スリランカ民主社会主義共和国
技術教育訓練再編整備計画プロジェクト
終了時評価調査報告書

平成22年6月
（2010年）

独立行政法人国際協力機構
スリランカ事務所・人間開発部

スリ事
JR
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序　　文

独立行政法人国際協力機構は、スリランカ民主社会主義共和国と締結した討議議事録（R/D）に基づき「技術教育訓練再編整備計画プロジェクト」を 2005 年 7 月から 5 年間の予定で実施して参りました。

このたび、当機構は期間中の活動実績等について総合的な評価を行うとともに、今後の対応策等を協議するために、スリランカ民主社会主義共和国側と共同で 2010 年 3 月 1 日から 3 月 19 日まで終了時評価調査を実施しました。

本報告書は、同調査によるプロジェクト関係者との協議、及び評価調査結果等を取りまとめたものであり、本プロジェクト並びに関連する国際協力の推進に活用されることを願うものです。

終わりに、本調査にご協力とご支援を頂いた内外の関係者に対し、心からの感謝の意を表します。

平成 22 年 4 月 19 日

独立行政法人国際協力機構

スリランカ事務所長　志村　哲

目　　次


コロンボ
（マラダナ校所在地）
INDIA
Palk Strait
Palk Bay
Gulf of Mannar
Bay of Bengal
INDIAN OCEAN
NORTH EASTERN
NORTH CENTRAL
NORTH WESTERN
CENTRAL
UVA
WESTERN
SABARAGAMUWA
SOUTHERN
Kankesanturai
Point Pedro
Jaffna
Tondi
Devipattinam
Delft Island
Dhanushkodi
Ferry
Mullaittivu
Mankulam
Mannar
Pulmoddai
Vavuniya
Trincomalee
Anuradhapura
Kalpitiya
Puttalam
Habarane
Polonnaruwa
Batticaloa
Maho
Kurunegala
Matale
Kandy
Amparai
Negombo
Kegalla
Nuwara Eliya
Badulla
Colombo
Moratuwa
Monaragala
Pottuvil
Ratnapura
Opanake
Kalutara
Hambantota
Galle
Matara
Sri Lanka
National capital
Province boundary
Province capital
Railroad
Road
0 20 40 Miles
0 20 40 Kilometers
Base 802514 6-00

ミニッツ署名式

合同調整委員会での調査結果報告、意見交換

略　語　表

ADB	Asian Development Bank	アジア開発銀行
CAD	Computer-aided Design	キャド（コンピュータ援用設計）
CG	Career Guidance	キャリア・ガイダンス
CoT	College of Technology	技術短大
DG	Director General	局長
DTET	Department of Technical Education and Training	技術教育訓練局
ERD	Department of External Resources	財務計画省対外援助局
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit	ドイツ技術協力公社
ICT	Information and Communication Technology	情報通信技術
JCC	Joint Coordinating Committee	合同調整委員会
JSCoT	Project for Establishment of Japan - Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka	技術教育訓練再編整備プロジェクト
KOICA	Korea International Cooperation Agency	韓国国際協力団
MVTT	Ministry of Vocational and Technical Training	職業・技術訓練省
NAITA	National Apprentice and Industrial Training Authority	国立徒弟・工業訓練公団
NVQs	National Vocational Qualifications	国家技能標準
PLC	Programmable Logic controllers	プログラマブル論理制御装置
SLCoT	Sri Lanka College of Technology	スリランカ技術短大
TC	Technical College	技能短大
TEDP	Technical Education Development Project	技術教育開発プロジェクト（ADBの資金協力によるプロジェクト）
TVEC	Tertiary and Vocational Education Commission	高等職業教育委員会
TVET	Technical Vocational Education and Training	技術教育訓練
UNIVOTEC	University of Vocational Technology	職業技術大学

終了時評価結果要約表

１　案件の概要		
国名：スリランカ民主社会主義共和国		案件名：スリランカ民主社会主義共和国技術教育訓練再編整備計画プロジェクト （Project for Establishment of Japan Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka）
セクター：職業訓練		援助形態：技術協力プロジェクト
所轄部署：JICA スリランカ事務所		協力金額（2009.12.31 時点）：7 億 4,968 万円
協力期間	R/D：2005 年 6 月 5 年間（2005 年 7 月 1 日～2010 年 6 月 30 日）	先方関係機関：職業・技術訓練省 （Ministry of Vocational and Technical Training：MVTT）
		日本側協力機関：雇用能力開発機構
		他の関連協力：

１－１　協力の背景と概要

スリランカ民主社会主義共和国（以下、「スリランカ」と記す）は近年経済成長を続けているが、その雇用状況は依然として芳しくなく[1]若年層に失業が多いことが特に懸念事項である。2002 年の統計によると、全失業者数に占める若年層（24 歳以下）の割合は 70%となっている。一方、スリランカで実施されている技術・職業訓練にはさまざまな課題があり、例えば、技術・職業訓練の施設が不十分なこと、同じようなコースが多くあること、訓練の内容と産業界の需要に整合性がないことなどが挙げられる。これらの課題を克服するひとつの手段としてスリランカ政府は、各州に数校ある技術訓練校のうち 1 校にディプロマコースを導入し、技術短大（College of Technology：CoT）に昇格させ、中堅技術者の育成を図る方針を打ち出した。この方針を支援すべくアジア開発銀行（Asian Development Bank：ADB）、ドイツ技術協力公社（Deutsche Gesellschaft für Technische Zusammenarbeit：GTZ）、韓国国際協力団（Korea International Cooperation Agency：KOICA）及び JICA は活動することとなった。

１－２　協力内容

JICA は、中堅技術者の育成を図るため、コロンボのスリランカ技術短大（以下、「対象校」。元マラダーナ技術訓練校）を活動拠点にモデルコースの設立と、そのノウハウの他技術短大への展開を支援するため、技術協力プロジェクトを実施する。

（1）上位目標

- 産業界の労働力需要に見合った職業能力をもった人材が技術訓練校や技術短大で育成される。
- 当プロジェクトの経験や教訓が生かされ、技術短大が各地に設立される。

（2）プロジェクト目標

対象校にて中堅技術者の育成に必要な国家技能標準（National Vocational Qualification：NVQ）5・6 級のコースを設立することを通じて、技術教育訓練局（Department of Technical

[1] 2002 年の失業率は 8.8%

Education and Training：DTET）が今後各州に技術短大を設立するために必要な経営・技術能力を獲得する。

(3) 成果（アウトプット）

① 対象校に情報通信技術、メカトロニクス、金属加工の国家技能標準 5･6 級のモデルコースが導入され、効果的に実施される。

② 技術教育訓練局が産業界のニーズに合った訓練コースを実施するためのシステムを確立する。

③ 技術教育訓練局の国家技能標準 5・6 級の訓練コース運営、キャリア・ガイダンスの実施、教材開発、全国技能大会の実施能力が向上する。

④ 対象校における 3 分野のモデルコースの設立を通じて、技術教育訓練局（Department of Technical Education and Training）が国家技能標準 5･6 級の訓練コースの実施、産業界との連携、キャリア・ガイダンス、全国技能大会開催などのノウハウを蓄積し、それらが他の技術訓練校や技術短大において共有される。

(4) 投入（2010 年 3 月現在）

日本側：総投入額　7 億 5,000 万円

- 長期専門家派遣　　8 名（延べ 122 カ月）
- 短期専門家派遣　　18 名（延べ 22 回派遣、延べ 33 カ月）
- 機材供与　　約 2 億 2,900 万円
- ローカルコスト負担　約 2,400 万円
- 研修員受入　26 名（本邦及び第三国）

相手国側：

- カウンターパート配置　　33 名
- 土地・施設提供　　技術短大校舎、専門家の執務室等
- ローカルコスト負担　約 2,300 万円（教室・実験室の整備）

2　評価調査団の概要

調査者	・西野恭子：JICA スリランカ事務所次長 ・後藤　光：JICA 人間開発部 高等教育・社会保障グループ、高等・技術教育課 調査役 ・辻本温史：JICA 人間開発部 高等教育・社会保障グループ、高等・技術教育課 ジュニア専門員 ・田村智子：（株）かいはつマネジメント・コンサルティング
調査期間	2010 年 3 月 1～19 日　　評価の種類：終了時評価

3　評価結果の概要

3－1　実績の確認

モデルコースの導入と運営、キャリア・ガイダンス、産業界との連携及び科目指導に関するノウハウ普及についてはほぼ計画どおり成果が発現している。一方、モデルコースのモニタリングや質の改善、ディプロマコース運営管理に関するノウハウ普及については現時点において計画どおりの成果が発現しておらず、プロジェクト目標は未達成である。プロジェクト目標を達成するためには、後述の 3-6「提言」が示すような事項に関して、対象校及びその上位機関の今後一層の努力と積極的な関与が必要となる。

３－２　評価結果の要約

（1）妥当性

本プロジェクトはスリランカの国家開発政策（国家開発 10 カ年計画）及び日本の ODA 政策（スリランカ国別援助計画）と整合性がある。また、スリランカでは若年層の失業が多いことなどを考えると本プロジェクトは優先的に実施されるべきであり、緊急性も認められ、ADB や GTZ などの他ドナーも本セクターを支援している。なお、日本は選定された 3 分野の職業訓練において進んだ技術と豊富な経験をもっており、協力実施における優位性をもつ。これらのことより、当プロジェクトの妥当性は高い。

（2）有効性

次項「効率性」で述べるように、新しい訓練コースの導入や実施は効果的に行われたものの、期待された成果の一部はまだ発現していない。特に、対象校の上位機関である技術教育訓練局、職業・技術訓練省（MVTT[2]）、高等職業教育委員会（TVEC[3]）は、プロジェクト目標であった「対象校に蓄積された国家技能標準 5・6 級の訓練コース運営にかかわる経験や教訓から学び、必要な改善を実施し、中堅技術者育成のための能力を身に付ける」ための行動を十分に起こしていないため、現在対象校は入学試験が不的確で生徒が効果的にスクリーニングされない、国家技能標準 3 級と 5 級の格差が大きい[4]、一部の教科に関して教員の指導力が不足している、などの課題に直面している。このことから、本プロジェクトの有効性は中程度と判断される。なお、成果とプロジェクト目標の因果関係については、特に問題はない。

（3）効率性

成果 1「モデルコースの導入と実施」の発現状況はほぼ順調であり、成果 2「産業界との連携」についても一定の成果が発現した。成果 3「運営能力強化」については、キャリア・ガイダンスが実績を上げているものの、コースのモニタリングと訓練の質の改善などについては、対象校の校長や上位機関の関与が十分ではなかったため、まだ組織的に取り組まれていない。成果 4「ノウハウ普及」については、教科指導のノウハウについては現職研修を通して実施されたものの、国家技能標準の承認や国家技能検定試験の実施が遅延したことなどが影響して、国家技能標準 5・6 級の訓練コース運営にかかわるノウハウの普及はまだ始まっていない。また、投入に関して、技術教育訓練局や職業・技術訓練省の責任者の本プロジェクトへの参加度合いが十分でなかったことや長期専門家の派遣が計画どおり実施できなかったことなど阻害要因もあった。これらのことから、本プロジェクトの効率性は中程度と判断する。

（4）インパクト

本プロジェクトは職業・技術訓練にディプロマコースを導入するというスリランカ政府の政策を実現したという点でインパクトがあった。一方、上位目標として設定されていた事項（全技術訓練校や技術短大における人材育成及び各地における技術短大の設立）はプ

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[2] Ministry of Vocational and Technical Training
[3] Tertiary and Vocational Education Commission
[4] 3 級を履修した生徒にも 5 級のコースへの入学資格がある。しかし情報通信技術科とメカトロニクス科では 3 級の訓練内容と 5 級の訓練レベルにギャップがあり、3 級を履修したあと、4 級に進学せず 5 級のコースに入学した生徒への指導が困難であることが教員より指摘された。

ロジェクト目標とやや乖離したものであったため、本プロジェクトの上位目標達成への貢献度は限定的なものとなるであろう。

そのほか、特筆すべきインパクトはない。

(5) 自立発展性

1) 組織面

対象校は長い歴史をもつ組織であること、モデルコースの教員の技術レベルや数が良好であることは、持続発展性への貢献要因となるであろう。一方、職業・技術訓練省が近年、技術短大で教える教員には学位の取得が必須であるという方針を打ち出したにもかかわらず、本プロジェクトで指導技術を身に付けたカウンターパートに学位取得の機会が提供される時期や仕組みなどの詳細が不明確であることは懸念要因である。

2) 財政面

JICA が供与した機材の多くは近々保証期間が終了するため、適切な維持管理や修理のためには業者と保守契約を結ぶ必要が発生する。そこで、これらの保守契約の費用を含むモデルコースの 2010 年の機材維持管理費が的確に見積もられ、財務省に提出されたかどうかについて、終了時評価調査団が技術教育訓練局の財務部長や対象校の校長に問い合わせたが、的確な回答が得られなかった。このように、機材保守管理の予算処置に関して懸念が残る。

3) 技術面

教員の技術レベルがコース運営にほぼ十分なものであることは自立発展性の好要因であるが、訓練コースの質を向上させていくのに必要な、定期的なモニタリング、分析、評価、改善策の実施などのシステムが確立されていないことは懸念事項である。

3－3 効果発現に貢献した要因

(1) 計画内容に関すること

特になし。

(2) 実施プロセスに関すること

モデルコース運営に従事した JICA 専門家の技術レベルや技術移転の方法は適切であり、親身になってカウンターパートを指導し、必要な技術移転を効果的に実施した。

キャリア・ガイダンス、産業界との連携、ノウハウ普及に関する専門家の必要性が本プロジェクトの後半になって認識され、3 名のローカルコンサルタントが雇用された。これらローカルコンサルタントは専門性も高く、また現地の事情にも通じており、プロジェクト活動の効果的な実施に貢献した。

3－4 問題点及び問題を惹起した要因

(1) 計画内容に関すること

本プロジェクトは新しく 3 分野の訓練コースを設立すると同時にノウハウの普及を実施するという難易度の高いものであった。一方、本プロジェクトの前提条件が 3-4（2）②に記すように満たされず、また 3-4（2）①に記すようにスリランカ側カウンターパートの参

加や進捗管理が不十分であり、加えて日本からの長期専門家の投入が計画どおり行われなかった。それにもかかわらず、プロジェクトのフレームワークの見直しが適切な時期に行われなかったため、計画されていたすべての成果を生み出すことが困難な状況となった。

(2) 実施プロセスに関すること

① 職業・技術訓練省、技術教育訓練局、対象校の責任者の本プロジェクトへの参加度やこれら機関によるプロジェクトの進捗管理は必ずしも十分なものではなかった。例えば、専門家チームからの提案が再三あったにもかかわらず局長が主催するプロジェクト管理委員会や運営委員会が定期的に開かれなかったこと、省次官の主催で半年に1回開催予定の合同調整委員会が 2008～2009 年には 1 年半もの期間開催されなかったことなどがその例として挙げられる。

② 本プロジェクトの事前協議では、国家技能標準やカリキュラムの承認は、本プロジェクトが開始される前に完了すべき前提条件であることが合意された。しかし、モデルコースの3科目の国家技能標準やカリキュラムの承認作業が、今後導入予定のディプロマコース全 10 科目の承認作業の一部として行われたため時間がかかり、結果として承認が計画より4年以上遅れた。そのため、モデルコースの第1期生へのディプロマの授与が約1年遅延し、彼らの就職や進学の際に不都合が生じた。

③ 本プロジェクトのプロジェクト・デザイン・マトリックスの指標をみると、ノウハウ普及に期待されるレベルがかなり高いことが分かる[5]。しかし、このレベルの高い普及を実現するために必要な専門性、プロセス、時間、予算などについて計画時、協力期間の前半及び中間評価において十分な施策が講じられなかった[6]。これらについて専門家チーム内で 2008 年末ごろに話し合いがもたれ、その結果、専門性の必要性を満たすべくローカルコンサルタントが投入された。しかし、普及のプロセスやそれに必要な時間や予算については、カウンターパート機関を含む関係者が明確な共通認識をもつには至らなかった[7]。

④ 長期専門家は当初の計画どおり派遣できなかったが、それを補完するために短期専門家の派遣や現地リソースの活用が行われたことは有効であった。しかし、本プロジェクトは人材育成を主な目的とすることをかんがみると、カウンターパートを継続的に育成できる立場にある長期専門家が計画どおり投入されていれば、プロジェクトはより効果的に実施されたと考えられる。

３－５　結　論

本プロジェクトはスリランカの職業・技術訓練に初めてディプロマコースを導入したという点でインパクトのあるものであった。また、対象校が、キャリア・ガイダンスや産業界との連携においても実績を上げたこと、専門家からの技術移転や本邦研修を受けた対象校の教員が、教科指導に関するノウハウを他校の教員へ普及したことなども特筆に値する。

一方、コースのモニタリングを通じた質の改善は十分実施されたとはいえず、コース運営ノウハウについては蓄積段階にあることから普及活動は未実施である。職業・技術訓練省、高等

[5] PDM では、対象校がノウハウを他の技術訓練校や技術短大に普及したあと、それらの学校は対象校と同様のプログラムを実施することになっていた。またその際にノウハウがどのように活用されたかについても調査する予定であった。

[6] 中間評価ではノウハウ普及は後半の主な活動とされたが、これに必要な事項として指摘されたのは、蓄積された経験のドキュメント作成とそのために必要となるカウンターパートの配置のみであった。

[7] ノウハウ普及のローカルコンサルタントが中心となって普及計画が立案されたが、対象校の前校長や技術教育訓練局長は計画の実施に対して積極的な態度ではなかった。

職業教員委員会、技術教育訓練局は、対象校が現在直面している課題やこれまで蓄積された経験に注目し、コースの適切なモニタリングの実施、入学試験の改善、3 級と 5 級の格差の是正、教員の更なる能力強化など、コース運営改善のために必要な施策を早急に実施すべきである。また、組織、財政、技術的な観点から持続発展性に関する懸念事項も数点あるが、3-6 に述べる提言を実行していくことでプロジェクト終了後の対象校の適切な運営は可能である。

３－６　提言（当該プロジェクトに関する具体的な措置、提案、助言）の要約

(1) 職業・技術訓練省、技術・職業訓練委員会、技術教育訓練局及び省傘下の他の関連機関への提言

① 隔週の専門家チームとの打合せを技術教育訓練局長の参加のもと協力期間終了時まで継続して実施すること。

② モデルコースの教員が現在直面している問題を調査・分析し、コース運営改善のための施策を講じること。

③ UNIVOTEC[8]における週末の学位取得コースを遅れることなく開講すること。

④ モデルコースの機材の使用や維持管理及び消耗品や実験材料の購入に必要な予算を確保すること。

⑤ 本プロジェクトの成果を生かし、モデルコースの質を保つような人材の配置を行うこと。

⑥ プロジェクト・コーディネーター（スリランカ側カウンターパート）の兼務を解き、協力期間終了後までの間フルタイムの勤務体制とすること。

(2) 対象校校長への提言

1) 運営管理に関すること

① 四半期ごとの反省会、教員や生徒との話し合い、生徒用訓練記録簿の導入、生徒への質問票調査の実施などによるコースモニタリングの改善。

② 本プロジェクトの成果を生かし、モデルコースの質を保つような人材の活用を行うこと。

③ モデルコースの資機材の運用・維持管理に関して十分なモニタリングを実施すること。

④ 教員の数が増えた場合、パートタイム・ディプロマ・コースを導入すること。

⑤ コース運営に関する経験や教訓を他の技術短大や技術訓練校の教員と共有するため、文書化を行い、2010 年 5 月に開催予定の最終セミナーで発表を行うこと。

2) 教員や生徒に関すること

① 他校の教員を対象とした、モデルコースの教員による現職研修を継続的に実施すること。

② 履修内容や予定されている学習成果を生徒に周知徹底したり、自習の環境をより整えたりすることにより、モデルコースの運営を更に向上させること。

③ 企業実習の管理、フォローアップ、アセスメントを改善すること。

[8] University of Vocational Technology（職業訓練技術大学）

3)　産業界との連携に関すること

①　モデルコースと産業界の更なる連携を図る。特にメカトロニクスは新しい教科であり、産業界への効果的な広報を実施すること。

②　生徒が専門分野の産業界のニーズや労働環境をよりよく理解するため、産業界と接触する機会を多く設けること。

③　モデルコースの広報や外部評価の促進のため、生徒の卒業作品を産業界や他校に公開する機会を設けること。

３－７　教訓（当該プロジェクトから導き出されたほかの類似プロジェクトの発掘・形成、実施、運営管理に参考となる事柄）

(1) プロジェクトフレームワークの適切なタイミングでの見直し

カウンターパートの参加や進捗管理が不十分であり抜本的な改善が困難と予想される、もしくは日本からの長期専門家の投入が計画どおり行われない、など成果発現を阻害する要因が多い場合、プロジェクトのフレームワークの見直しを適切な時期に行い、適切な目標設定を行うべきである。

(2) 長期専門家の適切な派遣

人材育成を主な目的とする技術協力プロジェクトでは、カウンターパートを継続的に育成できる長期専門家の派遣、もしくは同一の専門家の短期の複数回の派遣がより効果的である。短期専門家の派遣や現地リソースの活用はこれを補完するために実施されるのが望ましい。

Summary of Terminal Evaluation

1. Outline of the Project		
Country:Sri Lanka	**Project title**: Project for Establishment of Japan Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka	
Sector: Technical education	**Cooperation scheme**: Technical Cooperation Project	
Division in-charge: JICA Sri Lanka Office	Project cost (as of Dec. 31, 2009) 749,680 thousand yen	
	Implementing organization in the partner country: Ministry of Vocational and Technical Training	
	Supporting organization in Japan: Employment and Human Resources Development Organization	
Period of Cooperation	R/D: June 2005	**Other cooperation**:
	Five years from 01.07.2005 to 30.06.2010	

1-1. Background and summary of the Project

Although Sri Lanka shows favorable economic growth recently, the employment situation still remains grim[1]. Especially, the unemployment youth (less than 24 years old) occupied about 70% of all unemployment in 2002. However, there are many challenges in vocational training institutions in Sri Lanka, such as undeveloped vocational training facilities, duplications of training courses, mismatch between trained students and skilled labor force, industries are looking for. To overcome such issues, GOSL presses forward to promote one of the TCs (Technical Colleges) in each province to a CoT (College of Technology) which carries out diploma courses to produce middle-level technicians. In this context, JICA had decided to provide technical assistance to SLCoT (Sri Lanka College of Technology, former Maradana Technical College) in Colombo.

1-2. Project Overview

(1) Overall Goal

- Quality of the trained manpower in TCs/CoTs meets the labor market demand
- CoTs are established and managed by utilizing lessons and experiences of SLCoT.

(2) Project Purpose

Department of Technical Education and Training (DTET) gains managerial and technical capacity to establish CoTs in each province by introducing model courses of National Vocational Qualification (NVQ) level 5&6 in SLCoT to train middle level technicians

(3) Outputs

(a) NVQ levels 5&6 model training courses are introduced and conducted effectively in SLCoT in the fields of Information and Communication Technology (ICT), Mechatronics and Metal Work.

(b) DTET establishes a system for the training courses to fulfill industry's needs.

[1] the unemployment rate 8.8%, 2002

(c) Management capacity of DTET for training delivery of the NVQ level 5 & 6 courses and for the implementation of career guidance/counseling, textbook development and skills competitions are improved.

(d) Know-how in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, 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.

(4) Inputs (as of March 2010)

Japanese side:

- JICA Long-term experts: 122 MM in total. The coordinator and metal work expert were dispatched as planned. However, the chief advisor, ICT and mechatronics experts were not dispatched as planned.
- JICA Short-term experts: 33 MM in total. 18 members and 22 assignments in total.
- Provision of equipment: Equipment and tools for the model courses. Around 229 million yen in total.
- Local cost: Around 24 million yen in total for employment local consultants, staff training, purchasing of office equipment and others.
- Training in Japan: 26 counterpart personnel participated in 29 courses in total

Sri Lankan side:

- Appointment of the counterpart personnel: The teaching staff in the model courses was assigned almost as planned. Appointment of counterpart officers for know-how dissemination and industry relations were delayed.
- Office spaces for the JICA Expert Team: provided as planned.
- Local cost of the Project: Approximately 23 million yen in total was contributed to develop classrooms, laboratories and workshops of the model courses.

2. Outline of the Terminal Evaluation Team

Members	• Ms. Yasuko Nishino, Senior Representative, JICA Sri Lanka Office – Team leader • Mr. Ko Goto, Assistant Director, Technical and Higher Education Division, Human Development Dept., JICA Head Office • Mr. Atsushi Tsujimoto, Associate Expert, Technical and Higher Education Division, Human Development Dept., JICA Head Office • Ms. Tomoko Tamura, Consultant, Kaihatsu Management Consulting, Inc.	
Period of the Review	From March 1 to March 19, 2010	**Type of Evaluation**: Terminal Evaluation

3. Results of the Terminal Evaluation

3.1. Summary of the Evaluation Results

(1) Relevance

The Project is relevant with the development policy of Sri Lanka and ODA policies of Japan. There is an urgent needs and priority to implement the Project. Japan has an advanced technology and ample experience in vocational and technical and training in the selected three industrial sectors: thus

had advantages in offering cooperation. The relevance of the Project is high.

(2) Effectiveness

As mentioned in the following section of "efficiency", some parts of the planned outputs were not created so far, although the introduction and implementation of the new courses were conducted effectively as a whole. Especially, the higher authorities of SLCoT, such as DTET, Ministry of Vocational and Technical Training (MVTT) and Technical and Vocational Training Commission (TVEC) have not yet studied the lessons and experience of the SLCoT in the field of management and operation of the NVQ levels 5 and 6 courses, so that they can make necessary actions for improvement and strengthen their capacity in terms of production of middle-level technicians, which was aimed at as the Project Purpose. At the moment, SLCoT is facing various problems, such as the screening of the students was not conducted properly as the entrance exam was not conducted in an appropriate manner, there is a big gap between the level 3 and 5[2], the capacity of the instructors in some modules were not adequate. Therefore, the effectiveness of the project is moderate.

(3) Efficiency

The Output 1, the introduction and implementation of the three model courses, has been done satisfactory in general. There were a certain effects for the Output 2, fulfillment of the needs of the industry. The Output 3, management capacity building, has been done partly, as career guidance shown remarkable progress, while other programme, such as course monitoring and quality improvement was not done adequately. As for the Output 4, dissemination of know-how, the course related know how was disseminated by in-service training, however, the know-how on management of the NVQ levels 5 and 6 courses has not been started. There were several disturbing factors for the inputs. For example, the level of participation of the responsible officers in DTET and MVTT were not adequate and the dispatch of JICA long-term experts was not implemented according to the initial plan. Considering these factors, the efficiency of the project is moderate.

(4) Impact

The Project has a great impact as it realized the new policy of Sri Lanka, introduction of diploma course in vocational training. However, contribution to attain the planned Overall Goal, human resource development in all the TCs/CoTs and establishment of a CoT in each province, would be limited, as there is less linkage between the Project Purpose and Overall Goal.

(5) Sustainability

(a) Organizational Aspects

It is a positive factor that SLCoT is an institution which has a long history and the numbers and technical level of the instructors of the model course is satisfactory as a whole. It is a concern that the opportunities for the counterpart personnel who trained in the Project to proceed with higher study and become qualified as instructors of CoTs are not secured, although MVTT introduced a policy that a instructors of CoTs should have a degree.

(b) Financial aspects

[2] The students who completed the NVQ level 3 are eligible to enter the courses of level 5. However, the instructors of the model courses of ICT and mechatronics found it difficult to teach those students who completed the level 3 and entered the courses of model 5, without studying the level 5, as there is a big gap between the skill standards of level 3 and 5.

The guarantee period of most of the equipment provided by JICA for training will be ended very soon and the service contracts should be arranged for proper maintenance and prompt repairs. However, the Terminal Evaluation Team has a doubt whether SLCoT has submitted a proper budget estimate for 2010, as the Finance Director of DTET and the Director of SLCoT had no idea about it during the study of the Terminal Evaluation.

(c) Technical aspects

It is appreciated that the technical level of the most of the instructors are satisfactory, in general. It is a concern that the process of periodical monitoring, analysis, evaluation and implementation of the necessary actions for improvement of the quality of the courses has not yet established in SLCoT.

3.2 Factors contributed to the effects of the Project

(1) Factors concerning project planning

No applicable.

(2) Factors concerning project implementation process

The needs of expertise in the fields of career guidance, industry relations and know-how dissemination were identified in the later stage of the Project and three local consultants in the respective fields were employed by the JICA Expert Team. They have high technical capacity and familiar with the local context of the said fields and contributed much to the effective implementation of the project activities.

3.3 Issues and problems of the Project and their background

(1) Issues and problems concerning project planning

(a) The Project has the challenging purpose to disseminate know-how on management to other colleges while establishing the three model courses. It became difficult for the Project to produce all the outputs in time, as the framework of the Project was not changed although the pre-condition of the Project was not fulfilled as mentioned in 3.3. (2) (b), and the inputs from Sri Lanka as well as from Japan were not made as sufficient as they are planned as mentioned in 3.3. (2) (a).

(2) Issues and problems concerning project implementation process

(a) Participation and progress monitoring by the responsible persons in MVTT, DTET and SLCoT were not always sufficient. For example, the meetings of the Project Management Board and the Steering Committee were not held regularly and MVTT took one and half years to hold the 6th Joint Coordination Committee meeting after the 5th meeting, in spite of the frequent request made by the JICA Expert Team.

(b) Endorsement of the National Competency Standard and curriculum outline for the model courses was the pre-condition of the Project, which was expected to be completed before the commencement of the Project. However, the endorsement was delayed for more than four years. As a result, the students in the first batch had to wait for almost one year to obtain diploma and some of them had to face various inconveniences at the time of employment and in the process to proceed with higher education.

(c) According to the indicators of the Project Design Matrix, the expected level of the know-how dissemination was very high[3]. However, the stakeholders did not have intensive discussions and develop strategies about the expertise, process, time and financial allocation necessary to realize the expected level of dissemination among the stakeholders of the Project at the time of planning, in the first half of the cooperation period and during the mid-term evaluation[4]. JICA Expert Team and JICA Sri Lanka Office had a discussion about the above-mentioned matters at the end of 2008 and as a result, local experts were assigned for the purpose. However, the process, time and financial arrangement necessary for the know-how dissemination were not clearly shared among the stakeholders, including the counterpart organizations[5].

(d) It was effective that JICA took several alternative measures by providing short term experts and utilizing local resources although it did not dispatch the long term experts according to the initial plan. However, considering the fact that the Project is mainly focused on human resource development, the Project should have been more successful, if the long-term experts, who can train the counterpart personnel without interruption, were dispatched as planned.

4. Conclusion

The Project has an impact as it firstly introduced diploma level courses in the fields of vocational training in Sri Lanka. It is noteworthy that the Project has shown a good progress in career guidance and industry relations and the instructors trained by JICA experts and in the training in Japan disseminated their course-related skills and knowledge to the instructors in other TCs/CoTs. However, monitoring of the courses and quality improvement were not adequately conducted and the know-how dissemination on management of the courses has not been started. Now, it is the right time for the higher authorities, such as MVTT, TVEC and DTET to study the issues and experience of SLCoT in this regards, and take necessary actions for improvement, in the area such as course monitoring, improvement of entrance exam, linkage between the levels 3 and 5 and capacity development of the instructors. There are a couple of concerns in organizational, technical and financial aspects from the viewpoint of sustainability.

5. Recommendations (Summary)

5.1. Recommendations to MVTT, TVEC, DTET and other related institutions under MVTT

(1) Continue by-weekly meetings with the participation of Director General of DTET.

(2) Take actions for improvement of course delivery, through studying and analyzing major issues in the course delivery, which the instructors of the model courses are presently facing.

(3) Commence weekend degree courses at UNIVOTEC[6] without delay.

[3] After SLCoT disseminate the know-how to the other TCs/CoTs, they have to conduct the similar programme. The level of utilization of the know-how should also be studied.

[4] During the mid-term evaluation, the know-how dissemination was identified as one of the most important activities in the second half of the cooperation period. However, as for the necessary actions to be taken to realize the dissemination, the evaluation team suggested only the needs of appointment of the counterpart officers for the documentation of the experience gained by SLCoT.

[5] The local consultant on know-how dissemination in the JICA Expert Team developed a dissemination plan and discussed it with the Director of SLCoT and Director General of DTET. However, these officers did not show positive reactions to the plan.

[6] University of Vocational Technology

(4) Ensure budget allocation for necessary expenses for operation and maintenance of the equipment and purchase of consumables and materials for the model courses
(5) Human resource allocation which would not waste the effects of the Project
(6) Ensure a full-time Project coordinator until the end of the project period.

5.2. Recommendations to the Director, SLCoT

<Operation and management>

(1) Improve course monitoring by implementation of quarterly progress review meetings, intensive discussions with instructors and students, introduction of record books for students and questionnaire survey for the students and so on.
(2) Utilize the capacity of the instructors in a way not to waste the effects of the technical transfer of the Project and to keep the quality of the model courses.
(3) Close monitoring on the status of operation and maintenance of the equipment of the model courses.
(4) Introduction of part-time diploma courses at the time the numbers of instructors would be increased.
(5) Make documents and presentation on the experience of the course delivery in order to share it with instructors in other CoTs at the final seminar of the Project in May 2010.

<Instructors and students>

(1) Continuous implementation of the in-service training for other instructors of the CoTs by the instructors of the model courses.
(2) Further improve course delivery by making more awareness among the students about the contents of the curriculum outline and expected learning outcomes and facilitating the students to do self-study.
(3) Establish improved system for in-plant training in the fields of administration, follow-up and assessment.

