since then, all the targeted courses, including CMP&E and CMS, have been utilized by NAVTTTC. It is noted that NAVTTTC is offering free courses for learners for CMP&E and CMS on grant basis with an honorarium of Rs.3,000 per month throughout the country while the courses at CTTI are offered on payment basis. According to CTTI, this is the major reason of insufficiency of applicants for CMP&E and CMS stated above because the majority of learners prefer the free courses. In addition, CMP&E and CMS, which target the professionals already employed, have been affected by the COVID-19 pandemic more severely than the other courses as the firms did not spare their employees to avoid risk for the COVID-19 infection.

For each of the 4 targeted courses conducted at CTTI after the project completion, the average pass rate of the completion exams is more than 90% (i.e., 94-100%) because of the contribution of the enhanced capacity of instructors through the project. The average satisfaction rate of the graduates of each of these 4 courses with the updated curriculums is also more than 90% (i.e., 96-100%) because the updated curriculums are related to the latest/modern technologies and in accordance with the industrial needs. The fact that the updated curriculums have been approved by NAVTTTC has also contributed to the high satisfaction rate. The pass rate and the satisfaction rate of CMP&E are not available because the course has not been conducted at CTTI as explained above.

<Status of Achievement of the Overall Goal at the Time of Ex-Post Evaluation>

At the time of ex-post evaluation, the Overall Goal has been achieved beyond the plan. The employment rate of the graduates of the targeted courses conducted at CTTI averaged 93%⁸ from PFY2017-2020 (target figure: more than 80%) although it decreased from 96-97% in PFY2017-2018 to 89% in PFY2019-2020 due to reduced employment opportunities in the construction sector caused by the COVID-19 pandemic. The higher-than-the targeted employment rate was mainly promoted by the liaison with the industries improved under the project. Considering the past trends, the employment rate in PFY2021 is unlikely to drop largely even with continuous effect of the COVID-19 pandemic. It is likely that the higher-than the targeted employment rate will be maintained in PFY2017-2021.

<Other Impacts at the Time of Ex-Post Evaluation>

There was a synergetic effect with the JICA's grant aid project (1984) explained in footnote 1 because some of the equipment procured under this grant aid project is being used for CMO, CMEM and CMHM at CTTI. In addition, there is a gender impact because skills and knowledge of the female instructors of the targeted courses of CTTI have been enhanced through participation in the project. Meanwhile, no negative impacts have been observed.

<Evaluation Result>

In light of the above, the effectiveness/impact of the project is ③.

⁵ ④: very high, ③: high, ②: moderately low, ①: low *To be the same afterwards.

⁶ The data for CMO and CMS presented in the Project Completion Report was updated based on the CTTI's record.

⁷ Ditto.

⁸ The employment rate of the graduates of the 1-month targeted courses (i.e., CMP&E and CMS) is not included because the 1-month courses target the professionals already employed, who are sent by their firms.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results	Source																																																																																	
(Project Purpose) Quality technical education and placement support are provided at CTTI based on the latest industrial needs.	Indicator 1: More than 90% of the targeted courses' students pass the exam.	<p>Status of the Achievement (Status of the Continuation): achieved beyond the plan (continued) (Project Completion) (Ex-Post Evaluation) >Pass rate of the completion exams of the targeted courses conducted at CTTI (Unit: %)</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Starting month</th> <th colspan="3">Project Completion</th> <th colspan="6">Ex-post Evaluation (as of May 2022)</th> </tr> <tr> <th>Jan 2018</th> <th>Jul 2018</th> <th>Average</th> <th>Jan 2019</th> <th>Jul 2019</th> <th>Jan 2020</th> <th>Jul 2020</th> <th>Jan 2021</th> <th>Jul 2021</th> <th>Average</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CMEM</td> <td>/</td> <td>100</td> <td>100</td> <td>81</td> <td>100</td> <td>89</td> <td>*(1)</td> <td>100</td> <td>100</td> <td>94</td> </tr> <tr> <td>2</td> <td>CMHM</td> <td>/</td> <td>100</td> <td>100</td> <td>100</td> <td>85</td> <td>100</td> <td>*(1)</td> <td>88</td> <td>100</td> <td>95</td> </tr> <tr> <td>3</td> <td>CMO</td> <td>86</td> <td>95</td> <td>91</td> <td>95</td> <td>100</td> <td>89</td> <td>*(1)</td> <td>96</td> <td>100</td> <td>96</td> </tr> <tr> <td>4</td> <td>CMP&E</td> <td>100</td> <td>/</td> <td>100</td> <td>*(2)</td> <td>*(2)</td> <td>*(2)</td> <td>*(1)</td> <td>*(2)</td> <td>*(2)</td> <td>N/A</td> </tr> <tr> <td>5</td> <td>CMS</td> <td>/</td> <td>100</td> <td>100</td> <td>*(2)</td> <td>100</td> <td>*(2)</td> <td>*(1)</td> <td>*(2)</td> <td>*(2)</td> <td>100</td> </tr> </tbody> </table> <p>*(1): Sessions were not conducted in the semester starting from July 2020 due to the COVID-19 pandemic *(2): CMP&E and CMS have not been continued except for CMS in July 2019 due to insufficiency of applicants.</p>		Starting month	Project Completion			Ex-post Evaluation (as of May 2022)						Jan 2018	Jul 2018	Average	Jan 2019	Jul 2019	Jan 2020	Jul 2020	Jan 2021	Jul 2021	Average	1	CMEM	/	100	100	81	100	89	*(1)	100	100	94	2	CMHM	/	100	100	100	85	100	*(1)	88	100	95	3	CMO	86	95	91	95	100	89	*(1)	96	100	96	4	CMP&E	100	/	100	*(2)	*(2)	*(2)	*(1)	*(2)	*(2)	N/A	5	CMS	/	100	100	*(2)	100	*(2)	*(1)	*(2)	*(2)	100	Project Completion Report (PCR), CTTI's record, questionnaire and interview to CTTI
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3 Efficiency