<Industry relations>

(1) Strengthen industry relations with the model courses. Especially, publication of the mechatronics course is required, as the subject is new to the country.
(2) Facilitate industry exposure of the students in order to make more awareness about the needs and real working environment of the industries.
(3) Presentation of the project works of the students to the industries and other TCs/ CoTs aiming at more publication and third-party evaluation of the courses.

第１章　終了時評価調査の概要

１－１　評価団派遣の経緯と目的

2002 年のスリランカ政府とタミル・イーラム解放の虎（LTTE）との停戦合意以降、スリランカの経済情勢は回復基調となり低迷していた製造業も緩やかな伸びを示している。しかし、失業率は 2002 年において 8.8%、約 60 万人から高止まり傾向にあり、また、失業者の 60%近くが 20 歳から 29 歳までの若年層となっている。これは、初中等教育の就学率が高いにもかかわらず、大学等高等教育を受ける機会が限られているため、社会生活において活用可能な技術をもたない中等教育修了者が毎年大量に輩出され、就業機会を逸して失業者となってしまうことが一因となっている。

スリランカの技術教育訓練（Technical Vocational Education and Training：TVET）制度で中等教育修了者を主な対象としているのは、技術教育訓練局（Department of Technical Education and Training：DTET）が所管する 36 の技能短大（Technical College：TC）であるが、そのカリキュラム、運営方法等の適切な見直しが不十分で、近年の産業界のニーズに合致した訓練ができていない。スリランカ政府は、全国 36 の技能短大のうち、各州代表の 9 校を技術短大（College of Technology：CoT）に昇格させ、現在産業界で不足している中堅技術者の育成をめざしている。

一方、アジア開発銀行（ADB）は職種と技術レベルを分類した国家技能標準（National Vocational Qualifications：NVQs）の作成など、主に制度構築面の支援を行っている。本国家技能標準では、全 7 レベルのうち、技能短大でレベル 4 を、技術短大でレベル 5、6（中堅技術者）に相当する人材育成を行うこととなっており、技術短大に昇格する技能短大の能力強化が必要とされている。しかし、技術教育訓練局の経験が不十分であること、教育・訓練現場での実践が不足していることから、実施には遅れが生じている。

このような背景のもと、スリランカ政府は技能短大から技術短大昇格の移行モデルとしてマラダナ校を選定した。マラダナ校は商業の中心であるコロンボ市の中心に位置しており、生徒の確保、卒業生の就職機会などの面で優位であるうえに、産業界との連携体制構築のさまざまな試みを図ることができる。また、技術教育訓練局とも隣接しており、マラダナ校での活動を技術教育訓練局に定着させることが容易なためである。スリランカ政府は 2004 年 7 月に、マラダナ校の技術短大昇格支援及び技術教育訓練局の能力強化を通じて、中堅技術者を育成するためのプロジェクトを日本に要請した。

本プロジェクトはこの要請に基づき、マラダナ校で国家技能標準レベル 5、6 のコースを設立することを通じた技術教育訓練局の能力強化を目的として、2005 年 7 月から 2010 年 6 月までの予定で実施中である。

2010 年 6 月にプロジェクトが終了することから、プロジェクトの進捗を確認し、これまでの成果を把握するとともに、今後のプロジェクトの計画に関し、スリランカ側関係機関と協議するため、終了時評価調査団を派遣することとした。

調査の目的は以下のとおりである。

- プロジェクト・デザイン・マトリックス（PDM）及び活動計画（PO）に基づき、日本人専門家及びカウンターパートにインタビュー等を行い、スリランカ側関係機関とともに、プロジェクトの実績及び実施プロセスを取りまとめる。
- PDM 及び PO に基づき、評価 5 項目の観点から、プロジェクトの目標達成度を評価すると

ともに、プロジェクトの阻害要因を分析する。
- 評価結果についてスリランカ側関係機関を確認のうえ、プロジェクト終了までの期間及び協力期間終了後のプロジェクトの活動について提言を行う。
- 評価結果をもとに、類似案件の参考となる教訓を得る。

１－２　調査団の構成と調査期間

（1）調査団の構成

担当分野	氏　名	所　属
総括/団長	西野　恭子	JICA スリランカ事務所次長
協力計画	後藤　光	JICA 人間開発部 高等教育・社会保障グループ、高等・技術教育課　調査役
評価管理	辻本　温史	JICA 人間開発部 高等教育・社会保障グループ、高等・技術教育課　ジュニア専門員
評価分析	田村　智子	（株）かいはつマネジメント・コンサルティング

（2）調査期間

2010 年 3 月 1 日から 19 日まで

１－３　対象プロジェクトの概要

１－３－１　協力の背景

スリランカは近年経済成長を続けており、雇用状況にも改善がみられるが、若年層の失業率が依然として高い。2008 年の統計によると、全人口の失業率は 5.4%であるのに対し、若年層（24 歳以下）の失業率は 18.8%となっている[1]。一方、スリランカで実施されている技術・職業訓練にはさまざまな課題があり、例えば、技術・職業訓練の施設が不十分なこと、同じようなコースが多くあること、訓練の内容と産業界の需要に整合性がないことなどが挙げられる。これらの課題を克服するひとつの手段としてスリランカ政府は、各州に数校ある技術訓練校のうち 1 校にディプロマ・コースを導入し、技術短大に昇格させ、中堅技術者の育成を図る政策を打ち出した。ADB、GTZ、KOICA 及び JICA は、この政策の実現を支援する意向を示した。

１－３－２　協力内容

スリランカ、コロンボ市のスリランカ技術短大（以下、「対象校」。元マラダーナ技術訓練校）を活動拠点に、ディプロマ・レベルのモデルコースの設立とコース運営管理にかかわる技術協力を実施し、さらに、コース指導・運営ノウハウを他の技術短大へも普及することにより、中堅技術者の育成と若年層の雇用状況の改善に寄与する。

（1）案件名

スリランカ民主社会主義共和国技術教育訓練再編整備計画プロジェクト

（Project for Establishment of Japan Sri Lanka College of Technology to Strengthen Technical

[1] Sri Lanka Labor Force Survey Final Report 2008, Department of Census and Statistics, Sri Lanka.

Education and Training in Sri Lanka）

（2）相手国実施機関

職業・技術訓練省（Ministry of Vocational and Technical Training）

（3）協力期間

2005 年 7 月 1 日から 2010 年 6 月 30 日まで（5 年間）

（4）対象グループ

直接：技術教育訓練局及び対象校

間接：他の技術訓練校・技術短大及び産業界

（5）上位目標

- 産業界の労働力需要に見合った職業能力をもった人材が技術訓練校や技術短大で育成される。
- 当プロジェクトの経験や教訓が生かされ、技術短大が各地に設立される。

（6）プロジェクト目標

対象校にて中堅技術者の育成に必要な国家技能標準[2] 5・6 級のコースを設立することを通じて、技術教育訓練局[3]が今後各州に技術短大を設立するために必要な経営・技術能力を獲得する。

（7）成果（アウトプット）

① 対象校に情報通信技術（Information and Communication Technology：ICT）、メカトロニクス、金属加工の国家技能標準 5･6 級のモデルコースが導入され、効果的に実施される。

② 技術教育訓練局が産業界のニーズに合った訓練コースを実施するためのシステムを確立する。

③ 技術教育訓練局の国家技能標準 5・6 級のコース運営、キャリア・ガイダンスの実施、教材開発、全国技能競技会の実施能力が向上する。

④ 対象校における 3 分野のモデルコースの設立を通じて、技術教育訓練局が国家技能標準 5･6 級の訓練コースの実施、産業界との連携、キャリア・ガイダンス、全国技能競技会開催などのノウハウを蓄積し、それらが他の技術訓練校や技術短大において共有される。

[2] National Vocational Qualification：NVQ
[3] Department of Technical Education and Training：DTET

第２章　評価の方法

２－１　評価調査の手法

当評価調査は、以下の手法を用いて実施された。

（1）既存報告書類のレビュー
（2）インタビュー調査
- 技術教育訓練局及び対象校校長・教員
- 関連機関職員（職業・技術訓練省、技術・高等職業教育委員会[4]、職業技術大学[5]、国立徒弟・工業訓練公団[6]、技術教育開発プロジェクト[7]）
- JICA 専門家チーム
- 第 1 期生の就職先及び第 2 期生の企業実習先
- 在校生及び卒業生

（3）質問票調査（第 3 期生）
（4）対象校実査

２－２　主な調査項目と情報・データ収集方法

活動実施項目については、既存のレポート及びプロジェクトチームへのインタビューにより確認を行った。成果達成状況については、付属資料 4. 終了時評価議事録の添付 7 に記載の「成果達成状況調査表（Accomplishment Grid）」を用い、PDM の指標に沿って情報・データを収集した。実施プロセスに関しては、同議事録添付 8 に記載の「実施プロセス確認表（Implementation Process）」を用いて、チームワーク、コミュニケーション、意思決定過程、進捗モニタリング、上位機関の参加度、合同調整委員会（Joint Coordinating Committee：JCC）の機能などに関する情報・データを収集した。5 項目評価については、同議事録添付 9 に記載の「評価グリッド（Evaluation Grid）」を用いて、評価 5 項目に関し設問事項を設け、情報・データを収集した。

[4] Tertiary and Vocational Education Commission：TVEC
[5] University of Vocational Technology：UNIVOTEC
[6] National Apprenticeship and Technical Training：NAITA
[7] Technical Education Development Project：TEDP

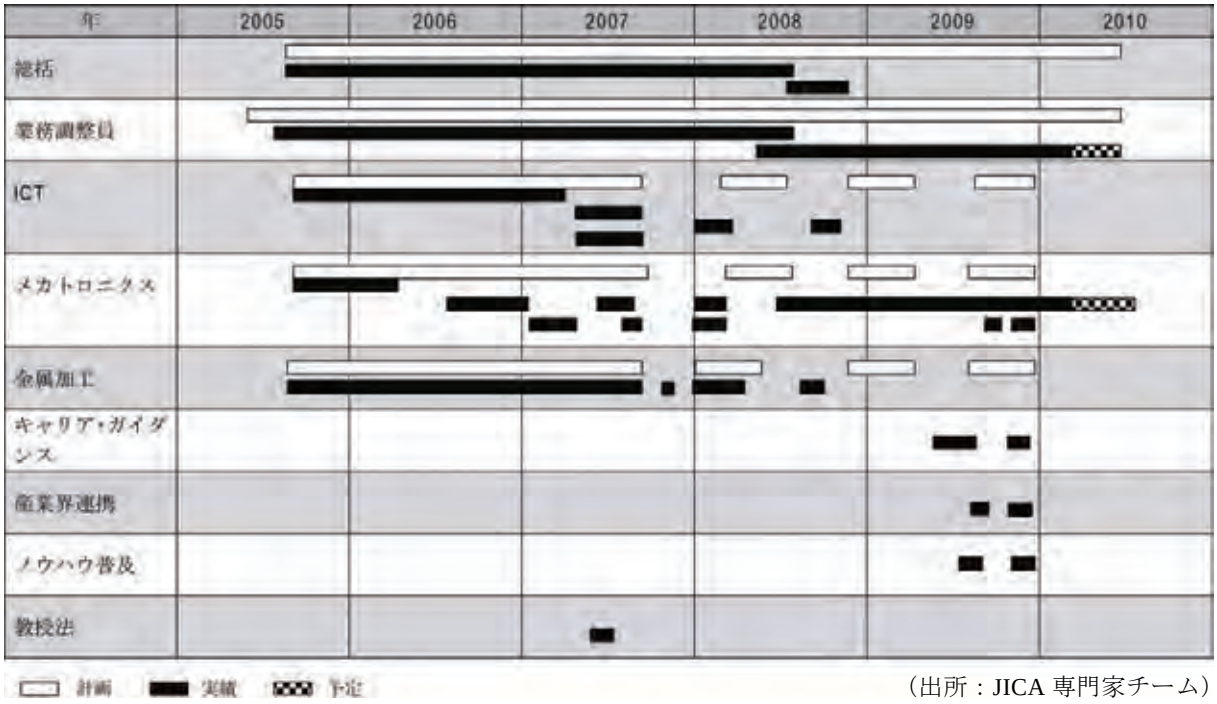
第３章　プロジェクトの実績

３－１　投入の実績

３－１－１　日本側

(1) 長期専門家及び短期専門家派遣（詳細は付属資料 4. 終了時評価議事録の添付 1 を参照のこと）

長期専門家派遣に関し、業務調整員と金属加工の専門家は計画どおり派遣されたが、総括、ICT、メカトロニクスの専門家は計画どおり派遣されなかった。長期専門家は合計 8 名派遣され、派遣期間は延べ 122 カ月であった。短期専門家は合計 18 名が延べ 22 回派遣され、派遣期間は延べ 33 カ月であった。専門家派遣の計画と実績の詳細は図－1 に示すとおりである。



（出所：JICA 専門家チーム）

図－１　専門家派遣の計画と実績

(2) 本邦及び第三国研修（詳細は、付属資料 4. 終了時評価議事録の添付 2 を参照のこと）

合計 29 コースが日本及び第三国で開催され、合計 26 名のカウンターパートが研修に参加した。研修に参加したモデルコースの教員へインタビューしたところ、ほとんどの教員が「研修は効果的で有用であった」と述べた。短期専門家によって準備された本邦研修に参加したキャリア・ガイダンス・センターの職員 2 名も研修は効果的であったと高く評価している。人材育成管理に関する研修に参加した対象校の上位機関の職員も、研修内容を評価している。一方、ICT コースの教員 2 名は、研修が担当分野に関する集中的なものではなかったことを残念に思っており、またメカトロニクスの教員 1 名は集団研修のレベルが低すぎたと感じていた。

(3) 機材供与（詳細は、付属資料 2. 及び付属資料 4. 終了時評価議事録の添付 3 を参照のこと）

モデルコース実施に必要な機材の供与はほぼ完了した。機材の購入金額は合計約 2 億 9,300 万ルピーである。機材の選択・品質・数について特に問題はみられない。対象校の教員はモデルコースの実習室を「スリランカで一番」と高く評価している。なお、メカトロニクス科の長期専門家が健康上の理由で赴任後 8 カ月で帰国したため、機材の購入手続きが遅れ、コースの開講が 1 年間遅延した。ICT 科のマルチメディア用の機材のみが未購入であり、現在調達作業が進行中である。

(4) ローカルコスト負担（詳細は、付属資料 4. 終了時評価議事録の添付 4 を参照のこと）

JICA は、2009 年末時点で合計約 3,100 万ルピーのローカルコストを負担した。支出項目はローカル・コンサルタントの雇用、スタッフ研修、事務機器購入などである。

３－１－２　相手国側

(1) カウンターパートの配置

モデルコースの教員はほぼ計画どおり配置されたが、ノウハウ普及と産業界連携の分野においてカウンターパートの配置が遅れた。なお、プロジェクト・コーディネーターが 2009 年 11 月から近隣の技術訓練校の校長を兼任しており、プロジェクト業務の遂行に支障をきたしている。

(2) ローカルコスト負担

スリランカ政府は、教室・実験室の整備、活動費用など合計約 3,000 万ルピーを負担した（2009 年末実績）。支出の額やタイミングはほぼ計画どおりであり、特に問題はみられなかった。

(3) 専門家の執務室

計画どおり、JICA 専門家チームの執務室が技術教育訓練局内及び対象校内に提供された。

３－２　活動の実施状況

計画されていた活動のほとんどが実施され、完了したかもしくは順調に進行中である。しかし、以下の活動については進捗が遅延しているか、現時点においては一部の内容しか実施されていない。これらについては次項 3-3「成果の達成状況」で詳しく述べることとする。

① フルタイム及びパートタイムのコースを実施する（パートタイムのディプロマ・コースは未実施である）。
② コースを定期的にモニタリングする（モニタリングの結果がコース運営に反映されるシステムが確立されていない）。
③ 全国技能競技会を拡大的に実施する（2009 年は実施されなかった）。

なお、以下の活動については協力期間終了までに実施を予定している。

④　マニュアルの普及や訓練の実施により、改善されたコース運営技術を他の技術訓練校、技術短大へ普及する。

マニュアル類の配布によるモデルコースの運営技術に関するノウハウ普及は、2010 年 5 月に開催予定の最終セミナーにて実施する予定である。

⑤　他の技術訓練校、技術短大の校長や職員を対象として、ノウハウの活用状況に関する調査を実施する。

ノウハウの活用状況の調査は最終セミナーの一環として実施する予定である。

３－３　成果の達成状況

成果の達成状況を以下に取りまとめた（詳細は、付属資料 4. 終了時評価議事録の添付 7 の「成果達成状況調査表」を参照のこと）。

成果 1：対象校に情報通信技術、メカトロニクス、金属加工の国家技能標準 5･6 級のモデルコースが導入され、効果的に実施される。

モデルコースの教材、必要な実習施設や実習機材の整備はほとんど完了した[8]。ICT 科と金属加工科は予定どおり 2007 年 1 月に開講され､メカトロニクス科は機材整備状況の関係で 1 年遅れて 2008 年 1 月に開講された。その後、これらのモデルコースは担当教員の作成した時間割に沿って運営され、第 1 期生及び第 2 期生がコース学習を終えている。表－1 に、それぞれの期の学生数を示した。

表－１　モデルコースの生徒数

			5級	6級	
年	コース	応募者数	生徒数	生徒数	企業研修参加者数
2007/08	ICT	194	23	20	16
	金属加工	78	20	17	13
2008/09	ICT	180	23	20	2
	メカトロニクス	128	23	22	3
	金属加工	52	20	13	13
2009/10	ICT	157	22	20	
	メカトロニクス	72	20	19	
	金属加工	38	9	8	
2010/11	ICT	209	43		
	メカトロニクス	80	20		
	金属加工	87	18		

（出所：JICA 専門家チーム）

モデルコースに関する国家技能標準[9]及びカリキュラム・アウトラインは、本プロジェクト開始前に認証される予定であった。しかし、これらの認証が大幅に遅延し、国家技能標準は 2010 年 1

[8] 金属加工科の訓練に必要なマグネティック・パーティクル・テスト及びウルトラソニック・テスト用の機材は購入されていなかったが、これは、当時入手可能であったカリキュラム案に沿って機材購入を計画した際にこれら機材の必要性が認識されなかったためと考えられる。

[9] National Competency Standard

月に承認されたが、カリキュラム・アウトラインは3月半ば時点では正式に認証されていない。その結果、第1期生へディプロマが授与されたのは、計画より約1年遅れの2010年3月18日のことであった。この遅延のため、同学生の就職や進学の際にさまざまな不都合が生じた[10]。

本プロジェクトでは80%の生徒がディプロマを取得することをめざしていたが、表－2のとおり、第1期生についてはICT科、金属加工科ともにコース学習を修了した学生のうち48%のみがディプロマを取得する結果となった。合格者数が計画より少なかったのは、前述のとおり国家技能標準の認定が遅れたため、予備検定及び国家技能検定が約1年遅れて実施されたことが主な原因と思われる。

表－2　モデルコース第1期生の予備検定と国家技能検定の結果

分　類		ICT	金属加工
コース学習修了者　（2008年末修了）		19（100%）	17（100%）
予備検定（筆記試験）2009年11月実施	合格（国家技能検定有資格）	13　（68%）	9　（53%）
	欠席	2	1
	失格	4	7
国家技能検定2010年3月実施	国家技能標準6級合格	8　（42%）	4　（24%）
	国家技能標準5級合格	1（5%）	4（24%）
	合格者合計	9（47%）	8（47%）
	失格	4	1

（出所：技術教育訓練局試験科）

モデルコースの教員の指導能力習得状況についてはおおむね良好であるが、いくつかの課題もある。例えば、ICT科のグラフィックデザイン、マルチメディア、ウェブデザイン担当の教員は、これら科目について、生徒への指導や機材の活用に難儀を感じている。生徒もこれら科目に関して教員の指導力が不足していると感じている。メカトロニクスの教員は、デザイン・メカニカル・フィックスチャー及びハイドローリックの指導、特に演習指導に関する能力が十分ではないと感じている。

なお、パートタイムのディプロマ・コースの開設も期待されていたが、教員数の不足等の理由により現在のところ実現していない。

成果2：技術教育訓練局が産業界のニーズに合った訓練コースを実施するためのシステムを確立する。

(1) 産業界との連携

産業界の連携の主な活動として技術委員会（テクニカル・コミッティー）の設立が予定されていた。プロジェクト開始当初は技術委員会の設立は技術教育訓練局が担当していたが、

[10] 具体的には、学士コースへの進学の際に対象校においてディプロマ・コースを履修したことが証明できず、再度同コースの科目を履修する必要が生じた生徒や、就職の際にディプロマ証書の提出を求められたが提出できなかった生徒などがいる。

その後、技術委員会の設立と運営は各技術短大が実施することになった。対象校では関連する産業界の代表がメンバーとなって各モデルコースに技術委員会が設立され、会合がもたれた。コース立ち上げの時期、技術委員会を通して、コースの指導内容に関して産業界から期待や要望が出され、教員はそれを参考に指導内容を検討していった。またその後、委員会のメンバーの中には、生徒に企業実習の機会を提供した企業もあり、さらにその後、企業実習が雇用につながった場合もある。技術委員会が、コース立ち上げへの貢献という当初の役割をいったん終えたあと、会合はしばらく開催されなかった。その後、対象校では、産業界との連携を更に推進し、企業研修や就職につなげるため、2010 年 3 月から会合を再開している。

産業界を対象としたオリエンテーション・プログラムも 3 回開催され、モデルコースが産業界に紹介された。また産業界のニーズに関する調査が実施され、その結果は対象校と技術教育訓練局の関係者に報告・活用された。

(2) ビジネス・アームによる週末コース

技術教育訓練局の独立法人である「技術開発訓練社〔Technology Development & Training（Guarantee）Ltd.〕」通称「ビジネス・アーム」を通じて、対象校の教員による短期の週末コースが開催された。週末コースとして対象校が開催可能なコース一覧は以下のとおりである。これまで、ICT 科のコースが最も頻繁に開催され、メカトロニクス科が実施するプログラマブル論理制御装置（programmable logic controller：PLC）のコースは合計 4 回開催された。金属加工のコースも企画されたものの、材料費を含む参加費が高額だったことから応募者がおらず開催には至らなかった。

① Computer and Information technology
- MS Office （10 日コース）
- Graphics Design （12 日コース）
- Internet & E-mail （2 日コース）
- Network Administration （12 日コース
- Hardware & Basic Networking （8 日コース s）

② Advanced technology
- Sequential Relay Control and basic PLC （3 日コース）
- Industrial Applications of PLC （3 日コース）

③ Mechanical Technology
- Arc Welding Manual （12 日コース）

以上のコースに加えて、日系企業からの要望による特別コースも開催された。2009 年に開催されたコースの内容は表－３のとおりである。

表－３　企業からの要請による特別コース実施実績（2009 年）

対象企業名	コース	参加者
Ceylon Petroleum Storage Terminals Ltd.	Computer Training	63
Colombo Dockyard Ltd.	Auto CAD, PLC and wood machinists	42
KYY (Pvt) Ltd.	PLC	15
FDK Lanka (Pvt) Ltd.	PLC	15

（出所：ビジネス・アーム年間報告書 2009）

ICT 科の教員が上記の産業界向けの週末コースを最も頻繁に主催している。同教員は、このようなコースを開催することにより､産業界のニーズに触れることができるばかりでなく、収入の一部をコースに必要な機材や教材の購入にも充てることができることが利点であると述べている。

（3）企業実習

モデルコースの第 1 期生 37 名のうち 29 名が企業実習を履修した。そのうちの何名かは実習先の企業に就職している。2009 年末にコース学習を修了した第 2 期生 55 名のうち、18 名が企業実習を履修中である（2010 年 2 月末現在)。そのほかの学生にも企業実習のための調整が進んでいる。

企業実習について調査したところ、実習の管理、モニタリング、アセスメントに不十分な点が見受けられた。例えば、実習先と生徒が実習内容や実習手当について何ら契約を結んでいない場合や、実習中に対象校のキャリア・ガイダンス科の職員や教員による訪問が一度も実施されていない場合などがみられた。また、実習終了時に、生徒の技術習得状況を評価・確認するシステムもまだ導入されていない。対象校では、これらの課題を克服するために今後、モニタリングや訪問をより積極的に実施するとともに、企業実習の管理を国立徒弟・工業訓練公団（NAITA）と通じて実施する予定である。

（4）教員の企業実習

教員の企業実習を定期的に実施する計画があったが、現在のところ実現していない。JICA 専門家チームは、特に、企業での就労経験のない ICT 科の教員の企業実習が急務であると認識し、実習を実現すべく、スリランカ・ソフトウェア・サービス会社連合と交渉を続けている。教員は実習の必要性を認識しているものの、スリランカにおいて教員が企業実習をすることはほとんど前例がないこと、企業の方に教員を受け入れるインセンティブが少ないことなど、教員の企業実習の実現にはいくつかの課題があり、早急な実現は難しいようである。

成果 3 : 技術教育訓練局の国家技能標準 5･6 級の訓練コース運営、キャリア・ガイダンスの実施、教材開発、全国技能競技会の実施能力が向上する。

（1）キャリア・ガイダンス

対象校のキャリア・ガイダンス・センターの業務には著しい改善がみられる。同センター

ではプロジェクト実施前は最小限の活動しか行われていなかったが、現在では、対象校の生徒へのカウンセリングやキャリア・ガイダンス・セミナーの実施、対象校や他の職業訓練校の国家技能標準 3･4 級の生徒を対象とした入学案内セミナーなど数多く開催している。また、同センターは以前、対象校の奥まった場所にあったが、プロジェクト専門家の指導を受け、入口近くの場所に移動され、改修が行われた結果、生徒や一般の人々の同センターへのアクセスが改善された。同センターでは、就職情報、履歴書作成などのデータ・ベース・システムを導入したほか、モデルコースのプロモーション・ビデオの作成[11]も行った。

(2) モデルコースのモニタリング

モデルコースのモニタリングやフォローアップについては十分に実施されていない。対象校ではコース終了時に実施することが期待されていた反省会等のミーティングが開催されなかったため、教訓が効果的に生かされたり、問題点が次年度に早急に改善されたりという状況にならなかった。

一方、生徒を対象とした質問票調査が毎年実施されたことは評価に値する（調査結果については付属資料 4. 終了時評価議事録の添付 10「生徒への質問票調査の結果」を参照のこと）。しかし、調査の結果についてはあまり活用されなかったようである。また、卒業生や企業実習中の生徒からコースでの学習内容に関するフィードバックを受け入れるシステムが導入されていないことは残念である。なお現在のところ、技術教育訓練局や技術・高等職業教育委員会によるモデルコースのモニタリングも始まっていない。

(3) 技能競技会

2005 年、2006 年、2007 年は計画どおり技能競技会が開催された。2008 年の技能競技会は、州レベルの競技が終了したものの、費用の関係で全国レベルの競技が実施されないまま終了した。2009 年は同様の理由で技能競技会は開催されなかった。技術教育訓練局では、2010 年の技能競技会を 10 月に開催すべく、産業界の協力体制を構築しつつあるところである。

成果 4：対象校における 3 分野のモデルコースの設立を通じて、技術教育訓練局が国家技能標準 5･6 級の訓練コースの実施、産業界との連携、キャリア・ガイダンス、全国技能競技会開催などのノウハウを蓄積し、それらが他の技術訓練校や技術短大において共有される。

(1) 在職教員研修による教科指導に関するノウハウ普及

モデルコースに関連する教科指導ノウハウを普及すべく、他校の教員を対象とした在職教員研修が対象校の教員により実施された。対象校の校長や JICA 専門家によると、同教員研修による教科指導ノウハウの普及は大変効果的であったとのことである。例えば、近年、職業訓練校の 3・4 級のコースに PLC が導入されたが、3・4 級の教員はこれに関する指導技術を持ち合わせていなかった。そこで、対象校の教員が在職者研修にて PLC の指導技術を他校の教員に指導したところ、同科目の訓練が他校でも開始されるようになった。在職教員研修の実績については表－4 に示した。

[11] 同プロモーション・ビデオは YouTube にもアップロードされた。2010 年 3 月現在で約 700 人の閲覧者があった。

表－４　在職教員研修の実績

	研修プログラム名	教科	期間	参加者数
2007 年				
1	Sequential Relay Control & Programmable Logic controllers（PLC）	ﾒｶﾄﾛﾆｸｽ	3 日	12
2	Sheet metal	金属加工	3 日	13
3	Network Technology	ICT	3 日	12
2008 年				
4	Network Administration	ICT	2 日	16
5	Shielded Metal Arc Welding	金属加工	2 日	8
2009 年				
6	Basic course in PLC Programming	ﾒｶﾄﾛﾆｸｽ	3 日	13
7	PLC Programming using computers	ﾒｶﾄﾛﾆｸｽ	3 日	9
参加者合計				83

（出所：プロジェクトチーム）

(2) コース運営に関するノウハウ普及

国家技能標準 5･6 級のコースは、3･4 級のコースに比べて期間も長く、企業実習も含まれ、教員の指導技術にもより高いものが要求されるため、より高度の運営技術が要求される。そこで、本プロジェクトでは、対象校において蓄積されたコース運営のノウハウが対象校から他の学校に普及されることが期待されていたが、対象校ではコース運営のノウハウを現在蓄積している最中であり、他校への普及はまだ始まっていない。この背景には、国家技能標準が 2010 年 1 月にやっと承認されたばかりであること、3 月半ば時点でカリキュラムがまだ未承認であること、国家技能検定の最終試験の実施や結果発表が遅れていたことなどが挙げられる。

現在、対象校のモデルコースの教員は 2010 年 1 月に承認された国家技能標準 5･6 級に沿って生徒を訓練するなかでさまざまな課題に直面しているところであり、例を挙げると以下のようになる。

① 国家技能標準 4 級及び 3 級を取得した生徒が 5 級のコースに入学することができるが、3 級と 5 級の訓練内容に大きな格差があるため、3 級の卒業生は入学後の指導が困難である。特にこの問題は ICT 科とメカトロニクス科に顕著であり、このような生徒の中には授業についていくのが困難な場合もみられる。現在、入学直後に実施する 6 カ月の「ブリッジコース（補修）」においてこのような格差を埋めるための訓練が行われているが、教員は、この 6 カ月をもって格差を埋めるのは困難であり、3 級のカリキュラムの変更が必要と感じている。

② 教員は、2010 年の入学試験が適切に実施されなかったと感じている。特に、英語の試験が実施されなかったこと、また教科関連以外の試験において IQ 関連の質問が少なく、多くが一般常識に関する質問であったことが問題であった。そのため、入学時に、生徒の適

性や知識によるスクリーニングが適切に実施されず、入学後の指導に困難を来している。今年度（2010 年）の入学試験は技術教育訓練局の試験科が準備・実施したが、実施に際して対象校の教員は何ら関与しておらず、また、教員が問題と感じた上述の事柄についても、教員と同局の試験科は試験後に話し合いをもっていない。

③ ICT 科の教員は、ICT のコースではなくデザインや印刷技術のディプロマ・コースで教えられることが多かった、ビデオ作製、グラフィック、印刷といった科目の指導に困難を感じている。また、メカトロニクス科の教員は同様に、機械科のディプロマ・コースの 1 科目として含まれることが多いデザイン・メカニカル・フィックスチャーの実習指導について困難を覚えている。これらの科目は産業界の需要を考慮して必須科目として取り入れられたが、現在のところ教員の指導力の向上が追いついていない状況である。

④ また、ICT 科の教員は「ソフトウェア工学とデータベース技術」といった科目の指導においては、産業界の協力が必須であると感じている。

対象校は他の 8 つの技術短大に先駆けて訓練コースを開始しており、今後、対象校と同様のコースをもつ他校の教員も以上のような課題に直面するであろうと予想される。技術教育訓練局や技術・職業訓練委員会など対象校の上位機関は、先行事例である対象校の状況を十分調査し、対策を講じる必要があるが、現在のところそのような動きはみられない。

なお、本プロジェクトでは、2010 年 5 月に最終セミナーの開催を計画している。同セミナーではモデルコースの導入や実施・運営、産業界との連携、キャリア・ガイダンス、企業実習などにおけるこれまでの経験や教訓を発表し、他校へのノウハウの普及に役立てる予定である。

３－４　プロジェクト目標の達成状況

プロジェクト目標：対象校にて中堅技術者の育成に必要な国家技能標準 5・6 級のコースを設立することを通じて、技術教育訓練局が今後各州に技術短大（CoT）を設立するために必要な経営・技術能力を獲得する。

3 つのモデルコースの導入と実施をめざした成果 1 はおおむね計画どおり進捗している。産業界のニーズを満たすという成果 2 についても一定の成果が発現している。コース運営能力の強化をめざした成果 3 についてはキャリア・ガイダンスが成果を上げたものの、コースのモニタリングや質の向上に関する成果は十分発現していない。ノウハウ普及に関する成果 4 は、教科指導ノウハウに関しては現職教員研修の実施により普及されたものの、コース運営に関するノウハウに関してはまだ普及が始まっていない。

前述のように、他の技術短大に先駆けてディプロマ・コースを実施している対象校では、モデルコースの運営管理に関してさまざまな課題に直面している。しかし現在のところ、これらの課題や教員の意見は、上位機関に届いていないようである。上位機関は今後、上位目標で示されているように、ディプロマ・コースの運営に必要な経営・技術能力を獲得すべく、対象校における課題を慎重に検討し、教員からの意見を参考に必要な解決策を講じるとともに、対象校における成果の他校への普及に努めるべきである。

以下に、PDM に記載の上位目標の指標に関する達成状況を記す。

(1) 生徒の就職状況

表－５に、2007 年 1 月から 2008 年末にかけてのモデルコースの訓練を履修した ICT 科と金属加工科の第 1 期生 37 名[12]の就職状況を示した。

表－５　第 1 期生の就職状況

コース名	コース学習修了者数	コース関連の職に就労		コースに関連しない職に就労		失業中	
		人数	%	人数	%	人数	%
ICT	20	10	50%	6	30%	(4)	20%
金属加工	17	3	18%	0	0%	14	82%

*注：ICT 科で「失業中」の欄に記載されている 4 名のうち 2 名は進学しており失業中とはいえない。残りの 2 名は海外勤務の仕事を探している。

（出所：プロジェクトチーム）

表－５からも分かるように、ICT 科の生徒の就職状況はおおむね好調である。第 1 期生については表－５が示すように、海外での仕事を探している 2 名を除けばすべて就職もしくは進学をしている。対象校のキャリア・ガイダンス・センターによれば、第 1 期生は、コースに関連した職を得た学生も、そうでない学生も、自分の就職先や仕事内容に関して満足の意を表明しているとのことである。また、コース学習を終えた同科の第 2 期生に対しても現在、キャリア・ガイダンス・センターを通じて企業から面接の引き合いがある。

金属加工科の生徒の就職状況にはばらつきがある。第 1 期生 17 名のほとんどがコロンボにある日系造船企業「コロンボ・ドックヤード社」にて企業研修を受けた。そのうちの 3 名が研修後の試験で最高点を獲得し、同社に就職した。同社の技術担当者へインタビューをしたところ、これら 3 名の技術力や勤務態度には大変満足しているとのことであった[13]。そのほかの 14 名については自宅から通勤でき、希望の水準の給与が得られる職場を探しており、また中には、更に資格を身に付けたいと英会話塾などに通っている者もいる。なお、コース学習を終えた同科の第 2 期生のうち 2 名は既に空軍本部の採用試験で高得点を取得し、就職を果たした。

(2) モデルコースへの応募者数

表－６が示すように、2 モデルコースへの応募者数は、2008 年度、2009 年度は減少傾向にあったが、2010 年度には増加している。2010 年度の増加は、キャリア・ガイダンス・センターによる活動の結果、モデルコースがしだいに評価されつつあることを示しているといえよう。例えば、これまで応募者数の少なかった金属加工科への応募を促進するべく、同センターが 2009 年末にセミナーや広報を積極的に実施した結果、応募者が急増した。

[12] メカトロニクス科は 2008 年にコースが開始されたため、第 1 期生はまだ訓練中である。
[13] うち 2 名は現在でも同社にて勤務しており 1 名は転職した。

表－６　モデルコースへの応募者数の推移

年度	2007	2008		2009		2010	
	入学願書提出数	入学願書提出数	増加率（%）	入学願書提出数	増加率（%）	入学願書提出数	増加率（%）
ICT	194	180	-7%	157	-13%	209	33%
メカトロニクス	230	128	-44%	72	-44%	80	11%
金属加工	78	52	-33%	38	-27%	87	129%

（出所：対象校キャリア・ガイダンス・センター）

（3）マニュアルや資料による対象校のノウハウの普及

本プロジェクトでは、対象校における経験をもとに下記のマニュアル類を作成した。

- 技術短大オペレーション・マニュアル
- キャリア・ガイダンス・マスタープラン
- 産業界連携マニュアル

これらのマニュアルや書類は最終セミナーで他の短大の関係者や上位機関に配布され、対象校で蓄積された経験の普及に活用される見込みである。なお、当プロジェクトによる上述のマニュアル類の作成と並行して、ADB の資金協力による「技術教育開発プロジェクト（Technical Education Development Project：TEDP）」により技術短大の運営管理に関するマニュアル類が作成され、各短大に配布された。この TEDP によるマニュアルが今後、技術短大の運営指針となる予定である。

３－５　実施プロセスにおける特記事項

JICA 専門家チームとモデルコースの教員の間のチームワークやコミュニケーションは良好であり、特に問題はみられなかった。

JICA 専門家と教員は定期的に会合を開催し、プロジェクトの進捗モニタリングを実施した。当初、技術教育訓練局の局長は、プロジェクト管理委員会やプロジェクト運営委員会を開催し、プロジェクトの進捗管理や問題解決の促進を行う予定であったが、同局長が他の業務に多忙との理由から、これらの委員会は定期的に開催されなかった。

対象校や技術教育訓練局の上位機関はプロジェクトを支援していたが、十分なリーダーシップが発揮されたとはいえない。例えば、職業・技術訓練省はプロジェクトの最高意思決定機関である合同調整委員会を 6 カ月ごとに開催する予定であったが、第 5 回目の同委員会の開催後、約 1 年半も開催がなかった。また、同委員会の議事録によれば、効果的な解決策が示されないまま同じ問題について幾度も討議が繰り返されていた様子が確認され、さまざまな問題の解決に長い時間がかかっていたことが分かる。しかし、2009 年の 12 月以降、同省の次官補が JICA 専門家チームと隔週の会合を開催し、プロジェクトが直面している問題の解決に取り組んでいることは好ましい傾向である。

本プロジェクト開始以降 4 年間、対象校に勤務していた前校長がプロジェクト活動の実施に十分なリーダーシップを発揮していなかったことは大変遺憾である。JICA 専門家チームやモデルコースの教員は、プロジェクト活動の推進に必要な支援や承認を同校長から取り付けるのにしばしば困難を覚えたようである。一方、2009 年 11 月に対象校に就任した新校長は、プロジェクト活

動の推進に理解を示しており、また、キャリア・ガイダンスや産業界との連携にも積極的に取り組んでおり、今後の活躍が期待される。

JICA は長期専門家を計画どおりに派遣することができなかったが、短期専門家の派遣や現地リソースの活用などにより長期専門家の役割を補填し、可能な限りの技術移転を実現した。しかし、本プロジェクトは本来、キャパシティ・ビルディングを主な目的としたプロジェクトであることを勘案すると、カウンターパートの技術習得状況を確認しながら指導を実施できる立場にある長期専門家の派遣が計画どおりに実施されていれば、技術移転は更に効果を上げていたであろう。

第４章　評価結果

４－１　評価５項目による評価

(1) 妥当性

本プロジェクトはスリランカの国家開発政策（国家開発 10 カ年計画）及び日本の ODA 政策（スリランカ国別援助計画）と整合性がある。また、スリランカでは若年層の失業が多いことなどを考えると本プロジェクトは優先的に実施されるべきであり、緊急性も認められ、ADB や GTZ などの他ドナーも本セクターを支援している。なお、日本は選定された 3 分野の職業訓練において進んだ技術と豊富な経験をもっており、協力実施における優位性をもつ。これらのことより、当プロジェクトの妥当性は高い。

(2) 有効性

次項「効率性」で述べるように、新しい訓練コースの導入や実施は効果的に行われたものの、期待された成果の一部はまだ発現していない。特に、対象校の上位機関である技術教育訓練局、職業・技術訓練省、高等職業教育委員会は、プロジェクト目標であった「対象校に蓄積された国家技能標準 5･6 級の訓練コース運営にかかわる経験や教訓から学び、必要な改善を実施し、中堅技術者育成のための能力を身に付ける」ための行動を十分に起こしていないため、現在、対象校は、入学試験が不的確で生徒が効果的にスクリーニングされない、国家技能標準 3 級と 5 級の格差が大きい[14]、一部の教科に関して教員の指導力が不足している、などの課題に直面している。このことから、本プロジェクトの有効性は中程度と判断される。

(3) 効率性

成果 1「モデルコースの導入と実施」の発現状況はほぼ順調であり、成果 2「産業界との連携」についても一定の成果が発現した。成果 3「運営能力強化」については、キャリア・ガイダンスが実績を上げているものの、コースのモニタリングと訓練の質の改善などについてはまだ十分に取り組まれていない。成果 4「ノウハウ普及」については、教科指導のノウハウについては現職研修を通して実施されたものの、国家技能標準 5･6 級の訓練コース運営にかかわるノウハウの普及はまだ始まっていない。また、投入に関して、技術教育訓練局や職業・技術訓練省の責任者の本プロジェクトへの参加度合いが十分でなかったことや長期専門家の派遣が計画どおり実施できなかったことなど阻害要因もあった。これらのことから、本プロジェクトの効率性は中程度と判断する。

(4) インパクト

本プロジェクトは職業・技術訓練にディプロマ・コースを導入するというスリランカ政府の政策を実現したという点でインパクトがあった。一方、上位目標として設定されていた「全技術訓練校や技術短大における人材育成及び各地における技術短大の設立」はプロジェクト目標とやや乖離したものであったため、本プロジェクトの上位目標達成への貢献度は制限的

[14] 3 級を履修した生徒にも 5 級のコースへの入学資格がある。しかし情報通信技術科とメカトロニクス科では 3 級の訓練内容と 5 級の訓練レベルにギャップがあり、3 級を履修したあと、4 級に進学せず 5 級のコースに入学した生徒への指導が困難であることが教員より指摘された。

なものとなるであろう。

(5) 持続発展性

1) 組織面

対象校は長い歴史をもつ組織であること、モデルコースの教員の技術レベルや数が良好であることは、持続発展性への貢献要因となるであろう。一方、職業・技術訓練省が近年、技術短大で教える教員には学位の取得が必須であるという方針を打ち出したにもかかわらず、本プロジェクトで指導技術を身に付けたカウンターパートに学位取得の機会が提供される時期や仕組みなどの詳細が不明確であることは懸念要因である。

2) 財政面

JICA が供与した機材の多くは近々保証期間が終了するため、適切な維持管理や修理のためには業者と保守契約を結ぶ必要が発生する。そこで、これらの保守契約の費用を含むモデルコースの 2010 年の機材維持管理費が的確に見積もられ、財務省に提出されたかどうかについて、終了時評価調査団が技術教育訓練局の財務部長や対象校の校長に問い合わせたが、的確な回答が得られなかった。このように機材保守管理の予算処置に関して懸念が残る。

3) 技術面

教員の技術レベルがコース運営にほぼ十分なものであることは自立発展性の好要因であるが、訓練コースの質を向上させていくのに必要な、定期的なモニタリング、分析、評価、改善策の実施などのシステムが確立されていないことは懸念事項である。

４－２ 効果発現に貢献した要因

(1) 計画内容に関すること

特になし。

(2) 実施プロセスに関すること

モデルコース運営に従事した JICA 専門家の技術レベルや技術移転の方法は適切であり、親身になってカウンターパートを指導し、必要な技術移転を効果的に実施し、効果発現に貢献した。

また、キャリア・ガイダンス、産業界との連携、ノウハウ普及に関する専門家の必要性が本プロジェクトの後半になって認識され、3 名のローカルコンサルタントが雇用された。これらローカルコンサルタントは専門性も高く、また現地の事情にも通じており、プロジェクト活動の効果的な実施に貢献した。

４－３ 問題点及び問題を惹起した要因

(1) 計画内容に関すること

① 本プロジェクトは新しく 3 分野の訓練コースを設立すると同時にノウハウの普及を実施するという難易度の高いものであった。一方、本プロジェクトの前提条件が 4-3（2）②に

記すように満たされず、また 4-3（2）①に記すようにスリランカ側カウンターパートの参加や進捗管理が不十分であり、加えて日本からの長期専門家の投入が計画どおり行われなかった。それにもかかわらず、プロジェクトのフレームワークの見直しが適切な時期に行われなかったため、計画されていたすべての成果を生み出すことが困難な状況となった。

（2）実施プロセスに関すること

① 職業・技術訓練省、技術教育訓練局、対象校の責任者の本プロジェクトへの参加度やこれら機関によるプロジェクトの進捗管理は必ずしも十分なものではなかった。例えば、専門家チームからの提案が再三あったにもかかわらず局長が主催するプロジェクト管理委員会や運営委員会が定期的に開かれなかったこと、省次官の主催で半年に 1 回開催予定の合同調整委員会が 2008～2009 年には 1 年半もの期間開催されなかったことなどがその例として挙げられる。

② 本プロジェクトの事前協議では、国家技能標準やカリキュラムの承認は、本プロジェクトが開始される前に完了すべき前提条件であることが合意された。しかし、モデルコースの 3 科目の国家技能標準やカリキュラムの承認作業が、今後導入予定のディプロマ・コース全 10 科目の承認作業の一部として行われたため時間がかかり、結果として承認が計画より 4 年以上遅れた。そのため、モデルコースの第 1 期生へのディプロマの授与が約 1 年遅延し、彼らの就職や進学の際に不都合が生じた。

③ 本プロジェクトのプロジェクト・デザイン・マトリックスの指標をみると、ノウハウ普及に期待されるレベルがかなり高いことが分かる[15]。しかし、このレベルの高い普及を実現するために必要な専門性、プロセス、時間、予算などについて計画時、協力期間の前半及び中間評価において十分な施策が講じられなかった[16]。これらについて専門家チームと JICA の間で 2008 年末ごろに話し合いがもたれ、その結果、専門性の必要性を満たすべくローカルコンサルタントが投入された。しかし、普及のプロセスやそれに必要な時間や予算ついては、カウンターパート機関を含む関係者が明確な共通認識をもつには至らなかった[17]。

④ 長期専門家は当初の計画どおり派遣できなかったが、それを補完するために短期専門家の派遣や現地リソースの活用が行われたことは有効であった。しかし、本プロジェクトは人材育成を主な目的とすることをかんがみると、カウンターパートを継続的に育成できる立場にある長期専門家が計画どおり投入されていれば、プロジェクトはより効果的に実施されたと考えられる。

４－４ 結 論

本プロジェクトはスリランカの職業・技術訓練に初めてディプロマ・コースを導入したという点でインパクトのあるものであった。また、対象校が、キャリア・ガイダンスや産業界との連携

[15] PDM では、対象校がノウハウを他の技術訓練校や技術短大に普及したあと、それらの学校は対象校と同様のプログラムを実施することになっていた。またその際にノウハウがどのように活用されたかについても調査する予定であった。

[16] 中間評価ではノウハウ普及は後半の主な活動とされたが、これに必要な事項として指摘されたのは、蓄積された経験のドキュメント作成とそのために必要となるカウンターパートの配置のみであった。

[17] ノウハウ普及のローカルコンサルタントが中心となって普及計画が立案されたが、対象校の前校長や技術教育訓練局長は計画の実施に対して積極的な態度ではなかった。

においても実績を上げたこと、専門家からの技術移転や本邦研修を受けた対象校の教員が、教科指導に関するノウハウを他校の教員へ普及したことなども特筆に値する。

一方、コースのモニタリングを通じた質の改善は十分実施されたとはいえず、コース運営ノウハウについては蓄積段階にあることから普及活動は未実施である。職業・技術訓練省、高等職業教員委員会、技術教育訓練局は、対象校が現在直面している課題やこれまで蓄積された経験に注目し、コースの適切なモニタリングの実施、入学試験の改善、3 級と 5 級の格差の是正、教員の更なる能力強化など、コース運営改善のために必要な施策を早急に実施すべきである。また、組織、財政、技術的な観点から持続発展性に関する懸念事項も数点あるが、第 5 章 5-1 に述べる提言を実行していくことでプロジェクト終了後の対象校の適切な運営は可能である。

４－５　PDM の改訂

現行の PDM を見直し、不適切を思われる点について表－ 7 のとおり修正した。修正の詳細については、付属資料 4. 終了時評価議事録の添付 7「成果達成状況表」を参照のこと。

表－7　PDM の変更点

変更箇所	備　考
（上位目標） 1. Quality of the trained manpower in ~~TCs/COTs~~ SLCoT meets the labour market demand 2. Lessons and experience of SLCoT on management and course delivery are utilized by other CoTs. ~~*"COTs are established and managed by utilizing lessons and experiences of SLCOT".*~~	1．プロジェクト活動はスリランカ技術短大（SLCoT）で行われており、SLCoT を上位目標の対象とすることが適切であるため記述を変更した。 2．技術短大（CoTs）は既に設立済みであることから、設立でなく経験の普及をめざすことが適当であるため記述を変更した。 （指標はこれらの変更に合わせて適宜修正した。）
（プロジェクト目標） DTET gains managerial and technical capacity to establish COTs in each province by introducing model courses of NVQ level 5&6 in SLCOT to train middle level technicians	・ プロジェクト目標は変更なし。 ・ 3 指標のうち 1 つを下記のとおり修正。 *"Manuals/documents developed in SLCOT and DTET are utilized in other COTs"* より"Experience and lessons learned at SLCoT are appreciated by other CoTs at the final seminar"に変更
（成果） 1. NVQ level 5&6 model training courses are introduced and conducted effectively in SLCOT in the fields of Information and Communication Technology, Mechatronics and Metal Work. 2. ~~DTET~~SLCoT establishes a system for the training courses to fulfil industry's needs. 3. Management capacity of ~~DTET~~SLCoT for training delivery of the NVQ level 5 & 6 courses and for the implementation of career guidance/counseling, textbook development ~~and skills competitions~~ is improved. 4. Know-how of SLCoT in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, career guidance/ counselling ~~and skills competitions~~ is shared ~~accumulated in DTET through the establishment of the 3 model courses in SLCOT to share it~~ with other TCs/COTs.	1．変更なし。 2．産業界との連携は対象校が主体となって実施されるため主語を変更した。 3．国家技能標準 5･6 級のコース運営管理は対象校が主体となって実施するため主語を変更した。また、技能大会は対象校が実施するコースの運営管理に直接関係ないため削除した。 4．ノウハウ普及はマニュアルの配布ではなく、現職教員研修を通じて実施されており、また最終セミナーにおいても実施予定であることから成果の記述を変更し、それに合わせて指標を下記のとおり変更した。 4-1. In-service training is held periodically. ~~Documents on delivering of NVQ level 5&6 courses are prepared.~~ 4.2. Counterpart officers in DTET and SLCoT make demonstrations/ presentations on their experience and lessons learned to other TCs/CoTs in final seminar. ~~Technical Committee/Advisory Council are established in other TC/CoTs~~

第５章　提言と教訓

５－１　提　言

最終評価調査団が提言として表明した事項の要約は以下のとおりである。内容の詳細については、付属資料 4. 終了時評価議事録の「7. 提言」を参照のこと。

５－１－１　職業・技術訓練省、技術・職業訓練委員会、技術教育訓練局及び省傘下の他の関連機関への提言

① 隔週の専門家チームとの打合せを技術教育訓練局長の参加のもと協力期間終了まで継続して実施すること。

② モデルコースの教員が現在直面している問題を調査・分析し、コース運営改善のための施策を講じること。

③ 職業技術大学（UNIVOTEC）における週末の学位取得コースを遅れることなく開講すること。

④ モデルコースの機材の使用や維持管理及び消耗品や実験材料の購入に必要な予算を確保すること。

⑤ 本プロジェクトの成果を生かし､モデルコースの質を保つような人材の配置を行うこと。

⑥ プロジェクト・コーディネーター（スリランカ側カウンターパート）の兼務を解き、協力期間終了後までの間フルタイムの勤務体制とすること。

５－１－２　対象校校長への提言

(1) 運営管理に関すること

① 四半期ごとの反省会、教員や生徒との話し合い、生徒用訓練記録簿の導入、生徒への質問票調査の実施などによるコースモニタリングの改善。

② 本プロジェクトの成果を生かし、モデルコースの質を保つような人材の活用を行うこと。

③ モデルコースの資機材の運用・維持管理に関して十分なモニタリングを実施すること。

④ 教員の数が増えた場合、パートタイム・ディプロマ・コースを導入すること。

⑤ コース運営に関する経験や教訓を他の技術短大や技術訓練校の教員と共有するため、文書化を行い、2010 年 5 月に開催予定の最終セミナーで発表を行うこと。

(2) 教員や生徒に関すること

① 他校の教員を対象とした、モデルコースの教員による現職研修を継続的に実施すること。

② 履修内容や予定されている学習成果を生徒に周知徹底したり、自習の環境をより整えたりすることにより、モデルコースの運営を更に向上させること。

③ 企業実習の管理、フォローアップ、アセスメントを改善すること。

(3) 産業界との連携に関すること

① モデルコースと産業界の更なる連携を図る。特にメカトロニクスは新しい教科であり、産業界への効果的な広報を実施すること。

② 生徒が専門分野の産業界のニーズや労働環境をよりよく理解するため、産業界と接触する機会を多く設けること。

③ モデルコースの広報や外部評価の促進のため、生徒の卒業作品を産業界や他校に公開する機会を設けること。

５－２ 教 訓

(1) プロジェクトフレームワークの適切なタイミングでの見直し

カウンターパートの参加や進捗管理が不十分であり抜本的な改善が困難と予想される、もしくは日本からの長期専門家の投入が計画どおり行われない、など成果発現を阻害する要因が多い場合、プロジェクトのフレームワークの見直しを適切な時期に行い、適切な目標設定を行うべきである。

(2) 長期専門家の適切な派遣

人材育成を主な目的とする技術協力プロジェクトでは、カウンターパートを継続的に育成できる長期専門家の派遣､もしくは同一の専門家の短期の複数回の派遣がより効果的である。短期専門家の派遣や現地リソースの活用はこれを補完するために実施されるのが望ましい。

付　属　資　料

１．調査日程

２．機材供与リスト（詳細）

３．組織図

４．終了時評価議事録

1．調査日程

月日	曜日	官団員	コンサルタント団員
3月1日	月		・キックオフ〔職業・技術訓練省（MVTT)〕 ・DTET、TVEC 聞き取り
3月2日	火		・DTET 聞き取り
3月3日	水		・専門家、現地プロジェクト聞き取り
3月4日	木		・卒業生就職先企業及び修了生からの聞き取り
3月5日	金		・卒業生就職先企業及び修了生からの聞き取り
3月6日	土		・文書整理
3月7日	日		・文書整理
3月8日	月		
3月9日	火		・技術教育開発プロジェクト（TEDP）、国立徒弟・工業訓練公団（NAITA）、職業技術大学（UNIVOTEC）聞き取り
3月10日	水		・スリランカ技術短大（SLCoT）在校生聞き取り ・ILC/TC 会議
3月11日	木		・SLCoT 卒業生聞き取り ・専門家、現地プロジェクト聞き取り
3月12日	金		・専門家、現地プロジェクト聞き取り
3月13日	土	コロンボ着（23:50）	調査結果整理
3月14日	日	団内打合せ	
3月15日	月	・JICA スリランカ事務所打合せ ・MVTT 協議	
3月16日	火	・SLCoT 協議、視察 ・専門家聞き取り	
3月17日	水	・現地プロジェクト聞き取り ・DTET 協議	
3月18日	木	・合同調整委員会（JCC）（ミニッツ署名） ・アジア開発銀行（ADB）訪問	
3月19日	金	・JICA スリランカ事務所報告 ・在スリランカ日本大使館報告 ・財務計画省対外援助局（ERD）報告	
3月20日	土	コロンボ発（1:10）	

２．機材供与リスト（詳細）

2.1. ICT 科 訓練機材(単価 2 万ルピー以上の機材について記載)

番号	設置場所	使用者	購入年	機材名	スペック	数量	使用状況
1	PC1 Laboratory	Student	2006	Client PC (HP DX2700)	CPU:3GHz MM:512M HDD:removal GC:64M	23	使用している
			2006	* TFT Monitor	15inch		使用している
			2006	* OS: MSWindowsXP/FederoCore			使用している
			2006	* Office: MSOffice2003			使用している
			2006	* PDE: MSVisualStudio2005			使用している
			2005	Color LP (HP Laserjet 5550)		2	使用している
		Lecturer	2006	Client PC (HP DX2700)	CPU:3GHz MM:1G HDD:removal GC:64M	1	使用している
			2006	* TFT Monitor	15inch		使用している
			2006	* OS: MSWindowsXP/FederoCore			使用している
			2006	* Office: MSOffice2003			使用している
			2006	* PDE: MSVisualStudio2005			使用している
		File server	2006	Server (HP ProLiant ML310 G3)		1	使用している
			2006	* TFT Monitor	17inch		使用している
		SW	2005	L3swich (3Com 4500-50)		1	使用している
2	PC2 Laboratory	Student	2006	Client PC (HP DX2700)	CPU:3GHz MM:512M HDD:removal GC:64M	23	使用している
			2006	* TFT Monitor	15inch		使用している
			2006	* OS: MSWindowsXP/FederoCore			使用している
			2006	* Office: MSOffice2003			使用している
			2006	* PDE: MSVisualStudio2005			使用している
			2005	Color LP (HP Laserjet 5550)		2	使用している
		Lecturer	2006	Client PC (HP DX2700)	CPU:3GHz MM:1G HDD:removal GC:64M	1	使用している
			2006	* TFT Monitor	15inch		使用している
			2006	* OS: MSWindowsXP/FederoCore			使用している
			2006	* Office: MSOffice2003			使用している
			2006	* PDE: MSVisualStudio2005			使用している
		File server	2006	Server (HP ProLiant ML310 G3)		1	使用している
			2006	* TFT Monitor	17inch		使用している
		SW	2005	L3swich (3Com 4500-50)		1	使用している
3	Sys Laboratory	Student	2006	Client PC (HP DX2700)	CPU:3GHz MM:1G HDD:removal GC:256M	23	使用している
			2006	* TFT Monitor	15inch		使用している
			2006	* OS: MSWindowsXP/FederoCore			使用している
			2006	* Office: MSOffice2003			使用している
			2006	* PDE: MSVisualStudio2005			使用している
			2005	Color LP (HP Laserjet 5550)		2	使用している
		Lecturer	2006	Client PC (HP DX2700)	CPU:3GHz MM:1G HDD:removal GC:256M	1	使用している
			2006	* TFT Monitor	15inch		使用している
			2006	* OS: MSWindowsXP/FederoCore			使用している
			2006	* Office: MSOffice2003			使用している
			2006	* PDE: MSVisualStudio2005			使用している
		Room server	2006	Server (HP ProLiant ML310 G3)		1	使用している
			2006	* TFT Monitor	17inch		使用している
		SW	2005	L3swich (3Com 4500-50)		1	使用している
		SW(Practice)	2006	L2swich (3Com)		11	使用している
4	Lecturer room	Lecturer	2005	Client PC	CPU:3GHz MM:1G	3	使用している
				* TFT Monitor	15inch		使用している
				* OS: MSWindowsXP/FederoCore			使用している
				* Office: MSOffice2003			使用している
				* PDE: MSVisualStudio2005			使用している
		SW	2005	L3swich (3Com 4500-50)		1	使用している
5	Server Room	Sys ADM	2008	Server (HP DL380)	Current Fire Wall (Linux Fire Wall) Raid 5	1	使用している
			2008	do	Domain Controller Windows Raid 5	1	使用している
			2008	do	Mail Server (Linux) Raid 0	1	使用している
			2008	do	Backup Domain Controller Raid 5	1	使用している
			2008	do	Application Server (Linux) Raid 5	1	使用している
			2008	Hp DL 310 G4		1	使用している
			2008	Switching hub 3	com 5500 GE1 - Sfp 24 port	1	使用している
			2008	Module for switching hub 300m 3csfp 91	1000 base sx sep transceiver	10	使用している
			2008	HPLJ 5200 Dtn printer		1	使用している
			2008	LCD color monitor HPL 1506		2	使用している
			2008	Switching hub 3com switch 4500	50 port	3	使用している
6	Multimedia Lab	Lecturer	2008	Computer Hp pavilion Dv2505 Tx system		5	使用している
			2008	Computer HPDL 7800 system		7	使用予定
			2008	Printer HPLJ 5200 Dtn printer		1	使用予定
			2008	Visual presenter Elmo P100 projector		1	使用している
			2008	LCD color monitor HPL 1706		8	使用予定
			2008	Digital camera cannon EOS 400		2	使用している
			2008	Digital video camera SANYO Vpc HD2		2	使用している
			2008	Software Adobe Master Collection	Academic Ver.	23	使用している

2.2. 金属加工科 訓練機材 (単価 1 万ルピー以上の機材について記載)

(1) Welding Equipment

番号	機材名	数量	使用状況
1	Gas Welding Torch	8pcs	使用している
2	Gas Cutting Torch	8pcs	使用している
3	Automatic Gas Cutting Machine	2pcs	使用している
4	Arc Welding Machine	5pcs	使用している
5	CO_2 Arc Welding Machine	5pcs	使用している
6	Welding Rod Dryer	2pcs	使用している
7	Welding Work Bench	12pcs	使用している
8	Arc Welding Machine	1pc	使用している
9	Air plasma Cutting g Machine	1pc	使用している
10	Circular Cutting Unit	1set	使用している
11	Clamp meter	10pcs	使用している
12	Bending Jig for butt joint thickness 3.0mm	1pc	使用している
13	Bending Jig for butt joint thickness 6.0mm	1pc	使用している

(2) Machine

番号	機材名	数量	使用状況
1	Air Compressor	1	使用している
2	Bench Drilling Machine	2	使用している
3	Pedestal Grinding Machine with Dust Extracting Machine	1	使用している
4	Pedestal Grinding Machine with Dust Extracting Machine	2	使用している
5	Pedestal Grinding Machine with Dust Extracting Machine	1	使用している
6	Hack Sawing Machine	1	使用している
7	Shearing Machine	1	使用している
8	Spare blades	1set	使用している
9	Shaper	1	使用している
10	Cutting Tools(for shaper)	10	使用している
11	Press Brake	1	使用している
12	Punch & Dies (for press brake)	1	使用している
13	Forming Roller	1	使用している
14	Rolling Machine	1	使用している

(3) Testing Equipment

番号	機材名	数量	使用状況
1	Hardness Tester (Mitutoyo AR-10)	1	使用している
2	Table for Hardness Tester (ϕ 180mm)	1	使用している
3	Table for Hardness Tester (ϕ 63mm)	1	使用している
4	Anvil for Hardness Tester (ϕ 40mm, 6mm V-groove)	1	使用している
5	Anvil for Hardness Tester (ϕ 40mm, 30mm V-groove)	1	使用している
6	Metal Polisher/Grinder	1	使用している
7	Pressure Testing Pump	1	使用している
8	Glass desiccators	5	使用している
9	Metallurgical Microscope	1	使用している
10	Ocular (Carton XR6015)	1	使用している
11	Ocular(Carton XR6020)	1	使用している
12	Mechanical Stage	1	使用している
13	CCD Camera for Microscope (Digital Microscopic Camera with USB Interface)	1	使用している
14	Personal Computer Personal Computer	1	使用している
15	Correcting of parallelism (Hand Press)	1	使用している
16	Specimen Dryer	1	使用している
17	Electric Furnace（for quenching ）	1	使用している
18	Electric Furnace（for tempering）	1	使用している

(4) Drawing Equipment

番号	機材名	数量	使用状況
1	Drawing Board	21	使用している
2	Drawing Table	21	使用している
3	Drawing Chair	21	使用している
4	Drafter Set	1	使用している

(5) Tools

番号	機材名	数量	使用状況
1	Bench Vice	24	使用している
2	Bolt Cutter(450mm)	1	使用している
3	Bolt Cutter(600mm)	1	使用している
4	Hand Fork Lift	1	使用している
5	Hand Pallet Track	1	使用している
6	Electric Drill	5	使用している
7	Disc Grinder	5	使用している
8	High Speed Abrasive Cutoff Marching	1	使用している
9	Electric Soldering Iron	2	使用している
10	Dust Cleaner	3	使用している
11	Precision File Set	10	使用している
12	Anvil	2	使用している
13	Straighten Shank Twist Drill Set	10	使用している
14	Pipe Cutter	2	使用している
15	Work Bench	10	使用している
16	Socket Wrench Set	5	使用している
17	Steel Rule	5	使用している
18	Micrometer	2	使用している
19	Height Gauge	1	使用している
20	Dial Gauge	1	使用している
21	Dial Gauge Stand	1	使用している
22	V Block set	5	使用している
23	Surface Plate	1	使用している
24	Air Hose Reel	1	使用している
25	Surface plate	7	使用している
26	Two flat shelves Cart	3	使用している
27	Work bench	3	使用している
28	Scales	1	使用している
29	Ultrasonic thickness meter	1	使用している
30	Thermocouple Thermometer	1	使用している

(6) Additional Equipment

番号	機材名	数量	使用状況
1	Multimedia Projector	2pcs	使用している
2	Visual presenter	2pcs	使用している
3	Computer	12	使用している

2.3. メカトロニクス科 訓練機材　(単価 1 万ルピー以上の機材について記載)

(1) FA/ Robot Lab.

番号	機材名	数量	使用状況	設置場所など
1	FA Training Model Kentac Model 2211	3	使用している	PLC Lab. No.3
	(1) Model SFA-2211			
	(2) Compressor HDA-7			
2	FA Simulation System	1	使用している	
	(1) Multi Axis Robot1			
	(2) Positioning System			
	(3) Modules System			
	(4) Palletizing System			
	(5) Multi Axis Robot2			

(2) Computer / CAD Lab.

番号	機材名	数量	使用状況	設置場所など
1	Baseline Switch 3COM Switch2916 3CBLSG16-SFP Plus	2		
2	Personal Computer	21	使用している	
	(1) CPU hp SGH8090CT0			
	(2) Display			
	(3) Keyboard & Mouse			
	(4) UPS ProLink PRO1200s			
3	Printer		使用している	
	(1) Hp Officejet K7100	1		
	(2) Hp Designjet 70	1		
	Projector		使用している	
	(1) EPSON EMP-1810	1		
	(2) Screen	1		
4	Software	21	使用している	
	(1) AutoCAD Mechanical			
	(2) AutoCAD 3DS MAX9			
	(3) Autodesk Inventor			
	(4) AutoCAD Electrical			
	(5) Autodesk Vault			
	(6)AutoCAD Raster Design			
	(7) Autodesk Productstream			
	(8) Autodesk Design Academy			
	(9) AutoCAD LT			

(3) PLC / SCADA Lab.