The project cost exceeded the plan (the ratio against the plan:147%) and the project period considerably exceeded the plan (the ratio against the plan:163%). The project period considerably exceeded the plan mainly because the trial lessons of the targeted courses, initially scheduled in January to July 2017, were postponed a few times until January to December 2018 due to delay of activities caused by a broader than expected range of revision made to the curriculums of the targeted courses and as well as delay of selection and arrival of the training equipment for some targeted courses for various reasons.⁹ Outputs were produced as planned. In the light above, the efficiency of the project is ①.

4 Sustainability

<Policy Aspect>

The Pakistan Vision 2025 stated in “Relevance” is still effective at the time of ex-post evaluation. In addition, the National Skills for All (up to 2038) prepared by the Ministry of Education in 2018 includes “Improving Quality” of Technical and Vocational Education and Training in one of its 8 pillars.

<Institutional/Organizational Aspect>

At CTTI, the organizational structure to promote the updated curriculums and placement support improved under the project has not been changed and has been functioning. According to CTTI, the necessary number of staff is allocated (i.e., 11 for the updated curriculums and 2 for the placement support as of May 2022). It is noted that CTTI not only retains the same staff at the commencement of the project but also hired 3 additional female staff members after the project completion. CTTI stated that they would employ more human resources if it were required in the future.

⁹ Since the amount of revision of the curriculum greatly exceeded the forecast, it was necessary to reevaluate the equipment drastically. It took time to make inquiries to manufacturers and to prepare specifications for much custom-made equipment such as engine cutaway models. The list of equipment had to be revised a few times due to budgetary and technical issues. It took time to deliver the equipment as it was mostly custom-made.

<Technical Aspect>

CTTI has sustained the necessary skills and knowledge to promote the updated curriculums and placement support improved under the project because the staff trained under the project have been retained and 3 qualified female staff members have been joined since the project completion. The staff members have maintained the skills and knowledge to implement the updated curriculums for the continuing 3 targeted courses and placement support through application in daily work and continuous training to instructors, including on-the-job training. The manuals and materials for the continuing 3 targeted courses have been also utilized. As for CMS and CMP&E, which are not continued, the necessary skills and knowledge have been also maintained because, in addition to the existence of the trained /qualified staff stated earlier, the manuals and materials developed under the project kept at CTTI can be referred to when necessary. In addition, the updated curriculums for all the targeted courses and the related manuals and materials have been used by NAVTTC as explained earlier. The training equipment provided to CTTI under this project has been maintained in good condition and has been used for CMEM and CMHM as originally intended.

<Financial Aspect>

CTTI has continuously secured the necessary budget to implement the targeted courses, including operation and maintenance of the provided training equipment, and to promote placement support from the Ministry of Communication.

<Environmental and Social Aspect>

No issue on environmental and social aspect has been observed and it has not been necessary to take any countermeasures.

<Evaluation Result>

In light of the above, no problem has been observed in terms of the policy / institutional/organizational / technical / financial/ environmental and social aspects. Therefore, the sustainability of the project effects is ④.

5 Summary of the Evaluation

The project mostly achieved as planned the provision of quality technical education and placement support at CTTI based on the latest industrial needs in Pakistan (Project Purpose) and achieved beyond the plan the contribution to provision of qualified technical human resources to major industries by CTTI (Overall Goal). After the project completion, the effects of the project have been continued. The project cost exceeded the plan, and the project period considerably exceeded the plan. Considering all of the above points, this project is evaluated to be satisfactory.

III. Non-score Items

Adaption and Contribution:

As the provision of the equipment was delayed. JICA Pakistan Office persistently followed up the arrival of the equipment. JICA Pakistan Office also delivered the equipment and remained at CTTI at the time of inspection of the equipment. Moreover, JICA Pakistan Office has communicated time to time with the implementing agencies and has very good partnership with the implementing agencies.

Additionality and Creative Values:

Through the training in Japan, 8 members of CTTI staff visited Japan for exposure. CTTI staff visited Japan shared the knowledge with other staff and has focused on knowledge management.

IV. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

- None.

Lessons Learned for JICA:

- Delivery of the provided equipment should be on time to avoid delay in the related activities and in-extension of the project period.
- Future prospects of the courses should be discussed before starting the project which includes development of training courses.



Training Session for CMEM for Students at CTTI



Bulldozer provided under the project for CMO