番号	機材名	数量	使用状況	設置場所など
1	PLC Mitsubishi		使用している	PLC Lab. No.1 Expert No.14
	(1) Training Kit	24		
	(2) CPU Q02	1		
	(3) Input Unit	6		
	(4) Output Unit	8		
	(5) AD Converter Unit	6		
	(6) DA Converter Unit	6		
	(7) CC-Link Master Local / Module	6		
	(8) MELSECNET / H Network Module	6		
	(9) Touch Panel	6		
	(10)Sensor (Multi-reflection Type)	3		
	(11) Software			
	MITSUBISHI GX Simulator Ver. 7	1		
	MITSUBISHI GX Configurator – CT Ver. 1	1		
	MITSUBISHI GX Configurator – SC Ver. 2	1		
	MITSUBISHI GX Configurator – AD Ver. 2	1		
	MITSUBISHI GX Configurator – DA Ver. 2	1		
	MITSUBISHI GX Configurator – QP Ver. 2	1		
	MITSUBISHI GX Component Ver. 3	1		
	MITSUBISHI MX Explorer Ver. 1	1		
	MITSUBISHI GT Designer2 Ver. 2	1		
	MITSUBISHI GX Developer Ver. 8	1		
	MITSUBISHI GT Works2 Ver.2	1		
	MITSUBISHI MX Component Ver.3	1		
	MITSUBISHI MX Sheet Ver.1	1		
2	PLC OMRON Training Kit		使用している	PLC Lab. No.2
	(1) CPM1A-20CDR-A-V1	22		
	(2) Programming Console PR001	22		
	(3) RS232C Interface Unit	17		
	(4) CX-Programmer	1		
3	PLC SIMENS		使用している	
	(1) SIMATIC S7-300	2		
	(2) LOGO	21		
	CPU LOGO! 12/24Rc, Input 8xDC,			
	Output 4xRelay			
	Power Supply LOGO! Power			
	Software LOGO! Soft Comfort Ver.5.0 SP3			
	Laptop PC	20	使用している	PLC Lab.4
	(1) CUP Intel T2300 1.66GHz, Memory 504 MB			
	(2) Software Windows XP Professional Service Pack			
	(3) Microsoft Office			
5	LCD Projector	1	使用している	
	(1) EPSON EMP-1810			
	(2) Screen			
6	Video Projector	1	使用している	

(4) Electronics Lab.

番号	機材名	数量	使用状況	設置場所など
1	Digital Storage Oscilloscope Tektronix TDS2002B	11	使用している	
2	DC Power Supply Agilent E3611A	11	使用している	
3	Power Supply & Function Generator HAMEG HM8040-3 HM8030-6	11	使用している	
4	RLC Meter digimess RLC200	2	使用している	
5	Digital Multimeter Agilent U1252A	20	使用している	
5	Analog Multimeter Sanwa YX360TRF	20	使用している	
7	Logic Checker Fluke 1AC-A1-2	20	使用している	
8	Microchip Development Tools		使用している	
	(1) PICSTART Plus	21		(1) Expert No.20
	(2) PIC Dome & Evaluation Kit	2		
	(3) MPLAB ICD 2	2		
	(4) PICSTART Plus2	6		
9	SH2 Microcomputer Board Kentac 13600CPU / 13600IO	1	使用している	Expert No.12
10	H8/3052 CPU Board	25	使用している	
11	Soldering / Removing tool Weller Function-Vacuum-System	2	使用している	
12	PCB Cutting Machine	1	使用予定	
	(1) PCB Cutting Machine MITS Seven mini			
	(2) MITS design pro, Converter EASY CAD CAM			
	(3) Controller hp compact 7400 Windows Vista, Microsoft Office			
13	Tool Box with tools	9	使用している	

(5) Electricity Lab.

番号	機材名	数量	使用状況	設置場所など
1	Power Quality Analyzer FLUKE 43B	2	使用している	
2	Insulation Tester FLUKE 1503	20	使用している	
3	Motor and Phase Rotation Indicator FLUKE 9062	2	使用している	
4	Volt Alarm FLUKE VoltAlert 1AC II	20	使用している	
5	Motor Control Training System Mechatro-Lab 3 Kentac-2203	1	使用している	
	(1) Measurement instruments 2202-I			
	(2) Control unit 2202-C			
	(3) Power supply 2002-P			
	(4) Stator 2202-M			
6	Inverter Fuji Electricity FRENIC Mini	12	使用している	
7	3-phase Induction motor Fuji Electric Motor MRA8133A	3	使用している	
	5.5kW, 380 – 460V Fuji Electric Motor MRA8133A 2			
	0.25kW Elektrim EME71-4A 1			
8	1-phase Induction motor 400W, 200V Fuji Electric Motor	2	使用している	
9	Board for connecting motor	12	使用している	
	(1) Switch & Lamp Box			
	(2) Auto Breaker Fuji EA33AC			
	(3) Timer Fuji MS4SC-AP			
	(4) Timer Fuji MS4SY-AP			
	(5) Thermal Overload Relay Fuji TR-N2			
10	1-phase transformer VoltAmp 0 – 260 V	20	使用している	
11	Tool Box with tools	12	使用している	

(6) Pneumatic / Hydraulic / PID Control Lab.

番号	機材名	数量	使用状況	設置場所など
	Pneumatic training system	3		
	(1) Mounting panel			
	(2) Storage drawer blocks for rolling table			
	(3) Power Supply SMTC-230/24DC			
	(4) Cable			
	(5) Switch SMCT-PBS			
	(6) Lump & Buzzer SMCT-L & BZ			
	(7) Relay SMTC- RELAY			
	(8) Timer SMTC- TIM			
	(9) Counter SMTC-CNT			
	(10) Accessories			
	(11) Rodless cylinder GY1RG10H-100			
	(12) Rotary actuator MDSUB3-180S			
	(13) Double acting cylinder with 2-wire reed seed controller CDM2L20-100-C73CL-AS			
	(14) Double acting cylinder with 2-wire reed switches CDM2L20-100-C73CL			
	(15) Double acting cylinder with 3-wire reed switches CDM2L20-100-H7A			
	(16) Single acting cylinder CDM2L20-50S			
	(17) 3/2 way N.C. air operated time delay valve VR2110			
	(18) Pressure gauge KLC36-10-01			
	(19) 3/2 way air operated balanced poppet valve VTA 301			
	(20) 5/2 way single air operated spring return valve			
	SYA3120-C6			
	(21) 5/2 way double solenoid operated SY3220-5MZ-C-6			
	(22) 3/2 way N.C. spring return valve with one way roller level Left direction actuation			
	(23) 3/2 way N.C. spring return valve with one way roller level Right direction actuation			
	(24) 5/3 way closed & exhaust center air operated valve SYA3320-C6			
	(25) 5/2 way double air operated valve SYA3220-6			
	(26) 3/2 way N.C. spring return valve with roller level Left direction actuation VM131-01-01-L			
	(27) 3/2 way N.C. spring return valve with roller level Right direction actuation VM131-01-01-R			
1	(28) 5/2 way double air operated valve SYA3220-C6		使用している	
	(29) 3/2 way N.C. spring return valve with roller level Left direction actuation VM131-01-01-L			
	(30) 3/2 way N.C. spring return valve with roller level Right direction actuation VM131-01-01-R			
	(31) 3/2 way N.C. spring return valve with Red color push button VM130-01-32-R			
	(32) 3/2 way N.C. spring return valve with Black color push button VM130-01-32-B			
	(33) 5/2 way valve with detent twist selector TS 5/2			
	(34) 3/2 way N.C. spring return valve with Green color push button VM130-01-32-G			
	(35) Miniature pressure regulator ARJ210			
	(36) 5/2 way spring return valve with push button			
	(37) 3/2 way emergency stop push button VM130-ES			
	(38) 5/2 way double solenoid operated valve SY3220-5MZ-C6			
	(39) 5/3 way closed & exhaust center solenoid operated valve SY3320 5MZ-C6			
	(40) 5/2 way 1 single & 1 double solenoid operated valve SY3120-5MZE-C6			
	(41) 5/2 way double solenoid operated valve with push locking knob style manual override SY3220-5MZ-C6			
	(42) Electrical emergency stop button ES			
	(43) 5/2 way spring return solenoid operated valve SY3120-5MZ-C6			
	(44) 3/2 way spring return solenoid operated VT307-5G-01			
	(45) Optical proximity sensor OS			
	(46) Capacitive proximity sensor CS			
	(47) Electrical selector switch SS			
	(48) Shuttle valve VR1210F-06			
	(49) Two Pressure valve VR1211F-06			
	(50) Inline speed controller AS2001F-06			
	(51) Electrical pressure switch with change over contact IS3000-02			
	(52) Quick exhaust valve AQ240F-06-00			
	(53) Electrical limit switch change over contact Left direction actuation ELS-L			
	(54) Electrical limit switch change over contact Right direction actuation ELS-R			
	(55) Pneumatic indicator unit VR3100-01			
	(56) Pneumatic preset counter			

番号	機材名	数量	使用状況	設置場所など
2	Hydraulic training system	2	使用している	
	(1) Power supply unit 24V/4.5A 162417			
	(2) Signal input unit, electrical 162242			
	(3) Relay, 3-fold 162241			
	(4) Indicator and distributor unit, electrical 162244			
	(5) Predetermining counter, electrical, additive 162355			
	(6) Timer relay, 2-fold 162243			
	(7) Cables			
	(8) Hydraulic power pack, 2l/min 152962			
	(9) Diaphragm accumlator 152859			
	(10) Pressure gauge 152841			
	(11) Shut-off valve 152844			
	(12) Non-return valve 1 bar 152845			
	(13) Non-return valve 5 bar 152846			
	(14) Pressure relief valve 152848			
	(15) Pressure relief valve, piloted 152849			
	(16) Pressure regulator 152850			
	(17) Flow control valve 152851			
	(18) Non-return valve hydraulically piloted 152852			
	(19) Double-acting cylinder 152857			
	(20) Hydraulic motor 152858			
	(21) 4/2-way hand lever valve 152974			
	(22) 4/3-way hand lever valve, recirculation mid-position 152977			
	(23) Branch tee 152847			
	(24) Loading weight, 9kg 152972			
	(25) 4/2-way solenoid valve 167082			
	(26) 4/3-way solenoid valve close in mid-position 167083			
	(27) Limit switch, electrical, actuated from the right 183322			
	(28) Limit switch, electrical, actuated from the left 183345			
	(29) Double-acting cylinder 152857			
	(30) 4/3-way hand lever valve, relieving mid-position 152976			
	(31) 4/3-way hand lever valve, closed in mid-position 152975			
	(32) Flow driving valve 152967			
	(33) Branch tee 152847			
	(34) 2/2-way stem-actuated valve 152978			
	(35) Double-acting cylinder 152857			
	(36) 4/3-way hand lever valve, relieving mid-position 152976			
	(37) Flow driving valve 152967			
	(38) 4/2-way solenoid valve 2 167082			
	(39) Pressure relief valve, piloted 152849			
	(40) Pressure switch 3 167080			
	(41) Branch tee 152847			
	(42) Shut-off/break-lowering valve 152968			
	(43) 3-way pressure reducing valve 152850			
	(44) Double-acting cylinder 152857			
	(45) 4/3-way hand lever valve with relieving mid-position 152976			
	(46) 4/3-way hand lever valve, closed in mid-position 152975			
	(47) Optical sensor unit ESE, through-beam-sensor, receiver 167067			
	(48) Branch tee 152847			
	(49) Branch tee 152968			
	(50) Branch tee 152848			
	(52) Double-acting cylinder 152857			
	(53) Pressure relief valve, piloted 152849			
	(54) 4/2-way solenoid valve 2 167082			
	(55) Flow driving valve 152967			
	(56) Branch tee 152847			
	(57) Pressure switch 3 167080			
	(58) 3-way pressure reducing valve 152850			
	(59) Shut-off/break-lowering valve 152968			
	60) Tool set 539767			

番号	機材名	数量	使用状況	設置場所など
3	PID control system	1	使用している	
	(1) Water tank System			
	(2) PID Controller			
	(2)-1CPU Mitsubishi Q00JCPU			
	(2)-2 Input QX48Y57			
	(2)-3 AD Converter Q64AD			
	(2)-4 DA Converter Q62DAN			
	(2)-5 Ethernet QJ71E71-100			
	(2)-6 Proportional valve controller KOGANEI FFC1			
	(2)-7 Power Supply Omron S8VM-05024C			
	(3) Water Pump Unit FP-15S			
	(4) TMDSDSK6713			
	(4)-1 C6713 DSK board (box)			
	(4)-2 IO box			
	(4)-3 DSK box – IO box connection cable			
	(4)-4 DSK box - PC connection cable			
	(4)-5 IO cable1			
	(4)-6 IO cable2			
	(4)-7 MATLAB + SIMULINK + Real Time Workshop			
	(5) Step Down Transformer : Trans Pal 500			
4	Compressor	1	使用している	
	(1) Air Compressor NEWCO LT500			
	(2) Air Dryer Dell Artiganato 2TI			

(7) Workshop / CAM / CNC Lab.

番号	機材名	数量	使用状況	設置場所など
1	CNC Machining Center	1	使用している	
	(1) CNC Machine			
	(1)-1 CNC machine FANUC ROBODRILL α-T14iFe			
	(1)-2 PBD-0.75PF5/6 Air compressor			
	(1)-3 Power supply			
	(2) CNC Machine Tools			
	(2)-1 Touch sensor Daishpuwa BBT30-PMP-110			Expert
	(2)-2 Tool set up stand (HF series) HF-BT30			
	(2)-3 Deta-1 Collet Holder BT30-DTA12-120			
	(2)-4 Collet stand (B type) PA-B-1			
	(2)-5 Sping collet (precision collet)			
	(2)-6 Collet stand (B type) PA-B-1			
	(2)-7 Deta-1 Collet			
	D12-4 / D12-6 / D12-8 / D12-10 / D12-12 / D12-13			
	(2)-8 Collet stand (R type) PA-R-1			
	(2)-9 Sping collet (precision collet)			
	C10-3-P / C10-4-P / C10-6-P / C10-8-P / C10-10-P			
	(2)-10 Milling cutter arbor BT30-FMC22-120			
	(2)-11 Face milling cutter R245-050Q22-12M			
	(2)-12 Tip R245-12T3E-PL-4030			
	(2)-13 End mill			
	VC4MCD0200 / VC4MCD0300 / VC4MCD0600 / VC4MCD1000			
	VC4MCD1200 / VC4MCD2000			
	VC4MBR0100 / VC4MBR0200			
	VC4MBR0600 / VC4MBR1000			
	(2)-14 EX gold drill			
	OSG 60525 (φ2.5) / OSG 60533 (φ3.3) / OSG60550 (φ5.0)			
	OSG 60585 (φ8.5) / OSG 60585 (φ8.5) / OSG 62202 (φ10.25)			
	Center drill YAMAWA CESV-2			
	Starting drill YAMAWA CESV-2 YAMAWA NC-SD-V-16			
	(2)-15 High Speed tap			
	YAMAWA F-SP-M3-Right / F-SP-M4-Right / F-SP-M6-Right			
	F-SP-M10-Right / F-SP-M12-Right			
	F-SL-M3-Right / F-SL-M4-Right / F-SL-M6-Right			
	F-SL-M10-Right / F-SL-M12-Right			
	(2)-16 Clamping set Nabeya CMM1410			Expert
2	CAM System	1	使用している	
	(1) CAM Software Mastercam x2 Educational seat			
	Mastercam x2 Mill Level 3 / Lathe / Wire / Router Pro / Design / Engrave / Rast2Vec / True Shape Nesting / Data translators			
	(2) Computer			
	(2)-1 Computer HP Compaq7400 Microtower			
	OS: Genuine Windows Vista Business with downgrade to Windows XP Professional, Service Pack1 for Vista and XP			
	Application Software: Microsoft Office 2007 Professional			
	(2)-2 UPS: Prolink 1.2KVA			
	(2)-3 Printer: Officejet K7100			
	(2)-4 Operation manual(English, 1Set)			
	(2)-5 Flash memory TS1GCF80 (1GB)			
	(2)-6 PC media card reader Buffalo BSCRA38U2BK			
3	Lathe Machine	1	使用している	
	(1) Lathe Machine			
	Precision lathe machine AJ200x750			
	(2) Lathe Machine Tools			
	(2)-1 3-Jaw scroll chuck			
	(2)-2 4-Jaw chuck			
	(2)-3 Face plate			
	(2)-4 Revolving center(Taper; MT No.4 or more)			
	(2)-5 Drill chuck(Dia.10mm, Taper; JT No.2S)			
	(2)-6 Drill chuck arbor (Chuck taper; JT No.2S, Arbor shank; MT No.3)			
	(2)-7 Turining tool			
	STB-6x80 Tool bit(10pcs/Pack)(Koshuha precision)			
	STB-10x80 Tool bit(10pcs/Pack)(Koshuha precision)			
	STB-12x125 Tool bit(5pcs/Pack)(Koshuha precision)			
	(2)-8 Tool holder for turining tool			
	KBT10 Tool holder for 5x5mm tool bit(Supertool)			
	KBT20 Tool holder for 10x10mm tool bit(Supertool)			
	(2)-9 Drill set(Dia.1mm to Dia.10mm、19Pcs/Set, 1Set), ND-19S Drill Set (Dormer)			

番号	機材名	数量	使用状況	設置場所など
4	Drilling Machine	1	使用している	MECHANICAL Eng. No.4
	(1) Drilling Machine Hitachi B-13S			
	(2) Drill set HSS 1-13,0.5mm			
	(3) Drill chuck			
5	Grinder Machine Two Head Grinder Hitachi GR26	1	使用している	MECHANICAL Eng. No.1
6	Engineer's Bench Vise HSS 1-13,0.5mm	5	使用している	MECHANICAL Eng. No.2
7	Electric Disc Grinder Hitachi G13S3	2	使用している	MECHANICAL Eng. No.5
8	Electric Drill Hitachi BUL-SH3	1	使用している	MECHANICAL Eng. No.9
9	Work Table SAKAE KD-70S	5	使用している	MECHANICAL Eng. No.3
10	Measuring Tools		使用している	
	(1) Surface roughness measuring tool MITSUTOYO SJ-201P4MN	1		Expert
	(2) Gauge Blocks MITSUTOYO The class the second class of 47 steel ceramic mixed sets	1		Expert
	(3) Digimatic Outside Micrometer			
	(3)-1 Mitutoyo OM-125 2	2		
	(3)-2 Mitutoyo OM-100 2	2		
	(3)-3 Mitutoyo OM-75 2	2		
	(3)-4 Mitutoyo M110-50 2	2		
	(3)-5 Mitutoyo M110-25 2	2		
	(4) Inside Micrometer			
	(4)-1 Mitutoyo IMP-50 1	1		MECHANICAL Eng. No.13
	(4)-2 Mitutoto IMP-25 1	1		MECHANICAL Eng. No.12
	(5) Depth Micrometer Mitutoyo DMC100-150M Mitutoyo	1		MECHANICAL Eng. No.23
	(6) Cylinder Gauge with Dial Indicator			
	(6)-1 Mitutoyo 511-171 CG-100A	1		MECHANICAL Eng. No.14
	(6)-2 Mitutoyo 511-172 CG-60A	1		MECHANICAL Eng. No.15
	(6)-3 Mitutoyo 511-173 CG-35A	1		MECHANICAL Eng. No.16
	(7) Dial indicator			
	(7)-1 Niigata TI-8032	1		
	(7)-2 Mitutoyo 2046S	4		
	(8) Magnet base			
	(8)-1 Mitutoyo 7010S	4		
	(8)-2 Trusco MA	1		
	(9) Protractor			
	(9)-1 Riken 495-D	4		MECHANICAL Eng. No.22
	(9)-2 Shinwa No.19	4		
	(10) Calipers			
	(10)-1 Niigata DFC-150	2		
	(10)-2 Mitutoyo 200mm	5		
	(10)-3 Mitutoyo 150mm	20		
	(11) Height Gauge Mitutoyo HS-30	1		MECHANICAL Eng. No.18
	(12) Marking Tool set Niigata No.8	4		
	(13) Precision Parallel Block S100			MECHANICAL Eng. No.19
	(13)-1 Fuji SP-100	2		
	(13)-2 Nabeya HPA100SET 1 (Nabeya US1630 included)	2		
	(14) Precision square Uni-seiki 150m/m DS1-150	4		MECHANICAL Eng. No.17
	(15) V`block Onishi 100m-m	8		
	(16) Precision Flat Level / Square Level			
	(16)-1 Flat Level 542AA	1		MECHANICAL Eng. No.20
	(16)-2 Squire Level 541AA	1		MECHANICAL Eng. No.21
	(17) Iron Surface Plate VAA-100			MECHANICAL Eng. No.24
	(17)-1 Onishi HJK-750-1000	2		MECHANICAL Eng. No.26
	(17)-2 Onishi OS-147	2		MECHANICAL Eng. No.27
	(18) Scale			
	(18)-1 Shinwa 300mm	20		
	(18)-2 Shinwa 150mm	20		

番号	機材名	数量	使用状況	設置場所など
11	Tools			
	(1) Tap handle			
	(1)-1 SKC M4 – M13	2		
	(1)-2 SKC M1 – M10	2		
	(1)-3 Trusco TH13	2		
	(1)-4 Trusco TH10	2		
	(2) Taps			
	Yamawa M10x1.5 / M8x1.25 / M6x1 / M5x0.5 / M4x0.7 / M3x0.5	1		
	(3) Die handle SKC 25M/M	2		
	(4) Dies Yamawa M8x0.25 / M6x1	1		
	(5) Adjustable thread restorer Noga 6 – 9 mm	4		
	(6) Steel Snips			
	(6)-1 MCA-450 Steel Snips	2		MECHANICAL Eng. No.6
	(6)-2 MYA-450 Steel Snips	2		MECHANICAL Eng. No.7
	(6)-3 MEA-450 Steel Snips	2		MECHANICAL Eng. No.8
	(7) Clamp Supertool BC100	5		
	(8) Saw	20		
	(9) File	20		
12	Maintenance Tool Box with tools		使用している	
	(1) 700 SD Maintenance	2		MECHANICAL Eng. No.10
	(2) 700D Auto-Mechanic & Maintenance	2		MECHANICAL Eng. No.11
13	Cleaner Makita CL140FDRFW	1	使用している	Expert
14	Digital movie camera	1	使用している	Expert
	(1) Digital movie camera Sanyo DMX-CG11			
	(2) Charger Sanyo			
	(3) Lithium ion battery Sanyo DB-L80			
	(4) SDHC Card Memory TS16GSDHC6			

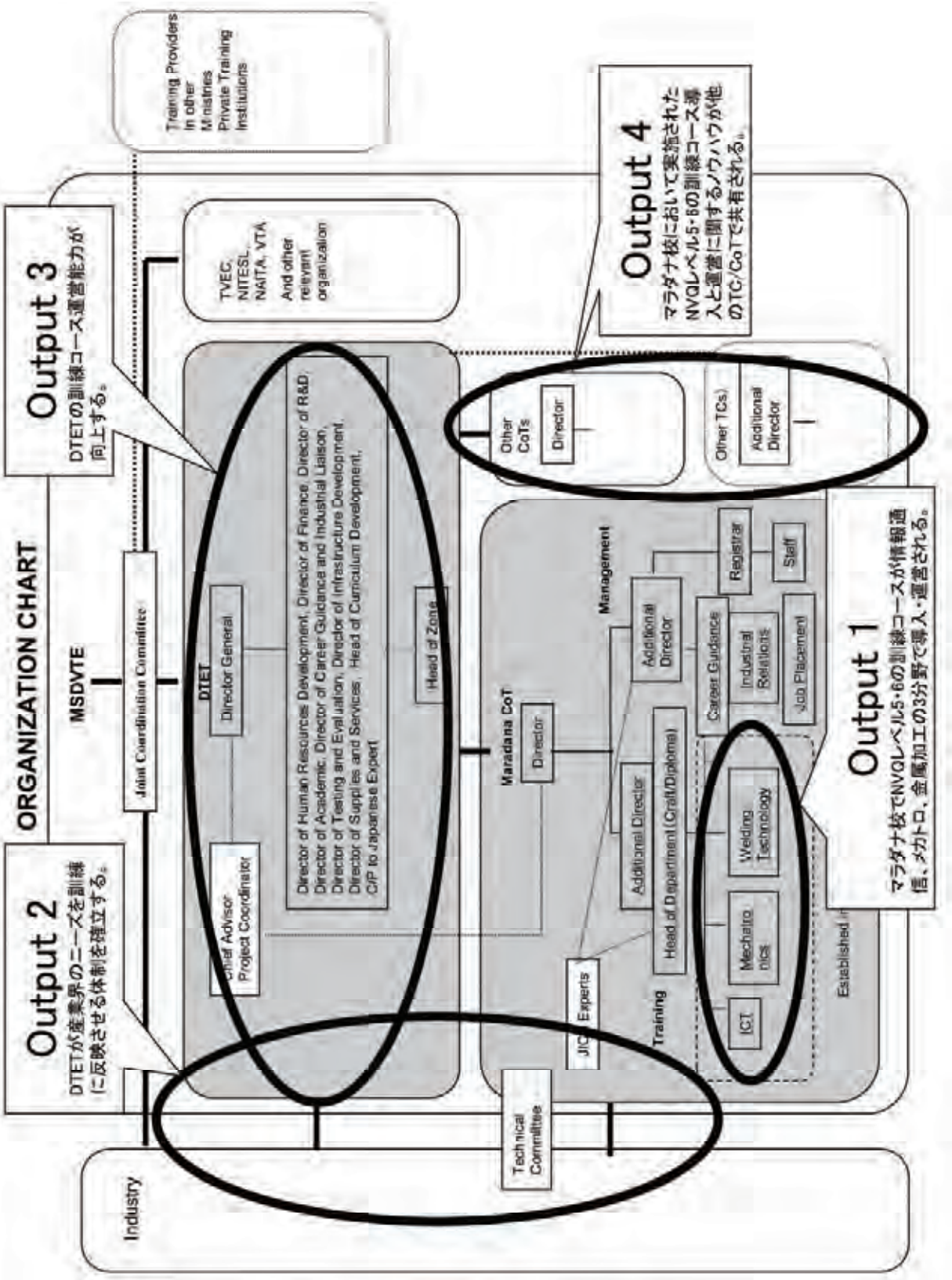
2.4. JICA 専門家携行機材　(単価 2 万ルピー以上の機材について記載)

番号.	機材名	数量	使用状況
1	Photocopy Machine/Toshiba E-230	1	使用している
2	FAX/Richo Fax1130L	1	使用している
3	Safe /DHS-111	1	使用している
4	Laser Printer/EPSON C9100	1	使用している
5	Laptop PC/Toshiba Satellite A80-P4301	2	使用している
6	Desktop PC/Hp dx2000	6	使用している
7	Windows Server 2003	2	使用している
8	MS Office Professional .2003	8	使用している
9	Inkjet Printer/Hp Office jet 7210	1	使用している
10	Digital Photocopier /Jiaweng JW 5033A	1	使用している
11	PC Parts /Intel 3400Mhz,17Monitor	5	使用している
12	32bit Board Micro Computer	1	使用している
13	Toshiba studio230Network kit	2	使用している
14	PLC Unit /Q02 CPU	1	使用している
15	Photocopy Machine/Richo Aficio Model 2000L	1	使用している
16	Laptop PC/Hp NX6320	1	使用している
17	Desktop PC/Hp DC7600	2	使用している
18	Inkjet Printer/ Hp Office jet 7210	3	使用している
19	Distributor/Koike sanso G-103	3	使用している
20	PIC Board/ PIC Start plus	1	使用している
21	Laminator/REXEL LP35HS	1	使用している
22	Photo sensor/Omron E3S-VS1E4	21	使用している
23	Robotic Arm /RT0002	1	使用している
24	Direct driven table set/ YW-XTB	1	使用している
25	Tool set /S-76	1	使用している
26	Air Band/NHBDP-10-MZE135A2	1	使用している
27	Electromagnetic valve/YM4F01	1	使用している
28	Photocopy Machine/Cannon	1	使用している

番号.	機材名		数量	使用状況
30	PLC(S7)	Siemens S7 300 Starter Pack	2	使用している
31	Vacuum Cleaner	Model NT1020	2	使用している
32	Desktop PC	DX2700	1	使用している
33	FAX	Cannon L-220	1	使用している
34	Bending Test Machine	With Frame	1	使用している
35	PBX Unit	Aristel AV20	1	使用している
36	Projector	Epson Emp1810	3	使用している
37	Compressor	NEWCOE	2	使用している
38	Ai r Dryer	MTA	1	使用している
39	Pre-filter	MTA ,HEF005M	1	使用している
40	Pre-filter	MTA ,HEF005S	1	使用している
41	Switch 4500-50ports	3COM	4	使用している
42	1000BASE-SX	3COM	1	使用している
43	Arc Air Gouging Torch	Morris K-3	1	使用している
44	Compressor	OMA LT200	1	使用している
45	Tool Kits	Stanley	1	使用している
46	Typewriter	Olympia Splendid	1	使用している
47	CD/Paper Shredder	Olympia C-668	1	使用している
48	Server PC for PJ info	HP Compaq DX2700	1	使用している
49	Server PC for CG info	HP Compaq DX2700	1	使用している
50	Server PC for Tech info	HP Compaq DX2700	1	使用している
51	ID Card Cutter	For 6cmX9cm	1	使用している
52	Network Printer	HP 1505N	1	使用している
53	Laptop PC	HP Compaq 6710B	1	使用している
54	PC for CG Sys	HP Compaq DX2700	2	使用している
55	CG mobile PC	HP Compaq 6710B	1	使用している
56	PC for DI info	HP Compaq 6711B	1	使用している
57	PC for CG info	HP Compaq 6711B	1	使用している
58	Network Printer	HP 1505N	1	使用している
59	Network Printer	HP 1505N	1	使用している
60	Multimedia Projector	Acer P1166	1	使用している

番号.	機材名		数量	使用状況
61	Mini I/O Cable	Denso 410141-2700	1	使用している
62	Mini Pendant	Denso 410100-1630	1	使用している
63	Touch Sensor	BBT30-PMP-110	1	使用している
64	Precision Parallel Block	HPA100 Set	1	使用している
65	Clamp Set	CMM11410	1	使用している
66	Cleaner Charging type	CL140FDRFW	1	使用している
67	Digital Movie Camera	DXL-CG11	1	使用している

３．組織図


ORGANIZATION CHART
Output 1
マラダナ校でNVQレベル5・6の訓練コースが情報通信、メカトロ、金属加工の3分野で導入・運営される。
Output 2
DTETが産業界のニーズを訓練に反映させる体制を確立する。
Output 3
DTETの訓練コース運営能力が向上する。
Output 4
マラダナ校において実施されたNVQレベル5・6の訓練コース導入と運営に関するノウハウが他のTC/CoTで共有される。
MSDVTE
Joint Coordination Committee
DTET
Director General
Chief Advisor/ Project Coordinator
Director of Human Resources Development, Director of Finance, Director of R&D, Director of Academic, Director of Career Guidance and Industrial Liaison, Director of Testing and Evaluation, Director of Infrastructure Development, Director of Supplies and Services, Head of Curriculum Development, C/P to Japanese Expert
Head of Zone
Maradana CoT
Director
Management
Additional Director
Additional Director
Head of Department (Craft/Diploma)
Training
Mechatronics
Welding Technology
ICT
Career Guidance
Industrial Relations
Job Placement
Registrar
Staff
JICA Experts
Technical Committee
Industry
Training Providers in other Ministries Private Training Institutions
TVEC, NITESL, NAITA, VTA, And other relevant organization
Other CoTs
Director
Other TCs
Additional Director

４．終了時評価議事録

目次

MINUTES OF MEETINGS

BETWEEN THE JAPANESE TERMINAL EVALUATION TEAM AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA ON THE JAPANESE TECHNICAL COOPERATION FOR THE PROJECT FOR ESTABLISHMENT OF JAPAN – SRI LANKA COLLEGE OF TECHNOLOGY TO STRENGTHEN TECHNICAL EDUCATION AND TRAINING IN SRI LANKA

Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the Terminal Evaluation Team (hereinafter referred to as "the Team"), headed by Ms. Yasuko Nishino to conduct an evaluation study from March 1st to,19th for the purpose of the Terminal Evaluation of the Project for Establishment of Japan - Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka (hereinafter referred to as "the Project").

During its stay in Sri Lanka, the Team had a series of discussion with the Sri Lankan authorities concerned, evaluated the achievements of the Project, and exchanged views of the Project.

As a result of discussions, both sides came to an agreement regarding the evaluation results including recommendations in the document attached hereto.

18th March 2010, Colombo

Ms. Yasuko NISHINO
Leader
Terminal Evaluation Team
Japan International Cooperation Agency

Mr. Thilak HAPANGAMA
Secretary
Ministry of Vocational & Technical Training

Ms. D. C. W. HAPUGODA
~~Deputy~~ Director
Department of External Resources
Ministry of Finance and Planning

Dr. H. L. OBEYESEKERA
Director General
Department of Technical Education & Training
Ministry of Vocational & Technical Training

Mr. W. M. C. Bandara
Director
Sri Lanka College of Technology

Minutes of Discussion

Terminal Evaluation for

Project for
Establishment of Japan - Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka (JSCoT)

Terminal Evaluation Team

JICA

March 18, 2010

Minutes of Discussion in the Terminal Evaluation for JSCOT

TABLE OF CONTENTS

List of Abbreviations and Acronyms

CAD	Computer-aided Design
CG	Career Guidance
CoT	College of Technology
DG	Director General
DTET	Department of Technical Education and Training
ERD	Department of External Resources
GOSL	Government of Sri Lanka
ICT	Information and Communication Technology
IOP	Industry Orientation Programme
IR	Industry Relations
JCC	Joint Coordinating Committee
JICA	Japan International Cooperation Agency
JSCoT	Project for Establishment of Japan - Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka
MVTT	Ministry of Vocational and Technical Training
NAITA	National Apprentice and Industrial Training Authority
NVQ	National Vocational Qualifications
PDM	Project Design Matrix
PLC	Programmable Logic controllers
SLCoT	Sri Lanka College of Technology
TC	Technical College
TEDP	Technical Education Development Project
TVEC	Tertiary and Vocational Education Commission
UNIVOTEC	University of Vocational Technology

1. Introduction

1.1. Objectives of the Terminal Evaluation Team

Objectives of the Terminal Evaluation Team were as follows:

(1) Study planned and actual inputs, activities and implementation process of the Project.
(2) Find out outputs and impacts of the project created so far, and clarify issues and problems, if any.
(3) Find out whether the project is likely to achieve the project purpose, and clarify issues and problems, if any
(4) Evaluate the Project with the viewpoints of the five evaluation criteria.
(5) Discuss necessary actions to be taken during and after the period of cooperation.
(6) Give recommendations and suggestions to be taken during and after the period of cooperation.
(7) Identify lessons learned from the Project, which will be utilized to other similar projects.

1.2. Members of the Terminal Evaluation Team

Members of the Terminal Evaluation Team were as follows:

(1) Ms. Yasuko Nishino, Senior Representative, JICA Sri Lanka Office – Team leader
(2) Mr. Ko Goto, Assistant Director, Technical and Higher Education Division, Human Development Dept., JICA Head Office
(3) Mr. Atsushi Tsujimoto, Associate Expert, Technical and Higher Education Division, Human Development Dept., JICA Head Office
(4) Ms. Tomoko Tamura, Consultant, Kaihatsu Management Consulting, Inc.

1.3. Schedule of the Terminal Evaluation Team

Schedule of the Terminal Evaluation Team was as per the following table.

Table 1 : Schedule of the Terminal Evaluation Team

Date		Time	Programme
Mar.1	Mon	9:00 -9:30	Interview DG, DTET
		10:00 -11:00	Kick-off meeting at MVTT
		11:15 -12:00	Interview at the Additional Secretary and Senior Assistant Secretary of MVTT
		1:15 -2:30	Interview DG, TVEC at his office (3rd floor, MVTT)
		3:00 - 4:00	Interview Dissemination Consultant: Azad Ibrahim
Mar.2	Tue	7:30-9:00	Interview DG, DTET
		9:00 - 1:00	Interview DTET Directors at DTET (Academic, HR, Finance, CG & IR, Infrastructure, R&D and Examination
Mar.3	Wed	9:45 - 3:30	Interview CP Officers of the SLCoT
Mar.4	Thu	9:00 - 10:00 2:00 - 3:30	(IT) Resosles IT Solutions, Colombo 8 (Metal work) Colombo Dockyard (Welding): Colombo 15

Mar.5	Fri	9:30 – 11:00 1:00 –2:30	(IT) Lanka–Assist, Dehiwela (IT) Metrix (IT): Kelaniya
Mar.6	Sat	Documentation work	
Mar.7	Sun	Documentation work	
Mar.8	Mon	9.30–10.30 Video Conference with JICA HQ	
Mar.9	Tue	9:00 – 9:45	Interview Project Director of the TED Project
		11:00 –11:45	Interview Chairman, NAITA
		2:15 –2:45	Interview DG / Vice Chancellor, UNIVOTEC
Mar.10	Wed	9:00 – 9:45 10:00 – 10:30 10:45 – 12:00 : 1:30 – 2:00	Discussions with 2009 batch students(Mechatronics) Discussions with 2009 batch students(Welding) interview with members of Industry Liaison / TC (ILC/TC) Discussions with 2009 batch students(ICT)
Mar.11	Thu	9:00 – 12:00	Discussions with past students (2007 batches Metal work)
		2:30 – 3:15	Interview IR Consultant: Samantha Pathirathna
		3:30 – 4:15	Interview Dissemination Consultant: Azad Ibrahim
Mar.12	Fri	9:00 – 9:45	Interview PCM: Kumar Goonewardene
		10:00 – 11:30	Interview SLCoT Director: W M Chandrasiri Bandara
		11:30–	Interview CG Consultant: Subhani Nanayakkara
Mar.13	Sat		Documentation
Mar.14	Sun	Team members of JICA HQ joined the programme in Sri Lanka	Documentation
Mar.15	Mon		Discussion among the Team members
			Discussion with JICA Sri Lanka Office Chief Representative
			Discussion with MVTT, TVEC and DG, DTET
Mar.16	Tue		Discussion with SLCoT
Mar.17	Wed		Discussion with DTET
Mar.18	Thu		JCC meeting
			Visit ADB
Mar.19	Fri		Discussion with JICA Sri Lanka Office Chief Representative
			Visit ERD and Embassy of Japan

2. Outline of the Project

2.1. Background of the Project

Although Sri Lanka shows favorable economic growth recently, the employment situation still remains grim[1]. Especially, the unemployment youth (less than 24 years old) occupied about 70% of all unemployment in 2002.

[1] the unemployment rate 8.8%, 2002

In the meantime, there are many challenges in vocational training institutions in Sri Lanka, such as undeveloped vocational training facilities, duplications of training courses, mismatch between trained students and skilled labor force, industries are looking for. Especially, 36 Technical Colleges under DTET need to strengthen their linkage with industries since the mismatch between training contents and industry needs has often been pointed out.

To realize the constitutional improvement of technical vocational education and training sector, GOSL presses forward with comprehensive measures such as rationalization of training institutions and introduction of NVQ Framework and enhancement of the linkage between vocational training administration and industries. One of the concrete reforms for rationalization of training institutions is to promote one TC (Technical Colleges) in each province to a CoT (College of Technology) which carries out diploma courses.

In this context, JICA had decided to provide technical assistance to SLCoT (Sri Lanka College of Technology, former Maradana Technical College) in Colombo with the establishment of three model courses, namely mechatronics, Information and Communication Technology (ICT) and metal work.

2.2. Summary of the Project

Project Title

Project for Establishment of Japan Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka

Project Duration

From1st of July 2005 to 30th of June 2010 (5 years)

Target Groups

(Direct) DTET and SLCOT
(Indirect) Other TC/COT and industries

Overall Goals

(1) Quality of the trained manpower in TC/COT meets the labour market demand
(2) COTs are established and managed by utilizing lessons and experiences of SLCOT.

Project Purpose

DTET gains managerial and technical capacity to establish COTs in each province by introducing model courses of NVQ level 5&6 in SLCOT to train middle level technicians

Outputs

(1) NVQ level 5&6 model training courses are introduced and conducted effectively in SLCOT in the fields of Information and Communication Technology, Mechatronics and Metal Work.
(2) DTET establishes a system for the training courses to fulfil industry's needs.
(3) Management capacity of DTET for training delivery of the NVQ level 5 & 6 courses and for the implementation of career guidance/counselling, textbook development and skills competitions is

improved.

(4) Know-how in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, 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 TC/COT.

3. Study Methodologies of the Terminal Evaluation Team

The study was conducted by collecting data and information through the followings methodologies:

(1) Review of Project documents
(2) Interviews to Sri Lankan counterpart personnel in the SLCOT and DTET
(3) Interviews/ discussions with the representatives of MVTT, DTET, TVEC, UNIVOTEC, NAITA and TEDP project.
(4) Interviews/ discussions with JICA Expert Team
(5) Interviews/ discussions with industries.
(6) Interviews/ discussions with present and passed-out students of the model courses.
(7) Site visits

4. Project Performance and Implementation Process

4.1. Inputs

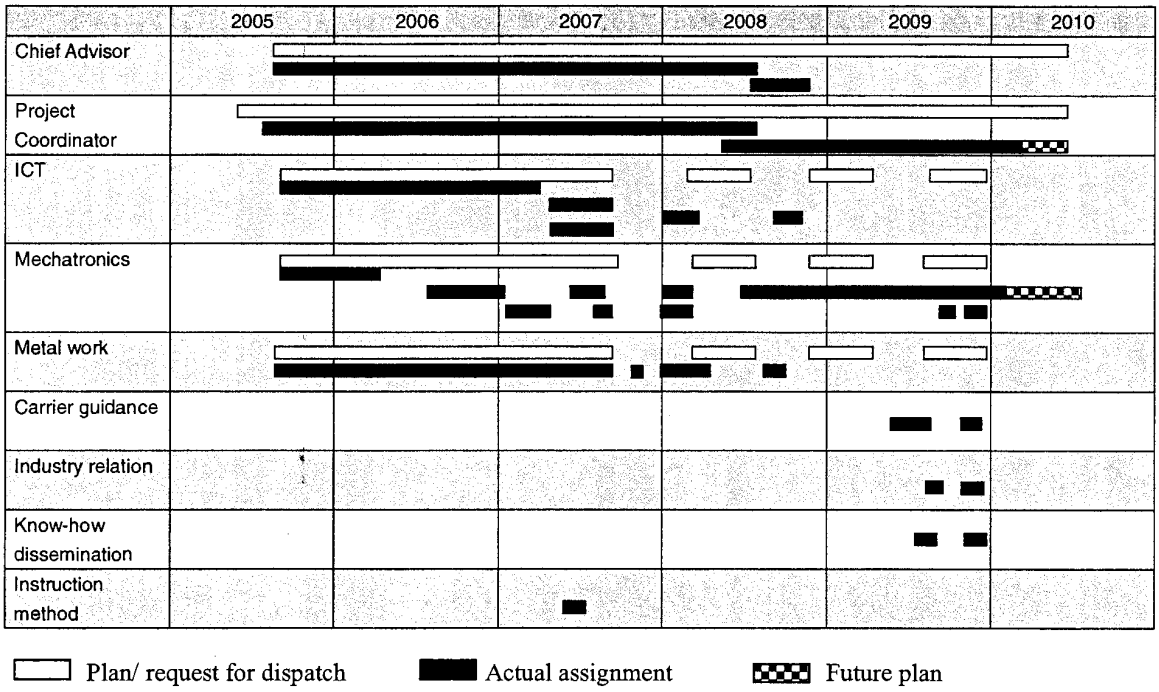
4.1.1. Japanese side

Human resources

According to the Record of Discussion, signed between JICA and MVTT, the long term JICA experts were planned to be dispatched under the tiles of (a) chief advisor, (b) project coordinator, (c) ICT, (d) mechatronics and (e) metal work technology for the period of two years or more. In addition to the long-term experts, short-term JICA experts, whose assignment is less than one year, were planned to be dispatched when the project management justify its necessity.

The actual assignment record of the JICA experts is described in the Table2. (See ANNEX-1 for more details.) The level of expertise of the JICA experts was very much satisfactory as a whole. They contributed effectively to realize the technical transfer to the instructors of the model courses.

Table 2 Assignment record of JICA experts



(Source: JICA Expert Team)

(1) Chief advisor

A long-term JICA expert was dispatched as chief advisor and worked for the Project for three years. His successor was dispatched to work for the Project for two years. However, he worked only five months and left the country due his health problem. Thereafter, JICA could not dispatch any person for the post.

(2) Project coordinator

A long-term JICA expert was dispatched as project coordinator and worked for the Project for three years. His successor was dispatched to work for the Project for two years. Currently, he is working for the Project as planned and is also playing a role of acting chief-advisor from December 2008.

(3) ICT

A long-term JICA expert was dispatched for ICT to work for the Project for two years. However, he worked for one and half years and thereafter, JICA did not dispatch a long-term expert as his successor. Instead, four numbers of short-term JICA experts were dispatched for the period of three to two months in 2007 and 2008.

(4) Mechatronics

A long-term JICA expert was dispatched for mechatronics to work for the Project for two years. However, he worked only for eight months and left the country due to his health problem. JICA did not send a long-term expert as his successor. Instead, JICA sent total five numbers of short-term experts. A long-term expert was dispatched again in July 2008 for the period of two years and is working for the Project.

(5) Metal Work

A long-term JICA expert was dispatched for the subject of metal work and worked for the Project for two and half years. The expert visited the Project two times thereafter as a short-term expert to complete the technical transfer.

(6) Career Guidance, Industry Relations and Know-how dissemination

There was no plan to dispatch JICA Experts in the fields of career guidance, industry relations and know-how dissemination in initial stage of the Project. However, later, the needs of expertise in the fields were identified and three local consultants in the respective fields were employed by the JICA Expert Team. They worked closely with Sri Lankan counterpart officers and JICA expert and contributed much to the effective implementation of the project activities.

In addition to the local consultants, short-term JICA experts on the relevant fields were dispatched to the Project in 2009. Contribution of the short-term expert on Career Guidance was noteworthy as it encouraged the Sri Lankan Counterpart personnel to create several changes to the services of the Career Guidance Centre of SLCoT[2].

Training in Japan (See ANNEX-2 for more details.)

Twenty Nine courses were conducted in total in Japan and in other countries. Twenty six counterpart personnel were participated in the courses in total. Most of the instructors of the model courses who participated in the training found them as very useful and effective. Training course in Japan for the officers of the career guidance centre of SLCoT, which was arranged by the short-term JICA expert, was also effective to improve the knowledge and the experience of the officers. Training on human resource development administration provided to the senior officers of MVTT, TVEC and NAITA was also effective to further improve their knowledge on the subject.

However, two instructors of the ICT mentioned that the subjects and the level of the training were not exactly focused on those they were in-charge in the model course. An instructor of mechatronics mentioned that the group training provided to him was not so effective as the level of the course was low.

Equipment (See ANNEX-3 for more details.)

Purchasing of equipment for the three model courses has been almost completed. Quality and quantity of the equipment is satisfactory. The instructors of the model courses believe the workshops and laboratories of the model courses are the best in Sri Lanka. Purchasing of the equipment for mechatronics was delayed in the initial stage of the Project; therefore, the commencement of the course was delayed for one year. The main reason for the delay was that there was no long-term JICA expert after the expert initially dispatched left the Project in eight months. The procurement process of the equipment for the modules of multi-media in ICT is underway. The amount of the equipment in total was around 293 million rupees.

[2] Improvement in data base system needs assessment and access of the students and outsiders to the Centre and efficiency in consultation are some of the example of the changes.

Local cost (See ANNEX-4 for more details.)
JICA contributed around 31 million Rupees as of December 2009 to the local cost of the Project, such as procurement of goods necessary for activities, employment of local consultants and others, travelling and communication, etc.

4.1.2. Sri Lankan side

Assignment of counterpart personnel (See ANNEX 5 for more detail)

(1) Director General of DTET
Director General of DTET, who was the Project Director, contributed to the progress of the Project. However, participation required to the Director General with regard to the matters of the Project was sometimes not adequate. Especially, it was regrettable that the steering committee meetings and the project management board meetings, which should have been held quarterly and monthly respectively, were not held regularly, as the Director General, the chairperson, was rarely available as he had been busy with other duties.

(2) Directors and other officers of DTET
All the Directors were participated in the Project by attending the meetings and giving advices to the Project Team. Early assignment of counterpart officers of DTET or SLCoT for the fields of career guidance, industry relations and know-how dissemination was recommended by the Mid-term Evaluation Team of JICA in March 2008. However, there was a long delay in appointment. An officer on know-how dissemination was appointed in November 2009. An officer for industry relations was appointed in November 2009, however after the officer left the Project for maternity leave, any successor was appointed for three months. An officer of DTET was appointed for the purpose very recently in middle of March 2010. Two officers of career guidance center of SLCoT worked as counterpart officers.

(3) Director of SLCoT
The Director of SLCoT was responsible for the managerial and technical matters of the implementation of the Project and designated as the Project Manager. The Director of SLCoT, who participated in the Project from the beginning and for the duration of four years, contributed to the Project in a limited way. He did not have much commitment and leadership to facilitate the Project activities. The present Director of SLCoT, who assumed his duty in November 2009, has been actively involved in the Project and shown remarkable leadership in career guidance, industry relations and operation of the model courses of SLCoT.

(4) Teaching staff of the model courses
Six instructors were planned to be assigned for each model course as counterpart officers. The instructors were assigned almost as planned except one vacancy in the metal work course. The vacancy was not fulfilled, however it did not create any serious problem as the number of students in the course in 2009 was small. The instructors contributed well to the effective implementation of the Project.

(5) Administrative personnel

A Project Coordinator was assigned by DTET as planned. However, in November 2009, he was assigned as a principal of Homagama TC, while working as a Project Coordinator. The double duties made him difficult to concentrate on the works of the Project. The JICA Expert Team requested DTET and MVTT several times to solve the problem urgently. A secretary was assigned to the Project as planned.

Financial input. (See ANNEX-6 for more details.)

GOSL contributed to the Project in developing classrooms, laboratories and workshops of the model courses. GOSL provided fund for some of the project activities, such as skills competitions. Approximately 30 million rupees were spent for the purpose as of December 2009. There was no problem for the timing and amount of disbursement.

Provision of office space for the JICA Expert Team

The Project Offices were provided for the JICA Expert Team in DTET and in SLCoT as planned.

4.2. Activities implemented

Most of the activities were completed as planned or in a steady progress. Several activities as listed below were conducted only partly or with some delays, of which reasons are explained in the 4.3 of the report:

(1) Formulate functional Technical Committee for each model course to establish collaborative relationships between CoT and industry.
(2) Conduct full-time and part-time courses.
(3) Monitor the courses periodically
(4) Conduct and expand Skills Competitions annually

The following activity is planned to be conducted at the end of the cooperation period.

(1) Disseminate improved management skills to other TC/COT by providing documents/manuals and conducting training:
In-service training was conducted 7 times and 83 numbers of instructors from other TCs/ COTs were participated. However, documents/ manuals on management of the COT or model courses were not distributed to other TC/COTs. The distribution will be conducted in the final seminar to be conducted in May, 2010.
(2) Conduct interviews/survey to the director/principal and staff of other TC/COT about the utilization of know-how.
The activity will be conducted in the final seminar.

4.3. Achievement of the Outputs

The summary of the achievement of the Outputs is given below. (See ANNEX-7 for more details.)

Output 1: NVQ level 5 & 6 model training courses are introduced and conducted effectively at SLCoT in the fields of ICT, Mechatronics and Metal Work.

Necessary teaching materials were prepared, necessary infrastructure was established and all the equipment necessary for the model courses were purchased and installed, except a few[3]. The two model courses on ICT and metal work were commenced in January 2007 and the model course on mechatronics was commenced in January 2008 due to the delay in purchasing necessary equipment for training.

The three courses have been conducted according to the weekly and monthly time tables developed by the instructors. The first and the second batch students completed the course study. The numbers of students in the courses are summarized in the following table. A part-time diploma course has not been introduced, yet.

Table 3 No. of students in the model courses

			NVQ 5	NVQ 6			
Year	Course	No of applications submitted	No of students enrolled	No of students enrolled	No of students underwent In-plant training	No. of students qualified for the final	No of level 6 students Graduated
2007/08	ICT	194	23	20	16	13	final assessment was on March 14
	Metal Work	78	20	17	13	9	
2008/09	ICT	180	23	20	2		
	Mechatronics	128	23	22	3		
	Metal Work	52	20	13	13		
2009/10	ICT	157	22	20			
	Mechatronics	72	20	19			
	Metal Work	38	9	8			
2010/11	ICT	209	43				
	Mechatronics	80	20				
	Metal Work	87	18				

Endorsement of the National Competency Standard and curriculum outline for the model courses was expected to be completed before the commencement of the Project. However, it was delayed for more than four years and the Standard was finally endorsed in January 2010. The Curriculum Outline is planned to be endorsed in Mid March, 2010. Due to the long delay in endorsement of the National Competency Standard and Curriculum Outline, the students in the first batch have not awarded the diploma. As a result, various inconveniences were caused at the time of seeking employment and proceeding to higher education.

The following table shows the result of the written exam prior to the NVQ assessment conducted in November 2009 for the first batch students. The Project planned that more than 80% of the students obtains diploma. However, the percentage of the students who passed the above-mentioned exam

[3]Equipment for Magnetic particle test and Ultra sonic test were not planned to be purchased, as the necessity was not identified by the draft curriculum outline at the time of procurement.

among those who sat for it were 68% and 53% respectively for the ICT and Metal Work courses. The planned target of 80% was not achieved, mainly due to the delay in having the written exam[4].

Table 4 Results of the written exam prior to the NVQ assessment for the 1st batch students of the model courses

Result	ICT	Metal work
Qualified for the final assessment	**13 (68%)**	**9 (53%)**
Not qualified for the final assessment	4 (21%)	7 (41%)
Absent	2 (11%)	1 (6%)
Total	19 (100%)	17 (100%)

(Source: Director Testing and Examination, DTET)

There are several concerns with the capacity of the instructors for the model courses. The instructors of ICT found it still difficult to teach and make full use of the equipment for the modules on graphic design, multimedia and web-design up to the required level defined in the skills standard. Students also commented about the insufficient skills and knowledge of the instructors assigned for the modules. The instructors of mechatronics still found it difficult to teach modules of design mechanical fixtures and hydraulic, which are new to them. They stated especially about the needs to improve the skills to teach practical sessions.

Implementation of part time diploma courses for the three subjects was also expected at the planning stage of the Project. However, the Project placed priority to establish the full-time courses and there were shortage of teaching staff to conduct both full-time and part-time courses. SLCoT is planning to conduct part-time courses once the sufficient numbers of instructors were assigned.

Output 2: DTET establishes a system for the training courses to fulfil industry's needs

Industry relations

Establishment of a Technical Committee was a key concept in industry relations. In the beginning, DTET was responsible to hold Technical Committee meetings. Later, in 2008, DTET appointed each CoT to conduct the meetings. In SLCoT, Technical Committees were formed for each model courses. The meetings of the committee were held several times and created maximum effect. Technical Committees contributed to course development for the model courses. Some companies of the technical committees provided opportunities for in-plant training and employment for the students of the model courses. There was an interval for the activities of the Committees after the initially expected role of developing detail contents in the curriculum outlines of the three model courses. The present Director of SLCoT is in a process of restructuring the committees.

The Industry Orientation Programme (IOP) was held three times to offer opportunities for the industries to visit the model courses. Needs assessment of the industries were conducted and the result was presented to the stakeholders in SLCoT and DTET.

[4] The written exam prior to the NVQ assessment was delayed as it should be made according to the standard of the National Competency Standard and Curriculum Outline, of which endorsement and validation delayed for a long time.

Weekend courses through Business Arm

Short-term weekend courses were conducted by the instructors of the SLCoT through "Technology Development & Training (Guarantee) Ltd." known as the Business Arm of the College. The followings are the list of courses the Business Arm has a capacity to conduct with the participation of the instructors in the model courses. Among them, the courses on ICT[5] were conducted frequently. The courses on PLC in mechatronics were held four times. A course on Arc Welding was planned by the instructors of metal work; however was not realized as the course fee, including the material cost, was expensive. In addition to the above-mentioned courses, the instructors of the model courses conducted tailor-made training programmes through the Business Arm on the subject of computer, PLC, Auto CAD and wood machinists for public and private companies. The Instructors of ICT were most actively involved in the short-term courses and are feeling the benefit. The courses provided them with the opportunities to know about the needs of the industries and purchase necessary equipment for the course.

In-plant training

Among 37 students of the first batch in metal work and ICT, 29 had completed in-plant training. Some of them were employed by the company they were trained. Among the 55 students of the second batch, who completed the courses at the end of 2009, 18 are undergoing in-plant training. Administration, follow-ups and assessment of the in-plant training have not been conducted sufficiently. Sometimes there was no contract paper between the students and the companies which gives training. The career guidance officers of SLCoT visit the students while they are in the training, however not always. There is no system to asses the achievement of the student at the end of the training. To improve the situation, an arrangement is underway to implement the in-plant training through NAITA.

Industrial placement for the instructors

Periodical industrial placement for the instructors of the model courses was not realized yet. The JICA Expert Team is exploring the possibility of working with the Sri Lanka Association of Software and Service Companies to give industrial placement for selected ICT instructors. Some officers of DTET and local consultant of the JICA expert Team consider that the realization of an industrial placement should be the future target, when the industry relations of the SLCoT was strengthened by student job placement, TC meetings and others. It is difficult at the moment, as the industries are still not ready to accept instructors.

Output 3: Management capacity of DTET for training and delivery of the NVQ level 5 and 6 courses and for the implementation of CG / counselling, textbook development and skills competitions is improved

Career Guidance and counselling

There was a remarkable improvement in the service of the Career Guidance Centre of SLCoT. The activities, such as counselling sessions, career guidance seminars for the students of SLCoT, aware-

[5] Courses such as on MS Office, Graphics Design, Internet & E-mail, Network Administration and Hardware & Basic Networking were conducted.

ness creation seminars for level 3 and 4 students in SLCoT and other training institutions were held actively. The career guidance centre was renovated to be more accessible and visible to the students and general public. Data base system was introduced and utilized by the students. Promotion video was developed and uploaded to You-Tube, which was visited by around 700 people.

Monitoring of the courses

Monitoring and follow-up of the courses were conducted in a limited extent. Monitoring of the courses was done by SLCoT Director; however, there have not been any 'end of course' meetings or workshops to reflect on the lessons learned. Questionnaire surveys to the students of the model courses were conducted every year by career guidance centre of SLCoT (See ANNEX 10 for the result of the survey). However, the result of the survey was utilized in a limited way. There is no system to obtain feedback of the course from the students who are undergoing in-plant training or placed for employment. DTET and TVEC have not commenced intensive monitoring of the courses, yet.

Skills competitions

Skills competitions were held in 2005, 2006 and 2007. However, due to financial constraints, DTET concluded the skills competition in 2008 at the Provincial level and final round was not held. There was no skills competition in 2009. DG of DTET is discussing with the industries to obtain support for the skills competition in 2010 to be held around October.

Output 4: Know-how in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, 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 TC/COT.

In-service training

Knowledge to teach model courses was disseminated by the instructors of SLCoT through the in-service training. The Director and instructors of SLCoT and the JICA Expert Team evaluated the training as a significant contribution to the know-how dissemination. For examples, the instructors of the other technical colleges became able to teach PLC in NVQ level 4, which was introduced recently, as the instructors of the mechatronics of the SLCoT taught about it in the course of the in-service training. The detail of the in-service training conducted is shown in the following table:

Table 1 In-service training conducted by instructors of SLCoT

	Name of the program	Conducted by	Duration	No. of participants
2007				
1	Sequential Relay Control & Programmable Logic controllers (PLC)	Mechatronics	3 day	12
2	Sheet metal	Welding	3 days	13
3	Network Technology	ICT	3 days	12
2008				
4	Network Administration	ICT	2 days	16
5	Shielded Metal Arc Welding	Welding	2 days	8
2009				
6	Basic course in PLC Programming	Mechatronics	3 days	13
7	PLC Programming using computers	Mechatronics	3 days	9
Total number of participants				83

(Source: Project Team)

Know-how dissemination on management

Know-how dissemination process from SLCoT to other TCs/ COTs with regard to the management and implementation of the NVQ level 5 & 6 courses has not been conducted yet. The competency standards of the model courses were just endorsed two months ago. The curriculum outline has not been validated yet. The instructors of the model courses have just gained two or three years experience in teaching the courses. Therefore, the know-how on management and implementation of the courses has been accumulated in SLCoT very recently.

At the moment, the instructors of the model courses found several inconveniences to the newly introduced system of the NVQ levels 5 and 6. The instructors of SLCoT are facing the following issues:

(1) The students who completed only NVQ level 3, not but 4, enter the courses. However, there is a big knowledge and skill gaps between the modules of level 3 and 5, especially in ICT and mechatronics. As a result, it is very difficult for these students to catch up. The instructors utilize to fill the gaps by the "bridging course" of six-month which is conducted prior to the commencement of the level 5 courses as much as possible. However, the gaps are too big to be filled by six month study.

(2) Entrance examination was not arranged appropriately in 2010, which was conducted according to the new standard. There was no English test paper. There was very few IQ related questions but there were a lot of questions in general knowledge. As a result, those who do not have adequate capacity in English and other necessary qualifications entered in the courses thus made the instructors difficult to teach. The instructors believe the needs to have a proper system of screening the students in the exam, however, did not have an opportunity to discuss about this matter with the Director of Examination of DTET.

(3) In case of ICT, SLCoT does not have trained instructors for several modules, such as on video production and graphic and printing, which should be usually included in the courses of printing or designing, but not in the diploma courses of ICT. The instructors of mechatronics have the same kind of issue for the module of "design mechanical fixtures", which should be included in

the courses of mechanical engineering, but not in those of mechatronics.

(4) In case of ICT, several modules, such as under "software engineering and database technology", needs industry support to teach the subject in classrooms.

Considering the possibility that the instructors of other CoTs will face the same difficulties in the future, it is important for higher authorities to study the experience and issues of the instructors of SLCoT. However, such studies have not been conducted, yet.

The Project Team is planning to have a final seminar of the Project in May 2010 to disseminate experiences of the SLCoT in industry relations, carrier guidance, in-plant training for students and others to the staff of other TCs and CoTs.

4.4. Achievement of the Project Purpose

"DTET gains managerial and technical capacity to establish COTs in each province by introducing model courses of NVQ level 5&6 in SLCOT to train middle level technicians"

The Output 1, the introduction and implementation of the three model courses, has been done satisfactory in general. The Output 2, fulfilment of the needs of the industry, has been conducted and it is now in a second phase. The Output 3, management capacity building, has been done partly, as career guidance shown remarkable progress, while other programme, such as course monitoring and quality improvement was not done adequately. As for the Output 4, dissemination of know-how, the course related know how was disseminated by in-service training, however, the know-how on management of the NVQ levels 5 and 6 courses has not been started.

The Terminal Evaluation Team found that the instructors of the model courses did not have many opportunities to discuss or make suggestions about the management issues. Now, it is the right time for DTET, other higher authorities and other CoTs to learn from the experience of SLCoT, to improve on management of the NVQ levels 5 & 6 courses and further disseminate good management practice done in SLCoT.

(1) Employment status of the students

At present, only 37 numbers of students in the first batch of ICT and metal work, who studied in 2007 and 08 had completed the training courses[6]. The following table shows the summary of the employment status of these students.

Table 2 : Employment status of the 1st batch students as of Jan. 2010

Batch	Courses	No. of eligible students for NVQ6	Course-related job placement		Non course-related job placement		Unemployed	
			Numbers	%	Numbers	%	Numbers	%
2007	ICT	20	10	50%	6	30%	*(4)*	20%
	Metal Work	17	3	18%	0	0%	14	82%

*Note: Among the 4 students of ICT, shown in thee column of "unemployed", 2 proceeded to higher studies and 2 are looking for jobs in overseas.

(Source: Project Team)

[6] The first batch students of mechatronics are still undergoing training, as it was commenced in 2008.

Employment status of the ITC students is satisfactory in general. All the students in 2007/08 batch either obtained employment or proceeded to higher studies. SLCoT CG centre observed that there were inquiries and request for placement of interviews from various companies to the students. The Centre was informed that most of the students, even those who obtained non course-related jobs, were happy about their employers, jobs, titles and salaries. There are already several offers for recruitment interviews for the 2nd batch students by the leading companies in Colombo, such as John Keels Holdings and Abans Ltd.

As for metal work students, 3 out of 17 metal work students obtained course-related jobs so far. These three students obtained the highest marks in the recruitment exam of Colombo Dockyard. The employers were highly satisfied with their skills and attitude. The rest of the students are still looking for jobs which are located in commutable area and offer reasonable salary. Two students in the second batch were already employed by the Air Force Headquarters.

(2) Number of applicants.

Just recently, for the 2010 enrolment, the relevant figures have shown improvement (11-129% increased), especially for the metal work. It shows that the model courses are becoming popular among the youth gradually, as a result of frequent career guidance seminars and other services conducted by the career guidance centre of SLCoT. See the following table for the number of applicants for the past four years.

Table 3 Number of applications to the model courses

Year	2007	2008		2009		2010	
	No. of applications submitted	No. of applications submitted	Increment rate (%)	No. of applications submitted	Increment rate (%)	No. of applications submitted	Increment rate (%)
ICT	194	180	-7%	157	-13%	209	33%
Mechatronics	230	128	-44%	72	-44%	80	11%
Metal Work	78	52	-33%	38	-27%	87	129%

(Source: Career Guidance Centre of SLCoT)

(3) Dissemination of know-how of SLCoT to other CoTs by manuals and documents.

The Project developed the following manuals/ documents based on the experience of SLCoT:

- Operation Manual of CoT
- Career guidance master plan
- Industrial relations manual

However, they were still not distributed to other CoTs, because while the Project developed the manuals, TEDP also developed same kind of manuals and 5-year strategic plan. TEDP distributed these manuals/ plan to other CoTs. Therefore, there was less necessity for the Project to distribute their manuals to other CoTs. The manuals will be distributed in the final seminar of the Project as an experience of SLCoT and will be utilized by DTET and other CoTs.

4.5. **Implementation Process** (See more details in ANNEX 8)

Team work and communication between the JICA Expert Team and Sri Lanka counterpart officers in the three model courses has been adequate.

Progress monitoring of the Project were conducted by the Project Team. However, as mentioned earlier, the meetings of the Project Management Board and the Steering Committee meetings were not held regularly because the Director General, the chairperson of the meetings, were often not available as he was busy with other duties.

The higher authorities of the Project supported the Project: however, the support was not as sufficient as the Project Team expected. For example, it was unfortunate that MVTT took one and half years to hold the 6th JCC meeting after the 5th one, due to various reasons. Decision-making often took a long time. The minutes of the JCC meetings shows that certain issues had been repeatedly discussed without reaching effective solutions. However, it is much appreciated that the additional Secretary of MVTT had been holding by-weekly meetings with JICA Expert Team from December 2009, in order to expedite the process to solve administrative problems that the Project is facing.

It was very much regrettable that the former Director of SLCoT, who was with the Project from the beginning and for the period of four years, did not take much initiative to implement the activities of the Project efficiently. JICA Expert Team and Sri Lankan Counterpart personnel in the model courses had a serious difficulty to proceed with the planned activities, because the Director did not facilitate the procedure. However, it is very much appreciate that the new Director of SLCoT, who took his office in November 2009, is showing a strong commitment and leadership to implement the activities of the Project.

JICA did not dispatch the long term experts, according to the initial plan. JICA took several alternative measures by providing short term experts and utilize local resources. However, considering the fact that the Project is mainly focused on human resource development, the services of long-term experts should have been indispensable to make the Project more successful.

5. Evaluation Results

The summary of the evaluation results are as follows. See ANNEX-9 for more details.

5.1. Relevance

The Project is relevant with the development policy of Sri Lanka and ODA policies of Japan. There is an urgent needs and priority to implement the Project. Japan has an advanced technology and ample experience in vocational and technical and training in the selected three industrial sectors: thus had advantages in offering cooperation. The relevance of the Project is high.

5.2. Effectiveness

The Output 1, the introduction and implementation of the three model courses, has been done satisfactory in general. The Output 2, fulfilment of the needs of the industry, has been conducted and it is now in a second phase. The Output 3, management capacity building, has been done partly, as career guidance shown remarkable progress, while other programme, such as course monitoring and quality improvement was not done adequately. As for the Output 4, dissemination of know-how, the course related know how was disseminated by in-service training, however, the know-how on management of the NVQ levels 5 and 6 courses has not been started. Considering these factors, the effectiveness of the project is moderate.

5.3. Efficiency

It is appreciated that the DTET assigned instructors for the three model courses and prepared classrooms, laboratories and workshops for the courses were made as planned.

However, several issues mentioned above, such as delay in purchasing of equipment and commencement of the mechatronics course, delay in assignment of counterpart personnel for industry relations and know-how dissemination, insufficient period of service of long-term JICA expert, long delays in endorsement of national competency standards and validation of curriculum outline for NVQ levels 5 and 6, delays in decision making, insufficient progress monitoring and follow-ups by top management of SLCoT, DTET and MVTT, lowered the efficiency of the Project.

As a result, production of outputs with regard to the course delivery and career guidance is satisfactory to certain extent. However, activities and production of outputs with regard to monitoring and improvement of the courses, industry relations and know-how dissemination did not created remarkable outputs. Therefore, the efficiency of the Project is moderate.

5.4. Impact

It is difficult to state about the level of achievement or progress of the Overall Goal. Out of 6 indicators for the Overall Goal, 3 do not have necessary historical or comparative data. Data for one indicator shows positive progress however, data for other two indicators show that the level of achievement is still slow.

There is a possibility for the Project to contribute to attain the Overall Goal, if the above mentioned learning, improvement and dissemination process will be realized. However, the possibility for the Project to play a main role in achieving the Overall Goal is relatively low. Instead, other effort of GOSL, such as budget allocation for purchasing and installing necessary training equipment and facilities of other CoTs and provision for training of instructors in the NVQ levels 5 and 6 courses will be some of the most important factors to achieve it.

The Project has a great impact as it realized the new policy of Sri Lanka, introduction of diploma

course in vocational training. SLCOT is a pioneer producer of levels 5 & 6 students:

There was a few unexpected impact of the Project. For example, a "give-and-take relationships" was created between SLCOT and the industries. Companies like YKK and FDK Lanka visited SLCoT as Technical Committee members. Later, according to the request by them, SLCOT conducted weekend courses for their staff members. Equipment and facility of SLCoT provided by JICA were utilized for income generation programme through the programme of the Business Arm.

The Project has a impact as it realized a policy of Sri Lanka. However, contribution to attain the planned Overall Goal would be limited.

5.5. Sustainability

(1) Organizational Aspects

It is a positive factor for sustainability that SLCoT is an institution which has a long history, clearly defined structure and responsibility. As a whole, the numbers and technical level of the instructors of the model course and other administration staff is satisfactory.

In the interviews conducted by the Terminal Evaluation Team, both Director General of DTET and Director of SLCoT ensured that it will take some more time to implement the policy in a strict sense and the instructors currently working for the model courses will not be transferred to TCs because of the educational qualification. Opportunities to obtain degrees at UNIVOTEC were provided to each one instructor of the model courses in 2008.

However, most of the instructors, especially in mechatronics and those who do not have a degree, are feeling very insecure about their future; whether they can continuously work for the courses. They have not been given clear explanation by DTET and higher authorities that how long the transition period is and whether they will be provided with opportunities for higher study in the future.

It is good news that UNIVOTEC is planning to start weekend degree courses on the subjects of mechatronics and ICT, so that the instructors proceed with higher study and keep on working for the model courses without any concern. However, it is not sure when the courses will be exactly started as preparation of the laboratories and purchasing of the equipment for UNIVOTEC has been delayed much.

(2) Financial aspects

It is worth mentioning that the instructors of the model courses, especially those in ICT, were actively involved in conducting short-term courses for industries through the Business Arm. The income generated by the courses was utilized for purchasing the equipment. The Director of SLCoT is showing his commitment to promote such courses and generate income and utilize it for necessary maintenance, replacement and purchasing of the equipment.

It is a positive factor for financial sustainability of the Project that consumables and materials for the model courses have been supplied not by JICA but by DTET from the commencement of the Project, although some JICA experts had assisted the purchasing of such items at the time of emergency. However, it is a concern that, according to the interviews to the instructors and students of the model courses, consumables and materials for the courses have been always in shortage. For example, the metal work courses had to limit the practical session due to unavailability of sufficient materials.

The Terminal Evaluation Team could not make sure the amount and items of budget estimate of SLCoT for 2010, which must have been submitted by the former Director of SLCoT to the Director of Finance of DTET through various directors of DTET, such as supplies, maintenance, and academic and so on. The Team had interview to the present Director of SLCoT and obtained a book of budget estimate for 2010; however, the Director does not know whether it was submitted to the Director of Finance. The Director of Finance of DTET studied her files; however, could not find what must have been submitted by SLCoT. It is a great concern of the Terminal Evaluation Team that nobody remember what were submitted by SLCoT for 2010, as far as the Team interviewed.

The guarantee period of most of the equipment will be ended very soon. SLCoT will have to arrange service contracts for periodical maintenance with the suppliers. The service contracts are inevitable for proper maintenance and prompt repairs. However, the Terminal Evaluation Team has a doubt whether such contracts will be signed for all the necessary equipment, as the Team could not even find out whether the necessary budget estimate for the services was proposed.

(3) Technical aspects

It is appreciated that the technical level of the most of the instructors are satisfactory, in general. Their technical capacity to operate and maintain the equipment for the training is also sufficient, except a few.

It is a concern that the process of periodical monitoring, analysis, evaluation and implementation of the necessary actions for improvement of the quality of the courses has not yet established in SLCoT.

6. Conclusion

The Project have spearheaded the courses of NVQ levels 5 and 6 as the first diploma level courses in the field of vocational training in Sri Lanka since the model courses on ICT and metal work commenced in 2007 and the mechatronics commenced in 2008. The teaching materials of NVQ levels 5 and 6 were developed by the instructors and the facilities and equipment were installed on time.

The Project also have introduced a system for fulfilling industry's needs. Technical committees were formed and maximum benefit was created. The short-term weekend courses were conducted through the Business Arm of DTET and the students of SLCoT underwent in-plant training and gained practical experience. Furthermore, the services of the career guidance centre of SLCoT have remarkably improved.

Nevertheless, it has to be noted that there remaining concerns and issues particularly in terms of know-how dissemination. The Project implemented know-how dissemination on subject matters through in-service training. However, know-how dissemination on management of the NVQ levels 5 and 6 courses has not been started yet. Now, it is right time for the higher authorities, such as MVTT, TVEC and DTET to study the issues and experience of SLCoT in this regards, and take necessary actions for improvement, in the area such as improvement of entrance exam, linkage between the levels 3 and 5 and capacity development of the instructors, some of which could be implemented in TEDP under ADB loan.

In addition to that, there are a couple of organizational, technical and financial challenges from the viewpoint of sustainability, as mentioned in chapter 5. Further monitoring of the courses and timely actions are indispensable in this regard.

7. Recommendations

MVTT is advised to follow-up the status of implementation of the following recommendations and submit progress reports to JICA Sri Lanka Office, so that JICA Sri Lanka office will be informed of the progress and consider opportunities of further cooperation, and be prepared for the ex-post evaluation in 2013.

7.1. Recommendations to MVTT, TVEC, DTET and other related institutions under MVTT

(1) By-weekly meetings

It is highly recommended to continue the by-weekly meetings between the MVTT and the JICA Expert Team with the participation of Director General of DTET to facilitate problem solving and to accelerate the progress of the Project.

(2) Actions for improvement of course delivery

As mentioned earlier, the instructors of the model courses are facing various problems in course delivery. There is a strong possibility that the instructors in other CoTs will face the same problems very soon. If the higher authority will not take any actions to solve these problems, the new standards and curriculum outlines might loose substance or the reputation of the model courses would be affected. Therefore, MVTT and TVEC are advised to take necessary actions as follows:

(a) Study and analyse major issues in the course delivery, which the instructors of the model courses are presently facing. Field visits to SLCoT of the representative of TVEC, TEDP and DTET followed by intensive discussions with Director, instructors, students and other staff would be recommended.

(b) Improve capacity of the teaching staff of the model courses to overcome weaknesses in teaching, for example, multi-media, graphic design and web-design in ICT and the hydraulic and design mechanical fixtures in mechatronics. Provision of training sessions with participation of resource persons from the relevant industries would be important.

(c) Encourage and facilitate CoTs to utilize visiting lecturers and resource persons to teach several selected subjects, which are particularly industry-oriented.
(d) Consider revising or add more explanations to the National Competency Standards and Curriculum Outlines, if necessary.

(3) Weekend degree courses at UNIVOTEC
Commencement of weekend degree courses (B. Tech) at UNIVOTEC without delay, so that the instructors would qualify themselves while continuing teaching duties. Establishment and publication of an exemption policies should be done very soon, to expedite the process of experienced instructors to obtain the qualification.

(4) Ensure budget allocation for necessary expenses for operation and maintenance of the equipment and purchase of consumables and materials for the model courses
Unfortunately, the Terminal Evaluation Team could not make sure whether necessary amount for operating and maintenance of the equipment and purchasing of consumables and materials for the model courses was estimated and submitted by SLCoT to the authorities.

(5) Human resource allocation which would not waste the effects of the Project
It is advised MVTT and DTET to allocate instructors of the model courses in a way not to waste the effects of the technical transfer of the Project and to keep the quality of the model courses. It is also advised to ensure the necessary number of instructors, who have a capacity to teach both practical and theoretical sessions and handle the equipment properly.

(6) Full-time Project coordinator
It is kindly requested to ensure services of a full-time Project coordinator.

7.2. Recommendations to the Director, SLCoT

The Director of SLCoT is advised to further improve the following activities with collaboration of the instructors and staff of SLCoT.

<Operation and management>
(1) Improve course monitoring. Implementation of quarterly progress review meetings, intensive discussions with instructors and students, introduction of record books for students and questionnaire survey for the students should be some of the necessary steps in this regard.

(2) Utilize the capacity of the instructors in a way not to waste the effects of the technical transfer of the Project and to keep the quality of the model courses. It is also advised to ensure the instructors, who have a capacity to teach both practical and theoretical sessions and handle the equipment properly.

(3) Close monitoring on the status of operation and maintenance of the equipment of the model courses, especially by making sure to arrange necessary service contracts for the equipment.

Prioritize budget allocation and further facilitate contribution of the stakeholders, including parents and relevant industries, to obtain necessary consumables and materials on time.

(4) Introduction of part-time diploma courses at the time the numbers of instructors would be increased.

(5) Make documents on the experience of the course delivery, including interpretation of the National Competency Standards and Curriculum Outlines, issues and problems faced, the ways to have overcome the weaknesses, and others, in order to share it with instructors in other CoTs at the final seminar of the Project in May 2010.

<Instructors and students>

(1) Continuous implementation of the in-service training for other instructors of the CoTs by the instructors of the model courses.

(2) Further improve course delivery by introducing the followings:
   (a) At the moment, the students of the model courses do not have much awareness about what exactly they are going to learn during the two years of time. Once the curriculum outlines are validated, it is recommended to create more awareness among them about the contents of the curriculum outline and expected learning outcomes at the beginning of the course.
   (b) Further facilitate the students to do self-study by offering learning materials and references, notes and access to internet.

(3) Establish improved system for in-plant training in the fields of administration, follow-up and assessment. Participation of the instructors and partnership with NAITA would be necessary.

<Industry relations>

(1) Strengthen industry relations with the model courses. Especially, publication of the mechatronics course is required, as the subject is new to the country.

(2) Facilitate industry exposure of the students in order to make more awareness about the needs and real working environment of the industries. The following programme would be useful in this regard:
   (a) Invite senior batches of students, who completed in-plant training or obtained employment to the seminars and workshops of career guidance.
   (b) Take the students to an industry visit as soon as they enter the course.
   (c) Conduct in-plant training at the end of the NVQ level 5.
   (d) Invite people working in the relevant industries as a resource person for career guidance seminar or as a visiting lecturer for the course at least twice a year. Allocation of specific time for the programme in the time-table and make it compulsory would be important.

(3) Presentation of the project works of the students to the industries and other TCs/ CoTs
   (a) Invite TC members, chambers, companies who offers in-plant training and employment
   (b) Get the "final outputs" evaluated by industries and other colleges
   (c) Good for sales promotion of the model courses and widening job opportunities of the students
   (d) Good for dissemination of knowledge and skills to other TCs/ CoTs

ANNEX 1 : Placement Record of JICA Experts

No.	Name	Specialized Field	Dispatched Duration of Assignment	Long-term/Short-term	Remarks
1	Yoshiaki UMIMAE	Chief Advisor	2005/08/27 - 2008/06/20	Long-term	
2	Atushi TAKAHASHI	Coordinator	2005/06/19 - 2008/06/18	ditto	
3	Tohru KAWASHIMA	Metal Work	2005/08/27 - 2007/08/26	ditto	
4	Takashi KANO	Mechatronics	2005/07/05 - 2006/03/08	ditto	Electrical/Electronics
5	Kazuo SUZUKI	ICT	2005/09/27 - 2007/03/27	ditto	Replacement was requested to Dispatch 2007/04/01- 2008/11/30 but Not Assigned
6	Koji UEDA	Instruction method	2006/05/01 - 2006/07/01	Short-term	
7	Yasunori NISHIMI	Mechatronics	2006/06/07 - 2007/01/12	ditto	Electrical/Electronics
8	Kazuaki SATO	Mechatronics	2007/01/13 - 2007/03/12	ditto	Electrical/Electronics
9	Seiji OCHI	ICT	2007/05/19 - 2007/07/12	ditto	
10	Koji YAMADA	Mechatronics	2007/05/19 - 2007/07/02	ditto	Mechanical
11	Yoshihiko MIZUNO	ICT	2007/07/28 - 2007/09/27	ditto	
12	Takashi KITAGAWA	Mechatronics	2007/07/15 - 2007/08/31	ditto	Mechanical (L/E was Planed & Requested but tend to S/E)
13	Tatsuya ITO	Sheet metal	2007/07/28 - 2007/09/12	ditto	
14	Tohru KAWASHIMA	Metal Work	2007/12/22 - 2008/03/21	ditto	
15	Yasuhiro YAMAGUCHI	ICT	2008/01/08 - 2008/03/07	ditto	
16	Atsushi MURAOKA	Mechatronics	2008/01/08 - 2008/03/07	ditto	Electrical/Electronics
17	Toshiya TATARA	Mechatronics	2008/01/08 - 2008/02/29	ditto	Electrical/Electronics
18	Hiroshi SAITO	Project Coordinator	2008/05/30 - 2010/05/25	Long-term	From 2008/12/10 Acting Chief Advisor
19	Takaomi KISHIMOTO	Chief Advisor	2008/06/28 - 2008/11/28	ditto	
20	Kenji HIRAMATSU	Mechatronics	2008/07/02 - 2010/6/30	ditto	
21	Tohru KAWASHIMA	Metal Work	2008/08/14 - 2008/09/27	Short-term	
22	Nobuyuki TSUBOI	ICT	2008/08/16 - 2008/10/15	ditto	
23	Kazuyo KOKUBO	Carrier Guidance	2009/05/18 - 2009/07/01	ditto	
24	Atsushi FUJIMOTO	Know How Dissemination	2009/06/08 - 2009/07/22	ditto	
25	Raimei NAKANO	Industry Relation	2009/06/22 - 2009/07/17	ditto	
26	Keigo HARA	Mechatronics	2009/08/06 - 2009/09/16	ditto	Control
27	Raimei NAKANO	Industry Relation	2009/10/19 - 2009/12/09	ditto	
28	Kazuyo KOKUBO	Carrier Guidance	2009/10/26 - 2009/12/09	ditto	
29	Atsushi FUJIMOTO	Know How Dissemination	2009/10/26 - 2009/12/09	ditto	
30	Toshiaki HARA	Mechatronics	2009/10/28 - 2009/12/24	ditto	CNC

ANNEX 2 : List of the Participants to the Training in Japan

	Name	Designation/Field	Country	Duration	Training Field
1	Mr.K.D.W.Goonewardena	Coordinator, JSCOT	Japan	2006/2/9-3/15	Group (Training planning & management)
			Philippines	2007/2/19-3/02	Seminar(Change management)
2	Dr.H.L. Obeysekara	Director General, DTET	Japan	2006/3/5-3/18	Individual training (HRD administration)
3	Mr.M.L.M. Cooray	Metal work, SLCOT	Japan	2006/4/3-10/21	Group (International Welding Engineer)
4	Mr.N. Rathnaweera	Mechatronics, SLCOT	Japan	2006/4/25-12/16	Group (Mechatronics)
5	Mr.A.M.G. Seneviratne	ICT, SLCOT	Malaysia	2006/6/12-7/8	Network)
6	Mr.N.R.R.K. Wijenayake	Principal, SLCOT	Japan	2006/6/13-7/22	Group (Vocational Training Management)
7	Ms.K.G.Ranjanie	ICT, SLCOT	Japan	2006/6/20/-12/23	Group (IT)
8	Mr.K.K.H. Kulatunga	Metal work, SLCOT	Japan	2006/7/2-9/30	Individual(Welding)
9	Ms.R.B. Guruge	ICT, SLCOT	Japan	2006/8/22-12/1	Individual(IT)
10	Mr.K.J.A.A.T. Jayawardena	Mechatronics, SLCOT	Singapore	2006/8/22-9/4	IT & Mechatronics System Technology
11	Mr.G.A. Karunathna	Metal work, SLCOT	Japan	2006/10/1-12/16	Individual(Welding)
12	Mr.T. Hapangama	Secretary, MVTT	Japan	2007/2/19-3/2	Individual (HRD administration)
13	Mr.K.A.H. Kalugampitiya,	Director General, NITESL	Japan	2007/2/19-3/2	Individual (HRD administration)
14	Mr.J. Ariyasinghe	Mechatronics, SLCOT	Japan	2007/5/6-8/25	Individual (Servo Motor Position Controlling)
15	Mr.D.M.C.S.P.Dissanayake	Mechatronics, SLCOT	Japan	2007/6/17-12/8	Group(Mechatronics)
16	Ms. Shirani. Hettiarachchi	Mechatronics, SLCOT	Singapore	2007/8/14-8/29	TCTP(Mechatronics System Technology)
			Japan	2008/06/01-08/30	Individual Training in Mechatronics (PLC, SCDA & Robotic System.) – Chiba Polytechnic Center.
17	Mr.W.L.P. Gunathilake	ICT, SLCOT	Japan	2007/8/19-12/1	Individual(IT)
18	Mr.N.M. Padmasiri	ICT, SLCOT	Japan	2007/8/19-12/1	Individual(IT)
19	Ms.N. Sugathadasa	Senior Assistant Secretary, MVTT	Japan	2007/9/30-10/6	Individual(HRD administration)
20	Mr.K.D.S.D. Wimalasekara	Metal work, SLCOT	Japan	2007/9/30-12/21	Individual(Welding)
21	Mr.A.A. Nawaratne	Mechatronics, SLCOT	Japan	2007/9/30-12/21	Individual(Pneumatics & hydraulics/CNC)
22	Mr. A.A.D. Leelarathna	Metal work, SLCOT	Japan	2008/04/07-10/25	Group: The International Welding Engineering (Chubu International Center Nagoya)
23	Mr. K.J.A.T. Jayawardena	Mechatronics, SLCOT	Japan	2008/06/01-08/30	Individual: Mechatronics (Micro Controllers, DLD) – Chiba Polytechnic Center.
24	Mr. P. Wasantha	CGO, SLCOT	Japan	2008/12/02-12/19	Young Leader Program
			Japan	2009/09/24-10/07	Individual Training in Career Guidance Training
25	Dr. T.A. Piyasiri	Director General, TVEC	Japan	2009/05/17-05/30	Individual (Vocational Training Administration)
26	Mrs. G.M.K.K. Ganegoda	CGO, SLCOT	Japan	2009/09/24-10/07	Individual Training in Career Guidance Training

ANNEX 3 : Equipment Provided by JICA

(Amount in 1000 rupees)

Apr.2006-Mar.2007		Apr.2007-Mar.2008		Apr.2008-Mar.2009		Apr.2009-Mar.2010		Total
PLC with PC	23,761	Electrical & Electronics	12,710	CNC	32,922			
		Pneumatic Control System	10,161	FA	80,337			
		Hydraulic Control System	12,684	Motor				
		Lath Machine	3,465	Connecting Cable	120			
				UPS (CAD Lab)	227			
Sub-total	**23,761**		**39,020**		**113,606**		**0**	**180,593**
Welding Equipment	4,296	CAD Lab.	10,700	UPS (CAD Lab)	227		0	
Machine+Test Equip.	34,249							
Tools	1,603							
Drawing Instrument	768							
Sawing Machine & Grinder	1,306							
Computers	3,516							
	0							
Sub-total	**45,738**		**10,700**		**227**		**0**	**72,507**
PC1, System Laboratory, Maradana Network, Network line Construction Cost	14,090	Server	15,242	Server Software(Unti virus)	377	Multimedia Equipments*	2,284	
Windows Vista, Grafic board , Additional Memories	2,334							
Sub-total	**16,424**		**15,242**		**377**		**2,284**	**38,891**
			0		0		0	
Grand Total	**85,923**		**64,962**		**114,210**		**2,284**	**293,330**

ANNEX 4 : Local cost of the Project – Contribution of JICA

(Yen)

		JFY2005 (2Q-4Q)	2006 (1Q-4Q)	2007 (1Q-4Q)	2008 (1Q-4Q)	2009 (1Q-3Q)	Total
1	Employment	201,500	582,990	117,700	762,390	4,374,780	6,039,360
2	Construction	39,450	454,290	145,650	0	0	639,390
3	Equipment O&M	0	280,411	72,800	72,750	149,564	575,525
4	Procurement of goods	3,195,075	4,824,142	6,098,795	2,460,836	663,966	17,242,814
5	Traveling	314,511	804,318	215,788	749,816	675,958	2,760,391
6	Communication	37,215	133,459	93,666	97,915	236,968	599,223
7	Documentation	0	61,500	298,051	1,675	0	361,226
8	Rental fees	123,933	5,750	0	0	0	129,683
9	Utility payment	0	0	0	0	0	0
10	Meetings	182,729	557,756	125,946	7,628	3,387	877,446
11	Staff Training	0	76,510	155,050	424,500	632,750	1,288,810
12	Miscellaneous	0	189,831	1,120	80,186	12,660	283,797
	Total	4,094,413	7,970,957	7,324,566	4,657,696	6,750,033	30,797,665

(As of December 2009)

ANNEX 5 : Placement Record of Sri Lankan Counterparts

Project Director, Manager & Coordinator, Directors of DTET

No.	Name	Designation	Date of assignment	Full time/part time	Remarks
1	Dr. H. L. Obeysekera	Director General, DTET	19/12/2005	Part time	Project Director
2	Mr. D.V.P.Y. Kulatunga	Additional Director General, DTET	23/10/2009	Part time	
3	Mr. W M C Bandara	Director of Sri Lanka College of Technology	03/11/2009	ditto	Project Manager
4	Mr. K.D.W. Goonewardena	Counterpart officer	26/10/2005	Part time	Project Coordinator Part time from 02/02/10
5	Mr. L M Gurusinghe	Director CG & IL, DTET	23/10/2009	Part time	
6	Mr. D M S K Bandara	Director Academic, DTET	23/10/2009	Part time	
7	Mr. K K A Karunathilaka	Director R&D, DTET	23/10/2009	Part time	
8	Mr. J A D W Perera	Director Testing & Evaluation, DTET	23/10/2009	Part time	
9	Ms. P K D I N Panapitiya	Director Finance, DTET	23/10/2009	Part time	
10	Mr. T Shanmugarajah	Director Infrastructure, DTET	23/10/2009	Part time	
11	Mr. S.A.D.S.K. Seneviratna	Deputy Director, Supplies and Services, DTET	23/10/2009	Part time	
12	Mr. W S Sathyananda	Director HRM, DTET	Mar-10	Part time	

ICT

No.	Name	Designation	Date of assignment	Full/part time	Remarks
1	Ms. R. B. Guruge	Course coordinator	02/08/2006	Full time	Replacement of No.6
2	Mr. D.M.W.B. Daundasekara	Counterpart officer	04/07/2006	Part time	Teaching the current course at Maradana
3	Ms. K.G. Ranjanie	ditto	01/05/2006	Part time	ditto
4	Mr. W.L.P. Gunathilake	ditto	11/07/2006	Full time	
5	Mr. N.M.N. Padmasiri	ditto	13/12/2006	Full time	
6	Mr. A.M.G. Seneviratne	ditto (Former Course Coordinator)	26/10/2005	Full time	Taking Full time Degree course at UNIVOTEC From Sep/08

Metal work technology

No.	Name	Designation	Date of assignment	Full/part time	Remarks
1	Mr. K.K.H. Kulatunga	Course coordinator	26/10/2005	Full time	
2	Mr. G.A.Karunarathna	Counterpart officer	25/01/2006	Full time	Going to be retire from 22/03/10
3	Mr. M.L.M. Cooray	ditto	23/10/2006	Part time	Teaching the current course at Maradana
4	Mr. A.A.D. Leelarathne	ditto	27/07/2006	Full time	
5	Mr. K.D.S.D. Wimalasekara	ditto	19/06/2007	Full time	Taking Full time Degree course at UNIVOTEC From Sep/08
6	Vacant				

Mechatronics

No.	Name	Designation	Date of assignment	Full time/part time	Remarks
1	Mr. J. Ariyasinghe	Head of model courses	25/01/2006	Full time	
2	Mr. N. Rathnaweera	Course coordinator	26/10/2006	ditto	
3	Mr. A. A. Navaratne	Counterpart officer	17/07/2006	ditto	
4	Mr. K.J.A.T. Jayawardena	ditto	05/12/2006	ditto	
5	Ms. S. Hettiarachchi	ditto	01/01/2007	Part time	Teaching the current course at Maradana
6	Mr. D.M.C.S.P. Dissanayake	ditto	08/06/2007	Full time	

Career Guidance

No.	Name	Designation	Date of assignment	Full/part time	Remarks
1	Mr.Pothpitiyage Wasantha	Training Assistant, CG Center, Sri Lanka College of Technology	03/09/03	Part time	
2	Mrs.G.M.K.K. Ganegoda	Training Assistant, CG Center, Sri Lanka College of Technology	29/10/08	Part time	

Industry Relations

No.	Name	Designation	Date of assignment	Full/part time	Remarks
1	Mr.Majula Prasanna Ranasinghe	Training Assistant, IL & CG Department, DTET	10/03/2010	Part time	Assign to work at JSCoT Project by Full time bases

Know-how dissemination

No.	Name	Designation	Date of assignment	Full/part time	Remarks
1	Mr. Kushan Venura Madurapperumaarachchi	Training Assistant (Research), R&D Department, DTET	07/10/2009	Part time	

ANNEX 6 : Local cost of the Project – Contribution of GOSL

(As of the end December 2009)

Items	Year 2005(Rs)	Year 2006(Rs)	Year 2007(Rs)	Year 2008(Rs)	Year 2009(Rs)	Total(Rs)	Remarks
Workshop renovation work & other infrastructure facilities	-	14,764,023.43	6,705,569.28	428,048.50	173,250.00	22,070,891.21	Floor construction in Metal work workshop; welding booth & washbasin construction; installation of power line; partitioning & changing room construction etc.
Furniture for model courses and other supporting aids	267,325.00	926,467.00	1,651,800.00	780,082.00	-	3,625,674.00	Telephone line; 12 computers; desks & chairs for workshops etc.
National Skill Competition	100,181.00	649,470.00	-	586,665.74	-	1,336,316.74	Collage (group) level Skill Competition; transport for participants etc.
Know-how dissemination	-	-	260,282.00	-	76,360.00	336,642.00	Participants travelling subsistence & refreshments
Incidental allowances	-	759,128.35	595,989.88	224,902.55	90,226.40	1,670,247.18	For project director, project manager and all counterpart officers
Miscellaneous	109,557.00	10,718.80	532,267.50	-	-	652,543.30	Preparations for inauguration ceremony ;some equipment and stationeries for model courses etc.
Total	477,063.00	17,109,807.58	9,745,908.66	2,019,698.79	339,836.40	29,692,314.43	

ANNEX 7 : Accomplishment Grid

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10. 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td rowspan="2">Overall Goal
1. Quality of the trained manpower in TC/COT meets the labor market demand
2. COTs are established and managed by utilizing lessons and experiences of SLCOT.</td><td>1. 70% of the students of the TC/COT obtained course-related employment on/ after completion of the courses</td><td>There is no appropriate data for the indicator.
(1) According to the CG Unit of DTET, the numbers of students of all the 38 schools (TCs and COTs) placed for jobs were as follows. DTET started to collect the data in 2006:
Table 1: No. of students placed for jobs by career guidance centers
<table>
<tr><th></th><th>2006</th><th>2007</th><th>2008</th></tr>
<tr><td>No. of student placed for jobs by Carrier Guidance Centers</td><td>4,107</td><td>4,701</td><td>3,449</td></tr>
</table>
(Source: CG Unit, DTET)
(2) According to the Statistics Handbook of DTET, the number of students graduated and sitting for final exams were as follows:
Table 2: Number of students graduated
<table>
<tr><th></th><th>2005</th><th>2006/07</th><th>2007/08</th></tr>
<tr><td>Graduated</td><td>3,384</td><td>4,736</td><td>2,813</td></tr>
<tr><td>Sitting for final exam</td><td>6,670</td><td>9,379</td><td>5,942</td></tr>
<tr><td>Eligible to sit for final exam</td><td>10,123</td><td>15,394</td><td>12,570</td></tr>
</table>
(Source: statistic handbook, DTET)
(3) Traditionally, the school year was from Jan. to Dec. DTET changed it to July to June in 2006. Therefore, there is no coherency between the above two tables. As a result, percentage of students obtained course-related employment cannot be figured out.</td><td rowspan="2">(1) Out of 6 indicators for the Overall Goal, 3 do not have necessary historical or comparative data. Therefore, it is difficult to state about the level of achievement of the Overall Goal.
(2) It will be difficult for the Project to play the main role in achieving the Overall Goal. Other effort of GOSL, such as budget allocation for purchasing and installing necessary training equipment and facilities and provision for training of instructors for COTs will be the most important factor to achieve it.
(3) Therefore, the narrative summary and indicators should be revised.</td></tr>
<tr><td>2-1. Application of the youth to TC/COT is increased by 2% annually.</td><td>There is no appropriate data for the indicator.
(1) The numbers of applicants to TCs/CoTs were as follows.
Table 3: No. of applicants to TCs/CoTs
<table>
<tr><td>Year</td><td>2003</td><td>2004</td><td>2005</td><td>2006/07*</td><td>2007/08</td><td>2008/09</td></tr>
<tr><td>No. of applications</td><td>47,174</td><td>43,000</td><td>43,164</td><td>60,500</td><td>34,003</td><td>48,001*</td></tr>
<tr><td>% increased compared with the previous year</td><td></td><td>-9%</td><td>0%</td><td>n/a</td><td>n/a</td><td>41%</td></tr>
</table>
(Source: statistic handbook, DTET)
*Note: The figure include special programme conducted in Jaffna.</td></tr>
</table>

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10. 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td></td><td>(2) Two batches were taken in 2006/07. Therefore, the number of application in 2006/07 cannot be compared with the previous year nor the next year.
(3) According to the available data, a steady increase of number of applicants cannot be seen.</td><td></td></tr>
<tr><td></td><td>2-2. Every course obtains sufficient number of qualified students according to their seating capacity</td><td>The level of progress to attain the target is still low.
(1) The data for number of qualified applicants and seating capacity for each course does not available.
(2) The following table shows the total number of qualified applicants, who were selected by exams, interviews or submission of CVs, those who registered to the course and intake capacity of the course. The table shows that total number of seats was not filled with qualified students in most of the years except in 2008/09.
Table 4: Intake capacity and number of students registered
<table>
<tr><th>Year</th><th>2003</th><th>2004</th><th>2005</th><th>2006/07</th><th>2007/08</th><th>2008/09</th></tr>
<tr><td>Intake capacity (seats)</td><td>14,048</td><td>13,174</td><td>13,532</td><td>18,200</td><td>14,440</td><td>17,361</td></tr>
<tr><td>Selected</td><td>14,942</td><td>13,342</td><td>13,789</td><td>24,497</td><td>16,629</td><td>25,314</td></tr>
<tr><td>registered</td><td>13,108</td><td>11,866</td><td>12,454</td><td>21,984</td><td>13,958</td><td>22,804</td></tr>
<tr><td>Registered/ intake capacity (%)</td><td>93%</td><td>90%</td><td>92%</td><td>121%</td><td>97%</td><td>131%</td></tr>
</table>
Table x: Number of qualified applicants and intake capacity of the TCs/ CoTs
(Source: Statistic Handbook, DTET)</td><td></td></tr>
<tr><td></td><td>2-3. Dropout rates of the students reduce from present 20% into 10%.</td><td>There is no data to calculate drop-out data. The data for (a) number of students registered and (b) number of students sit for final exam are available for every year. If all the students in the statistics are in two year course, the number of students dropped-out can be calculated by (b) in 2006 minus (a) in 2007. However, (a) and (b) are the total numbers of students in different course durations. Therefore, it is not possible to figure out the drop-out ratio. Data for drop-out ratio of each course is not available.</td><td></td></tr>
<tr><td></td><td>3. DTET produces 1000</td><td>The level of progress to attain the target is still low.</td><td></td></tr>
</table>

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10, 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td>middle level technicians of NVQ level 5&6 annually</td><td>(1) At the moment, only SLCoT has the passed out students, of which number is 37. However, exactly speaking, they do not have NVQ level 5&6 yet, due to the delay of the assessment procedure.
(2) Currently, nine CoTs operate courses of NVQ level 5&6. Total number of students of 2009/2010 is 400 and that of 2010/2011 is 559. If each CoT produces 120 graduates per year, the target will be achieved.</td><td></td></tr>
<tr><td></td><td>4. A COT is established in each province</td><td>The level of progress to attain the target is high.
(1) Currently, total nine colleges in nine provinces are conducting courses for NVQ 5&6. Among them, seven were officially declared as COTs, while two were not officially declared yet.
(2) The establishing CoT in each province is steadily progressed. However, it is not because of the effects of the Project.</td><td></td></tr>
<tr><td>Project Purpose
DTET gains managerial and technical capacity to establish COTs in each province by introducing model courses of NVQ level 5&6 in SLCOT to train middle level technicians</td><td>1. 90% of the passed-out students of the model courses obtain expected level of course-related employment</td><td>• Currently. SLCoT has passed out students only for the courses of ITC and Metal work. Mechatronics does not have passed-out students as the course started in 2008 (Mechatronics course was not started in 2007 but in 2008 mainly because the purchasing of necessary equipment was not completed due to an absence of the long-term JICA Expert after March 2006)
• Since the exams for NVQ 6 were either not held or their results are not available yet. Therefore, there are no "passed-out" students for the model courses in a strict sense.
• Employment status among the students who completed the model courses (1st batch students) is as follows:
Table 5: Employment status of the 1st batch students as of Jan. 2010
<table>
<tr><th rowspan="2">Courses</th><th rowspan="2">No. of eligible students for NVQ6</th><th colspan="2">Course-related job placement</th><th colspan="2">Non course-related job placement</th><th colspan="2">Unemployed</th></tr>
<tr><th>Numbers</th><th>%</th><th>Numbers</th><th>%</th><th>Numbers</th><th>%</th></tr>
<tr><td>ICT</td><td>20</td><td>10</td><td>50%</td><td>6</td><td>30%</td><td>4</td><td>20%</td></tr>
<tr><td>Metal Work</td><td>17</td><td>3</td><td>18%</td><td>0</td><td>0%</td><td>14</td><td>82%</td></tr>
</table>
(source: Project Team)
• Employment status of the ITC students is satisfactory. SLCoT CG center observed that there are inquiries and request for placement of interviews from various companies to the students. OC center of SLCoT observed that most of the students, even those who obtained non course-related</td><td>• It is difficult to say whether the target was achieved or not, as currently, the number of samples (graduates) is too small.
• By the data of the first batch students of 37 numbers, employment status of ITC students is satisfactory. However, most of the students of metal work course are still seeking suitable employment.</td></tr>
</table>

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10, 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td></td><td>jobs, are happy about their jobs, positions and salaries. It should be noted that among the four unemployed students of ITC, 2 proceeded for higher studies and 2 are expecting jobs in overseas.
• According to the CG center of SLCoT 3 out of 17 metal work students obtained course-related jobs so far. SLCoT CG centers and instructors of the course has been helped the rest of the students by offering job opportunities. However, they have not found jobs which are located in commutable area and offer reasonable salary.
• Among the 55 students of the 2008 batch, who completed the courses in end 2009, 18 are undergoing in-plant training, 3 already obtained jobs and others are expecting to have in-plant training, which are being arranged by the college.</td><td></td></tr>
<tr><td></td><td>2. Youth applying for the model courses increase 10% annually.</td><td>Numbers of youth applying for the model courses were decreasing for the past two years; however, they were increased in 2010 in every course. This is a result of the active marketing of the courses, by holding CG seminars in other TCs and paper advertising.
Table 6: Number of applications submitted
<table>
<tr><th>Year</th><th>2007</th><th colspan="2">2008</th><th colspan="2">2009</th><th colspan="2">2010</th></tr>
<tr><th></th><th>No. of applications submitted</th><th>No. of applications submitted</th><th>Increment rate (%)</th><th>No. of applications submitted</th><th>Increment rate (%)</th><th>No. of applications submitted</th><th>Increment rate (%)</th></tr>
<tr><td>ICT</td><td>194</td><td>180</td><td>-7%</td><td>157</td><td>-13%</td><td>209</td><td>33%</td></tr>
<tr><td>Mechatronics</td><td>230</td><td>128</td><td>-44%</td><td>72</td><td>-44%</td><td>80</td><td>11%</td></tr>
<tr><td>Metal Work</td><td>78</td><td>52</td><td>-33%</td><td>38</td><td>-27%</td><td>87</td><td>129%</td></tr>
</table>
(source: Project Team)
Percentages of the number of applications submitted out of which were given were also decreased for the past two years, however increased in 2010. This is a result of the active involvement of CG Center in the process of recruitment.</td><td>Just recently, for the 2010 enrolment, the relevant figures have shown improvement (11-129% increased). It shows that the model courses became popular among the youth gradually, by the effort of CG center of SLCoT.</td></tr>
</table>

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10, 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td></td><td>Table 7: Percentage of number of applications submitted out of which were given
<table>
<tr><th>Year</th><th>2007</th><th colspan="2">2008</th><th colspan="2">2009</th><th colspan="2">2010</th></tr>
<tr><th></th><th>Submitted/ given (%)</th><th>Submitted/ given (%)</th><th>Increment rate (%)</th><th>Submitted/ given (%)</th><th>Increment rate (%)</th><th>Submitted/ given (%)</th><th>Increment rate (%)</th></tr>
<tr><td>ICT</td><td>55%</td><td>55%</td><td>0%</td><td>52%</td><td>-6%</td><td>67%</td><td>29%</td></tr>
<tr><td>Mechatronics</td><td>77%</td><td>85%</td><td>11%</td><td>72%</td><td>-16%</td><td>73%</td><td>1%</td></tr>
<tr><td>Metal Work</td><td>98%</td><td>87%</td><td>-11%</td><td>76%</td><td>-12%</td><td>87%</td><td>14%</td></tr>
</table>
(source: Project Team)</td><td></td></tr>
<tr><td></td><td>3. Manuals/ documents developed in SLCOT and DTET are utilized in other COTs</td><td>The Project developed the following manuals/ documents based on the experience of SLCoT:
• Operation Manual of CoT
• CG master plan
• Industrial relations manual
However, they were still not distributed to other CoTs, because while the Project developed the manuals, TEDP also developed same kind of manuals and 5-year strategic plan. TEDP distributed these manuals/ plan to other CoTs. Therefore, there was less necessity for the Project to distribute their manuals to other CoTs.</td><td>The manuals will be distributed to other CoTs in the final seminar of JSCoT. They will be utilized by other CoTs.</td></tr>
<tr><td rowspan="3">Output 1
NVQ level 5 & 6 model training courses are introduced and conducted effectively at SLCoT in the fields of ICT, Mechatronics and Metal Work.</td><td>1.1 The national Skills Standards and curriculum outlines for the three model courses become available.</td><td><u>National Competency Standards:</u>
Skill standards for the three model courses were endorsed in January 2010.
<u>Curriculum outlines:</u>
The draft curriculum outlines prepared by UNIVOTEC (formerly NITESL).</td><td>• The endorsed competency standard will be printed and distributed to CoTs.
• The curriculum outlines will be validated in the third week of March.</td></tr>
<tr><td>1.2 Appropriate syllabuses and teaching materials for the model courses are developed.</td><td><u>Syllabus:</u> Known as the Curriculum Outlines and prepared by UNIVOTEC
<u>Teaching material:</u> Prepared by SLCoT.</td><td><Completed></td></tr>
<tr><td>1.3 Equipments necessary for the model courses are purchased and installed.</td><td><u>Mechatronics and Metal Work</u>:
(1) The equipment was purchased by JICA as planned.
(2) The SLCOT does not have equipment for Magnetic particle test and Ultra sonic test. They were not identified as necessary during the initial stage of the Project, when JICA experts and C/P officers planned the purchasing, because the draft curriculum outline available at that times did not</td><td><u>Mechatronics and Metal Work</u>:
Purchasing of the planned equipment was completed.
<u>ICT:</u>
• Equipment were installed</td></tr>
</table>

Narrative Summary	Verifiable Indicators	Tentative result as of March 10. 2010	Future plan / status of achievement
		specifically mentioned about the needs of the equipment. ICT: (1) Except for the equipment needed for the module on multimedia application development, the rest of the requirement is complete.	except for the module on multimedia application development. They will be installed by end March 2010
	1.4 Training infrastructure required for the model courses are established.	Physical infrastructure was established.	<Completed>
	1.5 Counterpart staff gains sufficient knowledge to teach in the model courses.	ICT The instructors found it still difficult to teach and make full use of the equipment of graphic design, multimedia and web-design according to the skills standard. Several local raining courses were conducted by JICA expert team for the instructors to study these modules. However, they still have difficulty. Students commented about the insufficient skills and knowledge for the instructors with regard to the subjects. Mechatronics: The instructors are confident to teach modules in the area of electricity and electronics. However they still found it difficult to teach modules of design mechanical fixtures and hydraulic which are in the area of mechanical engineering. They especially need to improve skills in teaching practical sessions. Metal Work The instructors are confident to teach all the modules. They found it necessary to improve their skills a bit more for the modules of metal spray and non-destructive testing.	• The instructors of ICT found it still difficult to teach and make full use of the equipment of graphic design, multimedia and web-design according to the skills standard. • Director SLCoT is planning to improve capacity of the ICT instructors by sending them to the necessary training courses and recruiting visiting lecturers and technicians for the subjects currently not taught sufficiently. • The instructors in Mechatronics found their capacity to teach the modules of design mechanical fixtures and hydraulic which are in the area of mechanical engineering is still not sufficient.

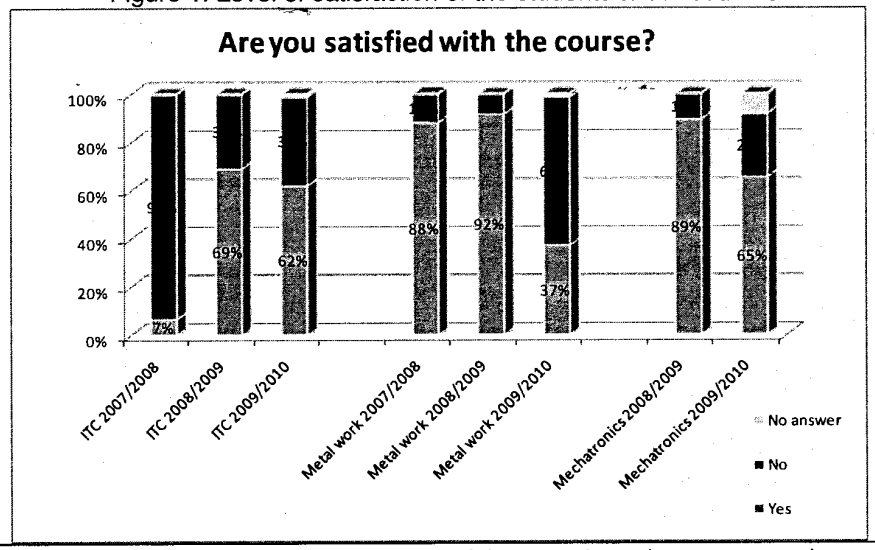
<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10, 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td>1.6 Adequate weekly and monthly training schedules for each course are formulated.</td><td>Weekly and monthly training schedules for each course have been formulated in an adequate manner. .</td><td><Achieved>
The schedules will be formulated continuously.</td></tr>
<tr><td></td><td>1.7 More than 80% of the full time students of the first batch complete the course and obtain diploma, and part time courses are established.</td><td><u>Full time students</u>
• 80% of the full time students of the first batch completed the courses.
• Pre-assessment was held in October / November 2009 for the 1st batch students of ITC and Metal work. The results were as follows:
Table 8: Result of the pre-assessment of MVQ levels 5 & 6
<table>
<tr><th>Result</th><th>ITC</th><th>Metal work</th></tr>
<tr><td>Qualified for final assessment</td><td>13 (68%)</td><td>9 (53%)</td></tr>
<tr><td>Not qualified for final assessment</td><td>4 (21%)</td><td>7 (41%)</td></tr>
<tr><td>Absent</td><td>2 (11%)</td><td>1 (6%)</td></tr>
<tr><td>Total</td><td>19 (100%)</td><td>17 (100%)</td></tr>
</table>
(Source: SLCoT)
The percentages of the students who are qualified for the final assessment were less than the target in the indicator.
<u>Part time courses</u>
• Part time diploma courses were not implemented. Establishment of the full-time courses was prioritized for the last two and a half years. . Shortage of the instructors was also a reason that part-time course was not implemented.</td><td>Full time students
• The first batch for Mechatronics students will sit for the final exam (that is non NVQ, conducted by the examinations division of the Department) in March 2010. The results will be available in May 2010.
• The Director SLCoT has an idea to implement part time diploma course for metal work.</td></tr>
<tr><td></td><td>1.8 Monitoring is conducted periodically and lessons learned are reflected to the courses and documented.</td><td>Although courses are monitored by the SLCoT Director, there have been no 'end of course' meetings or workshops to reflect on the lessons learned. Therefore, the result of monitoring was not reflected in the courses.</td><td>From 2010 onwards, the SLCoT Director has issued a communiqué to the NVQ 5 & 6 Sections that a course monitoring meeting will be held every quarter.</td></tr>
<tr><td>Output 2
DTET establishes a system for the training courses to fulfill</td><td>2.1 Technical Committees (TCs) are formed for each model courses and meetings are held more</td><td>• Technical Committees (TCs) were formed for each model courses
• Initially, meetings were held 3 times a year, but not regularly.
• The meetings were created a certain effect. However, SLCOT could not continue close follow-up of what were discussed in the meetings.</td><td>The Director COT is willing to strengthen industrial relations and collaborations by implementing the</td></tr>
</table>

Narrative Summary	Verifiable Indicators	Tentative result as of March 10, 2010	Future plan / status of achievement
industry's needs.	than three times a year.	• The Project advised to restructure the Technical Committees. • The last TC meeting was held in March 10th 2010 with an intention to re-structuring. CG Center invited more than 50 industries, and 15 were confirmed their participation, however, the actual participation was limited to seven.	followings: • Visit the Federation of Chamber of Commerce and Industries, which participated in the last TC meeting and establish a linkage with their network. • Promote having visiting lecturers from industries. • Promote industry visit of the students.
	2.2. Industries visit the model training courses to monitor and evaluate the courses three times a year.	• The first Industry Orientation Program (IOP) (Open Day for industrialists) was conducted in mid-2009. The report on the IOP is available for inspection. • The IOP was held only once mainly due to lack of support from the existing Technical Committees, they (the old ones) have now been dissolved and new Committees are being drafted. • In IOP, the industries requested to utilize the equipment of the SLCoT on rental basis or would like SLCoT to undertake their research/ work by using the equipment. However, so far, DTET could not reply to their request positively as such service was not identified as one of the functions of the CoT, yet.	
	2.3 Recommendations are made by the industry to improve the courses.	The suggestions made by the industries were utilized for developing operation of the model courses. However, the process was not continued when the courses were constructed.. At the moment, restructuring of the TC is awaited.	
	2.4 Survey on industry's needs is conducted continuously.	Activity was completed. The first JSCoT Project sponsored Industry Needs Analysis (INA) survey was completed.	<Completed> SLCoT Career Guidance Unit, under the leadership of the SLCoT Director, will continue this activity.
	2.5 System of in-plant training is established and students of the model courses gains experiences in the industry.	(1) Among 37 students of the 2007-batch in Metal Work and ITC, 29 students had completed in-plant training. Some of them were employed by the company they were trained. (2) Among the 55 students of the 2008-batch, who completed the courses at the end of 2009, 18 are undergoing in-plant training. (3) Administration, follow-ups and assessment of the in-plant training have not been conducted sufficiently. (4) An arrangement is underway to implement the in-plant training through NAITA.	Currently, SLCoT is arranging in-plant training to other students of the 2008 batch, too. • The Director COT is planning to Implement in-plant training at the end of Level 5.
	2.6 Short term courses are	(1) Short term weekend courses were conducted by "Technology	<Achieved>

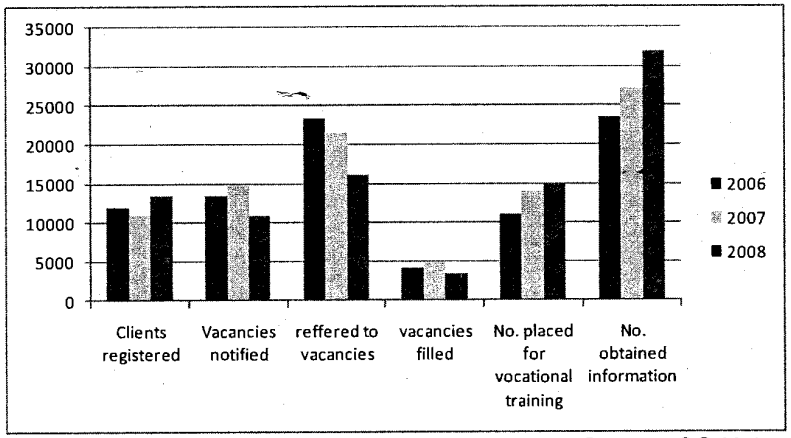
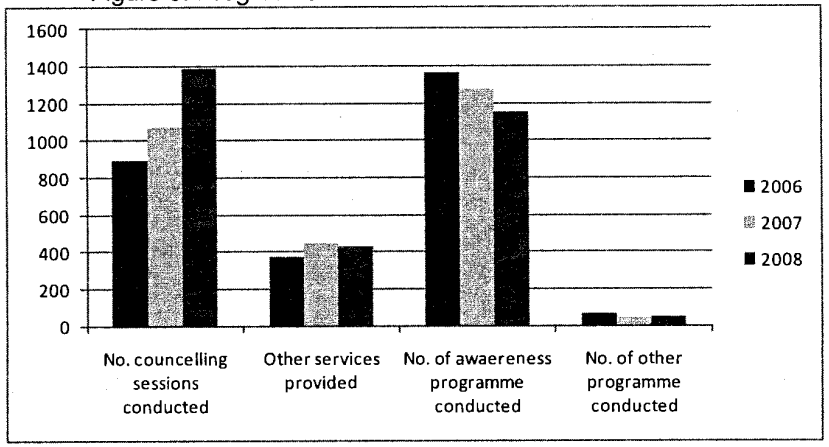
<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10, 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td>held.</td><td>Development & Training (Guarantee) Ltd." known as the Business Arm of the College. The Business Arm has 20 kinds of weekend courses listed in its leaflet.
(2) The followings are the list of courses the Business Arm has a capacity to conduct with the participation of the instructors in the model courses. Among them, the courses on ICT were held frequently and those on mechatronics were held only a few times.
➢ Computer and information technology
• MS Office (10 days)
• Graphics Design (12 days)
• Internet & E-mail (2 days)
• Network Administration (12 days)
• Hardware & Basic Networking (8 days)
➢ Advanced technology
• Sequential Relay Control and basic PLC (3 days)
• Industrial Applications of PLC (3 days)
➢ Mechanical Technology
• Arc Welding Manual (12 days)
(2) In addition to the above courses, the Business Arm conducted tailor-made training programmes. The following table shows the list of such courses conducted by SLCoT in April 2008 to March 2009
Table 9: List of tailor-made training conducted by SLCoT through the Business Arm
<table>
<tr><th>Name of the customer</th><th>Course</th><th>Participants</th></tr>
<tr><td>Ceylon Petroleum Storage Terminals Ltd.</td><td>Computer Training</td><td>63</td></tr>
<tr><td>Colombo Dockyard Ltd.</td><td>Auto CAD, PLC and wood machinists</td><td>42</td></tr>
<tr><td>KYY (Pvt) Ltd.</td><td>PLC</td><td>15</td></tr>
<tr><td>FDK Lanka (Pvt) Ltd.</td><td>PLC</td><td>15</td></tr>
</table>
(Source: Annual Report 2008/2009, Technology Development & Training (GTE) Ltd.)</td><td>The courses will be held continuously.</td></tr>
<tr><td></td><td>2.7 Periodical industrial</td><td>• As a pilot program, the JSCoT Project is exploring the possibility of work-</td><td>The activity will be imple-</td></tr>
</table>

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10, 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td>placement for C/P staff is implemented.</td><td>ing with the Sri Lanka Association of Software and Service Companies (SLASSCOM) to give industrial placement for selected ICT instructors of SLCoT.
• The proposal for this activity was submitted by the JICA Expert Team to DG of DTET for his comments.</td><td>mented once the JICA Expert Team obtained comments of DG and finalized the proposal.</td></tr>
<tr><td rowspan="5">Output 3
Management capacity of DTET for training and delivery of the NVQ level 5 and 6 courses and for the implementation of CG / counseling, textbook development and skills competitions is improved.

● The narrative summary should be reviewed. It may be appropriate to change "DTET" to "SLCoT", as most of the above-listed activities and indicators under the Output 3 are related to SLCoT.</td><td>3.1 More than 90% of the students are using the CG / labor market information available at SLCoT.</td><td>• Installation of a computer-based CG system at the SLCoT CG Unit was completed in June 2009.
• 90% of the students used the system.</td><td><Completed></td></tr>
<tr><td>3.2 Individual counselling is held for more than 5 students a month.</td><td>• Counselling sessions are being held regularly.
• Students of 4,350 in total and 363 in average had counselling in 2009. They were 2,761 and 230 in 2008 and 3,489 and 291 in 2007.
• CG session was included in the time table of SLCoT from 2009 onwards.</td><td><Achieved>
The program will be continued.</td></tr>
<tr><td>3.3 CG seminar is held for the applicants to give appropriate idea on course related employment.</td><td>CG seminars were conducted continuously. The following table shows the details of the programme conducted in 2009,
Table 10: CG Seminars conducted in 2009
<table><tr><th>Programme</th><th>No of programme</th></tr><tr><td>Awareness program for SLCOT Level 3&4 students</td><td>13</td></tr><tr><td>Awareness program for other TC's</td><td>1</td></tr><tr><td>Awareness program for VTA students</td><td>3</td></tr><tr><td>Awareness program for NAITA students</td><td>2</td></tr><tr><td>Awareness program for Department of public assistance</td><td>1</td></tr><tr><td>Total</td><td>20</td></tr></table></td><td><Achieved>
The program will be continued.</td></tr>
<tr><td>3.4 CG seminar is conducted for SLCoT students 11 times a year.</td><td>Various topics of CG seminars were held for different types of stakeholders. The total numbers were 2, 9 and 16 in 2007, 2008 and 2009 respectively. They were, for example, interview facing, personality development, CV writing, etc.</td><td><Achieved>
The program will be continued.</td></tr>
<tr><td>3.5 A system of conducting periodical studies to ensure the relevance of the quality and the level of the training is</td><td>• The following surveys were conducted by the Project Team. Some of them had broader objectives in addition to the objective to improve quality and level of the training:
➢ Questionnaire surveys to the students on evaluation of the courses conducted by CG Center</td><td>• Director SLCoT will implement quality control of the CoT according to the quality manual developed by TEDP. Committees</td></tr>
</table>

Narrative Summary	Verifiable Indicators	Tentative result as of March 10, 2010	Future plan / status of achievement
	established.	➢ A questionnaire survey to the lecturers/ instructors conducted by the JICA Expert team. • One of the resuls of the questionnaire surveys for the students was as follows: Figure 1: Level of satisfaction of the students to the courses  	were formed in this re-gard. • Director SLCoT is willing to continue questionnaire survey to the student to study their opinion about the course. • Experience and method of the researches will be shared with other TCs/CoTs in the final seminar in May 2010.
	3.6 Results of the studies are effectively used to improve the quality and level of the training.	Some actions were taken as a result of the questionnaire survey, such as visiting visiting lecturers for ICT course, however, it was limited.	Experience and method of the researches conducted in SLCoT will be shared with other TCs/CoTs in the final seminar in May 2010.
	3.7 Developed teaching materials such as textbooks, visual tools, etc are effectively used and appreciated at all by the SLCoT.	• Teaching material, including textbooks, visual aids were developed by the instructors of SLCoT. They are all available for inspection. • There was no survey particularly done to study whether they are effectively used and appreciated by the students and instructors. • However, the above figure shows that the satisfaction in the course among the students were in a different level.	Teaching materials will be updated by individual instructors.

Narrative Summary	Verifiable Indicators	Tentative result as of March 10. 2010	Future plan / status of achievement
	3.8 Skills competitions are continuously held and budgetary provisions for the event are given to make the event, financially sustainable.	• Skills competitions were held in 2005, 2006 and 2007. • However, due to financial constraints, DTET concluded the skills competition in 2008 at the Provincial level. Final round of competitions of was not held. • There was no skills competition in 2009.	<will not be achieved> DG of DTET is willing to hold a skills competition in 2010 around October with cooperation of industries.
Output 4 Know-How in the fields of implementation of NVQ level 5 and 6 courses, industry collaborations, CG / counseling and skills competitions is accumulated in DTET through the establishment of the three model courses in SLCoT to share it with other TCs and CoTs. • **The narrative summary should be reviewed. It may be appropriate to change "DTET" to "JSCoT", as most of the above-listed activities were implemented not**	4.1 Documents on delivering NVQ level 5 and 6 courses are prepared.	Necessary documents on delivering NVQ level 5 and 6 courses were prepared.	<Completed>
	4.2 TCs and Advisory Councils are established in other TCs and CoTs.	• DTET advised all CoTs in its operational handbook developed by TEDP that they have to establish TCs and Advisory Councils. • The establishment is in underway. • The idea was brought from the experience of the SLCoT.	<To be Completed> • TCs and Advisory Councils will be established in other CoTs according to the operation handbook. • Experience and method of the TCs and Advisory Councils of SLCoT will be shared with other TCs/CoTs in the final seminar in May 2010.
	4.3 The improved system to collect and update labor market information is introduced in other TCs and CoTs.	The improved system to collect and update labor market information was introduced in every TCs and CoTs. Progress reports from CG Units of all the TCs / CoTs are available with the CG & IL Division of the Department.	<Completed>
	4.4 Know-How to support student's job placement is introduced in other TCs and CoTs.	• Know-How to support student's job placement was introduced in every TC and CoT. The following figures show recent progress of the support to students' job placement 'CG). • However, it was not JSCOT that created improvement of CG services in other TCs/ COTs. It was mainly as a result of Skill Development Project, US AID's project and TEDP. • The following figure shows the progress of the CG services.	<Almost Completed>

Narrative Summary	Verifiable Indicators	Tentative result as of March 10, 2010	Future plan / status of achievement
by DTET but JSCoT. ● **The indicators should be also reviewed as most of them were realized not because of the effects of the Project.**		Figure 2: Progress of the total outputs of CG centers in TCs/ CoTs  (Source: CG Unit of DTET) Figure 3: Progress of the activities of CG centers in TCs/ CoTs  (Source: CG Unit of DTET)	

<table>
<tr><th>Narrative Summary</th><th>Verifiable Indicators</th><th>Tentative result as of March 10. 2010</th><th>Future plan / status of achievement</th></tr>
<tr><td></td><td>4.5 Studies are conducted in other TCs and CoTs to ensure the relevancy of the courses.</td><td>• No particular actions were taken for this indicator.
• Research and Development (R&D) Division of DTET' is responsible to conduct studies on relevancy of the courses and the level of the training. The division can initiate a study or any CoTs/ TCs can request the division to do so.
• However, due to very limited human and financial resources of the division, such studies were rarely done by the division in the past several years.</td><td>The quality control of the courses will be done based on the Quality manual issued by TEDP.</td></tr>
<tr><td></td><td>4.6 Seminars and workshops are held by C/P staff of the Project.</td><td>In-service training programs were conducted by SLCoT instructors. Reports of the program are available
Table 11: in-service training conducted.
<table>
<tr><th></th><th>Name of the program</th><th>Conducted by</th><th>Duration</th><th>No. of participants</th></tr>
<tr><td colspan="5">2007</td></tr>
<tr><td>1</td><td>Sequential Relay Control & Programmable Logic controllers (PLC)</td><td>Mechatronics</td><td>3 day</td><td>12</td></tr>
<tr><td>2</td><td>Sheet metal</td><td>Welding</td><td>3 days</td><td>13</td></tr>
<tr><td>3</td><td>Network Technology</td><td>ICT</td><td>3 days</td><td>12</td></tr>
<tr><td colspan="5">2008</td></tr>
<tr><td>1</td><td>Network Administration</td><td>ICT</td><td>2 days</td><td>16</td></tr>
<tr><td>2</td><td>Shielded Metal Arc Welding</td><td>Welding</td><td>2 days</td><td>8</td></tr>
<tr><td colspan="5">2009</td></tr>
<tr><td>1</td><td>Basic course in PLC Programming</td><td>Mechatronics</td><td>3 days</td><td>13</td></tr>
<tr><td>2</td><td>PLC Programming using computers</td><td>Mechatronics</td><td>3 days</td><td>9</td></tr>
<tr><td colspan="4">Total number of participants</td><td>83</td></tr>
</table>
(Source: JICA Expert Team)</td><td>• In-service training will be continued.
• Final seminar will be conducted in May 2010.</td></tr>
</table>

ANNEX 8 : Implementation Process

Item	Evaluation questions	Status as of end February 2010
1. Team work and communication	Team work and communication among the project team members adequate?	Team work and communication among the project team members and between the Japanese team of experts and the Sri Lankan Counterparts has been adequate and has not given rise to any protocol issues.
2. Decision making	Does decision making process in the project team efficient, transparent and participatory?	Decision making process within the project team has been transparent and participatory.
3. Progress monitoring	Did the project team monitor progress of the project appropriately?	Work performance review meetings are held by the project team to monitor the performance of the team members (the local consultants). However the monthly meeting of the Project Management Board (PMB) and the Steering Committees (SC) are not held regularly due to DG (DTET) not being able to chair the meeting.
4. Capacity building of Sri Lankan C/P	Training in Japan • Was the timing and selection of participants to the counterpart training in Japan appropriate? • Did the training in Japan implemented effectively?	• Twenty Nine courses were conducted in total in Japan and in other countries. Twenty six counterpart personnel were participated in the courses in total. Most of the instructors of the model courses who participated in the training found them as very useful and effective. Training course in Japan for the officers of the career guidance centre of SLCoT, was also effective to improve the knowledge and the experience of the officers. • However, two instructors of the ICT mentioned that the subjects and the level of the training were not exactly focused on those they were in-charge in the model course. An instructor of mechatronics mentioned that the group training provided to him was not so effective as the level of the course was low.
	Were the method and contribution of the JICA Expert Team, for capacity building of Sri Lankan C/P appropriate?	The technical levels and communication skills of the JICA Expert team were satisfactory. The local consultants worked closely with Sri Lankan counterpart officers and JICA expert and contributed much to the effective implementation of the project activities.
5. Participation of superior authority	Were level of participation, contribution and commitment of MVTT to the project satisfactory?	The higher authorities of the Project supported the Project: however, the support was not as sufficient as the Project Team expected. For example, MVTT took one and half years to hold the 6th JCC meeting after the 5th one. Decision-making often took a long time. The minutes of the JCC meetings shows that certain issues had been repeatedly discussed without reaching effective solutions. However, it is much appreciated that the additional Secretary of MVTT had been holding by-weekly meetings with JICA Expert Team from December 2009, in order to expedite the process to solve administrative problems that the Project is facing.
6. Cooperation with other projects	Were the coordination and cooperation with other related projects satisfactory?	The only other project that the JSCOT project 'coordinated' with was the ADB-funded TED Project. JSCOT was sometimes invited to participate in their progress meetings.
7. Function of JCC	Were JCC functioned as expected? (frequency of the meetings, participation of the members, decision making and follow-ups	Meetings of the JCC were held regularly prior to the mid-term evaluation of the JSCOT Project (but not after the mid-term evaluation: the time lag between the 5th JCC meeting and the 6th is eighteen months). Decision-making had been slow and from the minutes of the JCC meetings, one can conclude that certain issues had been repeatedly discussed without reaching effective or long-lasting solutions. Member participation had always been high but the contribution from individual members is limited. For example, at the 6th meeting of the JCC, only one participant, DG TVEC responded to all the issues.
8. Participation of JICA	Were level of supervision and support made by JICA Sri Lanka Office and JICA Headquarters appropriate?	Support of JICA Headquarters and JICA Sri Lanka Office has been rendered to the Project to the satisfaction for the Sri Lankan stakeholders. It should have been better, if JICA Sri Lanka Office had monitored the progress of the Project more closely, based on the indicators of the PDM and Plan of Operation. Long-term JICA Experts were not dispatched according to the plan.

ANNEX 9: Evaluation Grid

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
Relevance		
Policy	Is the project purpose consistent with development policy of Sri Lanka?	(1) Yes, the GOSL placed a high priority on the strengthening of the TVET system in the past economic policy framework, "Creating our future, building our nation", which was formulated in 2004. Responding the policy, the MVTT established the strategy to rationalize the function of TVET by upgrading 9 existing TCs to CoTs, in order to train middle level technicians and offer a diploma course. (2) The 10-year Development Plan of the present government, *'Mahinda Chintanaya'* speaks of modernizing the vocational education Sector through carefully-screened donor funded Projects. (3) In January 2010, the President was re-elected and will continue Office until 2016. Therefore, the existing policy on technical and vocational education is likely to be continued at least until 2016.
	Is the project purpose consistent with ODA policy of Japan and Country Strategy of JICA?	Yes, the Country Strategy of JICA emphasizes the importance of human resource development, especially technical training, in order to enhance foreign investment as a mean to improve acquisition of foreign currency
Needs	Are there strong needs to implement the Project?	Yes, the Project was formulated based on the high unemployment rate of young people and the needs of industrial community in Sri Lanka, which require middle level technicians who can manage production lines of engineering industry. However, the TVET sector in Sri Lanka was low in quality and technical level to train the technical workers which match the needs of the industry.
	Was the selection of the target groups relevant with the needs?	Yes. The three courses of the Project are relevant in terms of industry demands. The courses of ICT and Mechatronics are needed urgently, as there were no courses of this type running in the country: and there is high demand for these courses now and in near future. Metal work is in need of middle level technicians who have higher technical levels than that of the present training courses.
Priority	Does the project address priority and urgent issues in technical education sector?	(1) Until the establishment of the Project, the students who completed Certificate-level programs (rated as Levels 3 & 4 on the NVQ framework) at TCs did not have an avenue to further their education in their respective (technical) fields. (2) Prior to the NVQ reforms brought about by the Project, those who had completed Certificate-level courses at the Technical Colleges were 'stagnant' in their vocations as low-skilled middle-level technicians. (3) The need to expand the NVQ framework to open new avenues of study for Technical College students had been an urgent and pressing need for many years. (4) The Project was formulated to meet such urgent and pressing needs by paving the way for the following: (1)

<table>
<tr><th colspan="2">Evaluation Items</th><th rowspan="2">Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team</th></tr>
<tr><th>Main Items</th><th>Sub-Items</th></tr>
<tr><td></td><td></td><td>reform (or 'expand') the NVQ framework to the level of a vocational degree (2) create opportunities for a large number of 'stagnant' low skilled middle-level technicians to further their qualification thus fulfilling the country's need for skilled, middle-level technicians.</td></tr>
<tr><td>Suitability as a means</td><td>Does Japan have technological advantages? Can Japan's experience be utilized?</td><td>(1) Yes, Japan has an advanced technology and ample experience in vocational and technical and training in the selected three industrial sectors. JICA has a rich experience in technical cooperation of vocational and technical training in various countries.</td></tr>
<tr><td colspan="3">Effectiveness</td></tr>
<tr><td>Achievement forecast of the Project Purpose</td><td>Will the Project Purpose likely to be achieved by the end of the period of cooperation?</td><td>As to be elaborated in the followings, SLCoT is still in the process to gaining managerial and technical capacity to produce middle level technicians. It has just completed the training of the 1st batch students of 37 numbers. Just recently, the model courses are becoming popular and the numbers of applicants to the courses were improved remarkably. The instructors of the courses are still having difficulties to teach some of the modules of the courses as mentioned earlier.
(1) Employment status of the students
➢ At present, only 37 numbers of students in the first batch of ICT and metal work, who studied in 2007 and 08 had completed the training courses[7]. The following table shows the summary of the employment status of these students.
Table 1 : Employment status of the 1st batch students as of Jan. 2010
<table>
<tr><th rowspan="2">Courses</th><th rowspan="2">No. of eligible students for NVQ6</th><th colspan="2">Course-related job placement</th><th colspan="2">Non course-related job placement</th><th colspan="2">Unemployed</th></tr>
<tr><th>Numbers</th><th>%</th><th>Numbers</th><th>%</th><th>Numbers</th><th>%</th></tr>
<tr><td>ICT</td><td>20</td><td>10</td><td>50%</td><td>6</td><td>30%</td><td>4</td><td>20%</td></tr>
<tr><td>Metal Work</td><td>17</td><td>3</td><td>18%</td><td>0</td><td>0%</td><td>14</td><td>82%</td></tr>
</table>
Note: Among the 4 unemployed students of ICT, 2 proceeded to higher studies and 2 are looking for jobs in overseas.
(Source: Project Team)
➢ Employment status of the ITC students is satisfactory. SLCoT CG centre observed that there were inquiries and request for placement of interviews from various companies to the students. The Centre was informed that most of the students, even those who obtained non course-related jobs, were happy about their employers, jobs, titles and salaries. There are already several offers for recruitment interviews for</td></tr>
</table>

[7] The first batch students of mechatronics are still undergoing training, as it was commenced in 2008.

<table>
<tr><th colspan="2">Evaluation Items</th><th>Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team</th></tr>
<tr><th>Main Items</th><th>Sub-Items</th><th></th></tr>
<tr><td></td><td></td><td>
the 2nd batch students by the leading companies in Colombo, such as John Keels Holdings and Abans Ltd.
➢ As for metal work students, 3 out of 17 metal work students obtained course-related jobs so far. These three students obtained the highest marks in the recruitment exam of Colombo Dockyard. The employers were highly satisfied with their skills and attitude. The rest of the students are still looking for jobs which are located in commutable area and offer reasonable salary. Two students in the second batch were already employed by the Air Force Headquarters.

(2) Number of applicants.
Just recently, for the 2010 enrolment, the relevant figures have shown improvement (11-129% increased), especially for the metal work. It shows that the model courses are becoming popular among the youth gradually, as a result of frequent career guidance seminars and other services conducted by the career guidance centre of SLCoT. See the following table for the number of applicants for the past four years.
Table 2 Number of applications to the model courses
<table>
<tr><td>Year</td><td>2007</td><td colspan="2">2008</td><td colspan="2">2009</td><td colspan="2">2010</td></tr>
<tr><td></td><td>No. of applications submitted</td><td>No. of applications submitted</td><td>Increment rate (%)</td><td>No. of applications submitted</td><td>Increment rate (%)</td><td>No. of applications submitted</td><td>Increment rate (%)</td></tr>
<tr><td>ICT</td><td>194</td><td>180</td><td>-7%</td><td>157</td><td>-13%</td><td>209</td><td>33%</td></tr>
<tr><td>Mechatronics</td><td>230</td><td>128</td><td>-44%</td><td>72</td><td>-44%</td><td>80</td><td>11%</td></tr>
<tr><td>Metal Work</td><td>78</td><td>52</td><td>-33%</td><td>38</td><td>-27%</td><td>87</td><td>129%</td></tr>
</table>
(Source: Career Guidance Centre of SLCoT)

(3) Dissemination of know-how of SLCoT to other CoTs by manuals and documents.
The Project developed the following manuals/ documents based on the experience of SLCoT:
• Operation Manual of CoT
• Career guidance master plan
• Industrial relations manual
However, they were still not distributed to other CoTs, because while the Project developed the manuals, TEDP also developed same kind of manuals and 5-year strategic plan. TEDP distributed these manuals/ plan to other CoTs. Therefore, there was less necessity for the Project to distribute their manuals to other CoTs. The manuals will be distributed in the final seminar of the Project as an experience of SLCoT.
</td></tr>
<tr><td>Contribution factors</td><td>Were there any contributing factors to accelerate the achievement of the Project</td><td>(1) There have not been any noteworthy factors that catalyzed the progress of the Project or the achievement of the Project Purpose.</td></tr>
</table>

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
	purpose?	
Inhibition factors	Were there any factors to inhibit the achievement of the Project purpose?	(2) Delays in the process of holding exams, endorse skills standard and establishing assessment method in issuing diploma. (3) Long delays in decision making and insufficient follow-up by higher authorities. (4) Inactiveness and less commitment of the former Director SLCoT.
Logic to attain project purpose	Will the Project Purpose be attained if all the planned outputs were created?	(1) There is no contradiction in the logic of attaining Project Purpose. (2) However, the expected levels of achievement of the Project Purpose might be too high considering the necessary time taken for dissemination.
	Are the important assumptions to attain the Project Purpose still appropriate and realistic?	(1) Policy and priority area of the Sri Lanka government on human resource development will not be changed - OK (2) Ministry's policy on establishing COT will not be changed - OK (3) Trained staff will remain working for TC/COT – could be OK in short term. However, the assumption is realistic in a long term, as transfers rotation among the Colleges is a common practice. Besides, all the instructors will be retired at their retirement age.
Efficiency		
Level of production of Outputs	Were the Outputs produced as planned?	Production of outputs with regard to the course delivery and career guidance is satisfactory to certain extent. However, activities and production of outputs with regard to monitoring and improvement of the courses, industry relations and know-how dissemination did not created remarkable outputs. Output 1 (1) Necessary teaching materials were prepared, necessary infrastructure was established and all the equipment necessary for the model courses were purchased and installed, except a few. The two model courses on ICT and metal work were commenced in January 2007 and the model course on mechatronics was commenced in January 2008 due to the delay in purchasing necessary equipment for training. (2) The three courses have been conducted according to the weekly and monthly time tables developed by the instructors. The first and the second batch students completed the course study. The numbers of students in the courses are summarized in the following table. A part-time diploma course has not been introduced, yet.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	Sub-Items	

Table 3 No. of students in the model courses

			NVQ 5	NVQ 6			
Year	Course	No of applications submitted	No of students enrolled	No of students enrolled	No of students underwent In-plant training	No. of students qualified for the final assessment	No of level 6 students Graduated
2007/08	ICT	194	23	20	16	13	No final assessment yet
	Metal Work	78	20	17	13	9	No final assessment yet
2008/09	ICT	180	23	20	2		
	Mechatronics	128	23	22	3		
	Metal Work	52	20	13	13		
2009/10	ICT	157	22	20			
	Mechatronics	72	20	19			
	Metal Work	38	9	8			
2010/11	ICT	209	43				
	Mechatronics	80	20				
	Metal Work	87	18				

(Source: JICA Expert Team)

(3) Endorsement of the National Competency Standard and curriculum outline for the model courses was expected to be completed before the commencement of the Project. However, it was delayed for more than four years and the Standard was finally endorsed in January 2010. The Curriculum Outline is planned to be endorsed in Mid March, 2010. Due to the long delay in endorsement of the National Competency Standard and Curriculum Outline, the students in the first batch have not awarded the diploma. As a result, various inconveniences were caused at the time of seeking employment and proceeding to higher education.

(4) The following table shows the result of the pre-assessment of the NVQ levels 5 and 6 conducted in November 2009 for the first batch students. The Project planned that more than 80% of the students obtains diploma. However, the percentage of the students who passed the pre-assessment among those who sat for the exam were 68% and 53% respectively for the ICT and Metal Work courses. Therefore, the planned target will not be achieved.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	Sub-Items	

Table 4 Results of the pre-assessment for the 1st batch students of the model courses

Result	ICT	Metal work
Qualified for the final assessment	**13 (68%)**	**9 (53%)**
Not qualified for the final assessment	4 (21%)	7 (41%)
Absent	2 (11%)	1 (6%)
Total	19 (100%)	17 (100%)

(Source: Director Testing and Examination, DTET)

(5) There are several concerns with the capacity of the instructors for the model courses. The instructors of ICT found it still difficult to teach and make full use of the equipment for the modules on graphic design, multimedia and web-design up to the required level defined in the skills standard. Students also commented about the insufficient skills and knowledge of the instructors assigned for the modules. The instructors of mechatronics still found it difficult to teach modules of design mechanical fixtures and hydraulic, which are new to them. They stated especially about the needs to improve the skills to teach practical sessions.

(6) Establishment of the full-time courses was the priority for the Project Team. There were a limited number of instructors in the courses, especially in September 2008 onwards; each one instructor of the courses took a leave to study in UNIVOTEC. As a result, part time diploma courses were not introduced yet.

Output 2: DTET establishes a system for the training courses to fulfil industry's needs

(1) Technical Committees were formed for each model courses. The meetings of the committee were held several times irregularly and created some effect[8]. SLCoT could not follow-up what were discussed and requested in the meetings due to insufficient leadership of the former Director. The present Director of SLCoT is in a process of restructuring the committees. The Industry Orientation Programme (IOP) was held only once mainly due to lack of support from the Technical Committees at that time.

(2) Short-term weekend courses were conducted by the instructors of the SLCoT through "Technology Development & Training (Guarantee) Ltd." known as the Business Arm of the College. The followings are the list of courses the Business Arm has a capacity to conduct with the participation of the instructors in the model courses. Among them, the courses on ICT[9] were conducted frequently. The courses on PLC in mechatronics were held only a few times. A course on Arc Welding was planned by the instructors of metal work; however was not realized as the course fee, including the material cost, was expensive. In addition to the above-mentioned courses, the instructors of the model courses conducted tailor-made training programmes through the Business Arm on the subject of computer, PLC, Auto CAD and wood machinists for public and private

[8] Some companies of the technical committees provided opportunities for in-plant training and employment for the students of the model courses.

[9] Courses such as on MS Office, Graphics Design, Internet & E-mail, Network Administration and Hardware & Basic Networking were conducted.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	Sub-Items	
		companies. The Instructors of ICT were most actively involved in the short-term courses and are feeling the benefit. The courses provided them with the opportunities to know about the needs of the industries and purchase necessary equipment for the course (3) Among 37 students of the first batch in metal work and ICT, 29 had completed in-plant training. Some of them were employed by the company they were trained. Among the 55 students of the second batch, who completed the courses at the end of 2009, 18 are undergoing in-plant training. Administration, follow-ups and assessment of the in-plant training have not been conducted sufficiently. An arrangement is underway to implement the in-plant training through NAITA. (4) Periodical industrial placement for the instructors of the model courses was not realized yet. The JICA Expert Team is exploring the possibility of working with the Sri Lanka Association of Software and Service Companies to give industrial placement for selected ICT instructors. Some officers of DTET and local consultant of the JICA expert Team consider that the realization of an industrial placement should be the future target, when the industry relations of the SLCoT was strengthened by student job placement, TC meetings and others. It is very difficult at the moment, as the industries are still not ready to accept instructors. **Output 3: Management capacity of DTET for training and delivery of the NVQ level 5 and 6 courses and for the implementation of CG / counselling, textbook development and skills competitions is improved** (1) There was a remarkable improvement in the service of the Career Guidance Centre of SLCoT. The activities, such as counselling sessions, career guidance seminars for the students of SLCoT, awareness creation seminars for level 3 and 4 students in SLCoT and other training institutions were held actively. The career guidance centre was renovated to be more accessible and visible to the students and general public. Data base was improved and utilized by the students. (2) Monitoring and follow-up of the courses were conducted in a limited extent. Monitoring of the courses was done by SLCoT Director; however, there have not been any 'end of course' meetings or workshops to reflect on the lessons learned. Questionnaire surveys to the students of the model courses were conducted every year by career guidance centre of SLCoT. However, the result of the survey was utilized in a limited way. There is no system to obtain feedback of the course from the students who are undergoing in-plant training or placed for employment. DTET and TVEC did not monitor the courses. (3) Skills competitions were held in 2005, 2006 and 2007. However, due to financial constraints, DTET concluded the skills competition in 2008 at the Provincial level and final round was not held. There was no skills competition in 2009. DG of DTET is discussing with the industries to obtain support for the skills competition in 2010 to be held around October. **Output 4:** Know-how in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, career guidance/ counselling and skills competitions is accumulated in DTET through the establishment of the 3 model

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	Sub-Items	

courses in SLCOT to share it with other TC/COT.

(1) Knowledge to teach model courses was disseminated by the instructors of SLCoT through the in-service training. The instructors and the JICA Expert Team evaluated the training successful. However the effect of the training was not studied yet. The detail of the in-service training conducted is shown in the following table:

Table 5 In-service training conducted by instructors of SLCoT

	Name of the program	Conducted by	Duration	No. of participants
2007				
1	Sequential Relay Control & Programmable Logic controllers (PLC)	Mechatronics	3 day	12
2	Sheet metal	Welding	3 days	13
3	Network Technology	ICT	3 days	12
2008				
1	Network Administration	ICT	2 days	16
2	Shielded Metal Arc Welding	Welding	2 days	8
2009				
1	Basic course in PLC Programming	Mechatronics	3 days	13
2	PLC Programming using computers	Mechatronics	3 days	9
Total number of participants				83

(Source: Project Team)

(2) Know-how dissemination process from SLCOT to other TCs/ COTs with regard to the management and implementation of the NVQ level 5 & 6 courses has not been conducted yet. The competency standards of the model courses were just endorsed two months ago. The curriculum outline has not been validated yet. The instructors of the model courses have just gained two or three years experience in teaching the courses. Therefore, the know-how on management and implementation of the courses has been accumulated in SLCoT very recently.

(3) At the moment, the instructors of the model courses found the newly endorsed competency standards of the NVQ levels 5 and 6 very challenging. The following realistic and serious issues were observed by the lecturers of the SLCoT:

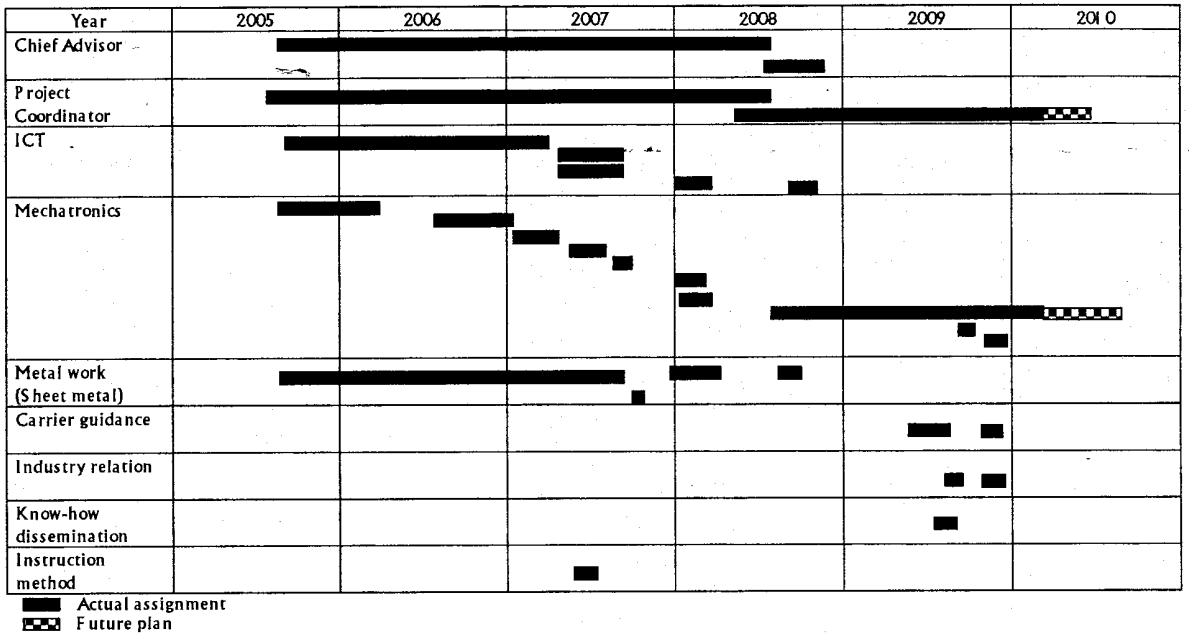
- Modules and expected learning outcomes specified in the competency standards are too many and rich

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
		in variety. They feel it would need at least four years to produce all the learning outcomes specified in the curriculum outlines. • In case of ICT, SLCoT does not have trained instructors for several modules, such as on video production and graphic and printing, which should be usually included in the courses of printing or designing, but not in the diploma courses of ICT. The instructors of mechatronics have the same kind of issue for the module of "design mechanical fixtures", which should be included in the courses of mechanical engineering, but not in those of mechatronics. • In case of ICT, several modules, such as under "software engineering and database technology", are difficult to teach in classrooms but only to be taught in real workplace environment. The lecturers of SLCoT have difficulty in interpretation of the modules. Considering the possibility that the instructors of other CoTs will face the same difficulties in the future, it is important for higher authorities to study the experience and issues of the instructors of SLCoT. However, such studies have not been conducted, yet. (4) The Project Team is planning to have a final seminar of the Project in May 2010 to disseminate experiences of the SLCoT in industry relations, carrier guidance, in-plant training for students and others to the staff of other TCs and CoTs.
	Were there any disturbing factors for creation of the planned outputs or implementation of the planned activities?	(1) Delay in purchasing of equipment for mechatronics and commencement of the mechatronics course (2) Delay in assignment of counterpart personnel for industry relations and know-how dissemination (3) Insufficient period of service of long-term JICA expert (4) Long delays in endorsement of national competency standards and validation of curriculum outline for NVQ levels 5 and 6, (5) Delays in decision making and insufficient progress monitoring and follow-ups by top management of SLCoT, DTET and MVTT,
Input (human resources	Are counterpart personnel assigned as planned and contributing to produce the Outputs?	(1) Director General of DTET Director General of DTET, who was the Project Director, contributed to the progress of the Project. However, decisions and participation required to the Director General with regard to the matters of the Project were sometimes delayed or not available. Especially, it was regrettable that the steering committee meetings and the project management board meetings, which should have been held quarterly and monthly respectively, were not held regularly, as the Director General, the chairperson, was rarely available as he had been busy with other duties. (2) Directors and other officers of DTET All the Directors were participated in the Project by attending the meetings and giving advices to the Project Team. Early assignment of counterpart officers of DTET or SLCoT for the fields of career guidance, industry relations and know-how dissemination was recommended by the Mid-term Evaluation Team of JICA in March

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	Sub-Items	
		2008. However, there was a long delay in appointment. An officer on know-how dissemination was appointed in November 2009. An officer for industry relations was appointed in November 2009, however after the officer left the Project for maternity leave, any successor was appointed for three months. Two officer was appointed for the purpose very recently in middle of March 2010. Two officers of career guidance center of SLCoT were assigned as counterpart officers. (3) Director of SLCoT The Director of SLCoT was responsible for the managerial and technical matters of the implementation of the Project and designated as the Project Manager. The Director of SLCoT, who participated in the Project from the beginning and for the duration of four years, contributed to the Project in a limited way. He did not have much commitment and leadership to facilitate the Project activities. The present Director of SLCoT, who assumed his duty in November 2009, has been actively involved in the Project and shown remarkable leadership in career guidance, industry relations and operation of the model courses of SLCoT. (4) Teaching staff of the model courses Six instructors were planned to be assigned for each model course as counterpart officers. The instructors were assigned almost as planned except one vacancy in the metal work course. The vacancy was not fulfilled, however it did not create any serious problem as the number of students in the course in 2009 was small. (5) Administrative personnel A Project Coordinator was assigned by DTET as planned. However, in November 2009, he was assigned as a principal of Homagama TC, while working as a Project Coordinator. The double duties made him difficult to concentrate on the works of the Project. The JICA Expert Team requested DTET and MVTT several times to solve the problem urgently. A secretary was assigned to the Project as planned.
	Were JICA Experts assigned as planned and contributing to create the outputs?	(1) According to the Record of Discussion, signed between JICA and MVTT, the long term JICA experts were planned to be dispatched under the tiles of (a) chief advisor, (b) project coordinator, (c) ICT, (d) mechatronics and (e) metal work technology for the period of two years or more. In addition to the long-term experts, short-term JICA experts, whose assignment is less than one year, were planned to be dispatched when the project management justify its necessity. (2) The actual assignment record of the JICA experts is described in the following table. The level of expertise of the JICA experts was very much satisfactory as a whole. They contributed effectively to realize the technical transfer to the instructors of the model courses.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	Sub-Items	

Table 6 Assignment record of JICA experts



(Source: Terminal Evaluation Mission)

(1) Chief advisor

A long-term JICA expert was dispatched as chief advisor and worked for the Project for two and half years as planned. Another long-term JICA expert was dispatched as the successor of the first chief advisor to work for the project during the second half of the cooperation period. However, he worked only five months and left the country due his health problem. Thereafter, JICA could not dispatch any person for the post of the chief advisor.

(2) Project coordinator

A long-term JICA expert was dispatched as project coordinator and worked for the Project for two and half years as planned. Another long-term JICA expert was dispatched as the successor of the first project coordinator and currently is working for the project as planned. He is playing a role of acting chief-advisor from December 2008.

(3) ICT

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
		A long-term JICA expert was dispatched for the subject of ICT as planned. He worked for one and half years. Thereafter, JICA could not dispatch any long-term expert as his successor. Instead, four numbers of short-term JICA experts were dispatched for the period of three to two months in 2007 and 2008. (4) Mechatronics A long-term JICA expert was dispatched for the subject of mechatronics as planned. However, he worked only for five months and left the country due to his health problem. JICA could not send a long-term expert as his successor and send total five numbers of short-term experts instead. A long-term expert was dispatched again in July 2008 for the period of two years and is working for the Project as planned. (5) Metal Work A long-term JICA expert was dispatched for the subject of metal work and worked for the Project for two and half years as planned. JICA recognized no more need to extend the service of the long-term expert for the subject, as the technical transfer for the subject was successfully carried out. The expert visited the Project two times thereafter as a short-term expert. (6) Career Guidance, Industry Relations and Know-how dissemination There was no plan to dispatch JICA Experts in the field of career guidance, industry relations and know-how dissemination in initial stage of the Project. However, later, the needs of expertise in the fields were identified and three local consultants in the respective fields were employed by the JICA Expert Team. They worked closely with Sri Lankan counterpart officers and JICA expert and contributed much to the effective implementation of the project activities. In addition to the local consultants, short-term JICA experts on the relevant fields were dispatched to the Project in 2009. Contribution of the short-term expert on Career Guidance was noteworthy as it encouraged the Sri Lankan Counterpart personnel to create several changes to the services of the Career Guidance Centre of SLCoT[10].
Input (Equipment)	Were the equipment purchased as planned? Were quality and quantity of the equipment satisfactory?	Purchasing of equipment for the three model courses has been almost completed. Quality and quantity of the equipment is satisfactory. The instructors of the model courses believe the workshops and laboratories of the model courses are the best in Sri Lanka. Purchasing of the equipment for mechatronics was delayed in the initial stage of the Project; therefore, the commencement of the course was delayed for one year. The main reason for the delay was that there was no long-term JICA expert after the expert initially dispatched left the Project in five months. The equipment for the modules of multi-media in ICT was not purchased yet.
Input (training in	Was the counterpart training in Japan conducted	(1) Twenty Nine courses were conducted in total in Japan and in other countries. Twenty six counterpart personnel were participated in the courses in total. Most of the instructors of the model courses who participated in

[10] Improvement in data base system, needs assessment and access of the students and outsiders to the Centre and efficiency in consultation are some of the example of the changes.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
Japan)	as planned?	the training found them as very useful and effective. Training course in Japan for the officers of the career guidance centre of SLCoT, which was arranged by the short-term JICA expert, was also effective to improve the knowledge and the experience of the officers. Training on human resource development administration provided to the senior officers of MVTT, TVEC and NAITA was also effective to further improve their knowledge on the subject. (2) However, two instructors of the ICT mentioned that the subjects and the level of the training were not exactly focused on those they were in-charge in the model course. An instructor of mechatronics mentioned that the group training provided to him was not very effective as the level of the course was low.
Input (Budget)	Was the project budget of GoSL an appropriate amount?	GOSL contributed to the Project in developing classrooms, laboratories and workshops of the model courses. GOSL provided fund for some of the project activities, such as skills competitions. Approximately 30 million rupees were spent for the purpose as of December 2009. There was no problem for the timing and amount of disbursement.
	Was the timing of disbursement of the project budget of GoSL appropriate?	
Unexpected inputs and outputs	Were there any unexpected or extra inputs or outputs so far made?	There was no noteworthy extra input or output.
Logic to attain Outputs	Will the Outputs be attained if all the planned activities were conducted?	(1) There is no contradiction in the logic of creating outputs. (2) However, activities on strengthening of industry relations and dissemination might take more time than five years to create concrete outcomes.
	Are the important assumptions to produce the Outputs still appropriate and realistic?	(1) Process of purchasing the equipment for the model course is not hampered by uncontrollable factors. - OK (2) Timely constructions of necessary infrastructure of the Project is not hampered by uncontrollable factors - OK (3) Counterpart of the Project will continue working for SLCOT. – was not appropriate as an assumption as mentioned earlier. (4) National Skill standards and Curriculum Outlines of the model courses are endorsed. ➢ This was a pre-condition at the time of the project formulation. GOSL committed to endorse them before the commencement of the Project. Later in the mid-term evaluation, it was identified as one of the important assumptions as they were not realized yet at that time. They were expected to be endorsed within one month after the evaluation. ➢ However, even after the evaluation, they were not realized for a long period. National competency Standards of the subjects of the model courses were endorsed in January 2010. Curriculum outline is planned to be validated in Mid March 2010, Therefore, this assumption was not realistic. The Project was affected much due to the delay of the endorsement.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
Impact		
Achievement forecast for the overall goals	Looking at the level of achievement of the Project Purpose so far, are there prospects that the overall goals will be attained as an effect of the Project?	(1) It is difficult to state about the level of achievement or progress of the Overall Goal. Out of 6 indicators for the Overall Goal, 3 do not have necessary historical or comparative data. Data for one indicator shows positive progress however, data for other two indicators show that the level of achievement is still slow. (2) There is a possibility for the Project to contribute to attain the Overall Goal, if the above mentioned learning, improvement and dissemination process will be realized.. However, the possibility for the Project to play a main role in achieving the Overall Goal is relatively low. Instead, other effort of GOSL, such as budget allocation for purchasing and installing necessary training equipment and facilities of other CoTs and provision for training of instructors in the NVQ levels 5 and 6 courses will be some of the most important factors to achieve it.
	Were there any disturbing or contributing factors to attain the overall goal?	The planned Overall Goal of the Project is very expansive and not directly relevant with the Project considering the size of input of the Project.
Impacts occurred as ripple effects	Policy/ technical aspect/ environment/socio-economy/ organization, finance	So far, any unexpected impact of the Project has been observed by the stakeholders of the Project
Logic to attain the Overall Goal	Is the Overall Goal realistic and directly related to the Project Purpose?	The planned Overall Goal of the Project is very expansive and not directly relevant with the Project considering the size of input of the Project. The possibility for the Project to play a main role in achieving the Overall Goal is relatively low. Instead, other effort of GOSL, such as budget allocation for purchasing and installing necessary training equipment and facilities of other CoTs and provision for training of instructors in the NVQ levels 5 and 6 courses will be some of the most important factors to achieve it.
	Is the important assumption to attain the Overall Goal still appropriate and realistic?	(1) Economic development and labor demand for the middle level technical personnel will be continued. - OK (2) Policy and priority area of the Sri Lanka government on human resource development will not be changed. - OK (3) Ministry's policy on establishing COT will not be changed. - OK (4) ADB, GTZ and KOICA will support the Sri Lankan Government in establishing COTs.- Partly OK, but KOICA has deferred its support to the Jaffna TC due to the civil war.
Sustainability		
Policy and institutional aspect	Does GOSL have a policy and institutional support to maintain the effects of the Project?	(1) National Development Policy emphasizes the need to strengthen and modernize technical education and training. Courses for NVQ levels 5&6 were introduced in none CoTs as a strategy to realize the policy. These policy and strategy are likely to be maintain in the future, too. Therefore, it can be understood that GOSL has a broad policy and strategy to maintain the effects of the Project.

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
		(2) However, if we look into the details, there is a concern that the effects of the Project will be maintained, as the system to assess NVQ level 5&6 and issue diploma has not been established, yet.
Management /organizational capacity	Do the implementing agency and other related agencies have management/ organizational capacity to maintain the effects of the Project?	(1) It is a positive factor for sustainability that SLCoT is an institution which has a long history, clearly defined structure and responsibility. As a whole, the numbers and technical level of the instructors of the model course and other administration staff is satisfactory. (2) In the interviews conducted by the Final Evaluation Team, both Director General of DTET and Director of SLCoT ensured that it will take some more time to implement the policy in a strict sense and the instructors currently working for the model courses will not be transferred to TCs because of the educational qualification. Opportunities to obtain degrees at UNIVOTEC were provided to each one instructor of the model courses in 2008. (3) However, most of the instructors, especially in mechatronics and those who do not have a degree, are feeling very insecure about their future; whether they can continuously work for the courses. They have not been given clear explanation by DTET and higher authorities that how long the transition period is and whether they will be provided with opportunities for higher study in the future. (4) It is good news that UNIVOTEC is planning to start weekend degree courses on the subjects of mechatronics and ICT, so that the instructors proceed with higher study and keep on working for the model courses without any concern. However, it is not sure when the courses will be exactly started as preparation of the laboratories and purchasing of the equipment for UNIVOTEC has been delayed much.
financial aspects	Do the implementing agency and other related agencies have financial capacity to maintain the effects of the Project?	(1) It is worth mentioning that the instructors of the model courses, especially those in ICT, were actively involved in conducting short-term courses for industries through the Business Arm. The income generated by the courses was utilized for purchasing the equipment. The Director of SLCoT is showing his commitment to promote such courses and generate income and utilize it for necessary maintenance, replacement and purchasing of the equipment. (2) It is a positive factor for financial sustainability of the Project that consumables and materials for the model courses have been supplied not by JICA but by DTET from the commencement of the Project, although some JICA experts had assisted the purchasing of such items at the time of emergency. However, it is a concern that, according to the interviews to the instructors and students of the model courses, consumables and materials for the courses have been always in shortage. For example, the metal work courses had to limit the practical session due to unavailability of sufficient materials. (3) The Terminal Evaluation Team could not make sure the amount and items of budget estimate of SLCoT for 2010, which must have been submitted by the former Director of SLCoT to the Director of Finance of DTET through various directors of DTET, such as supplies, maintenance, and academic and so on. The Team had interview to the present Director of SLCoT and obtained a book of budget estimate for 2010; however, the Director does not know whether it was submitted to the Director of Finance. The Director of Finance of DTET studied her files; however, could not find what must have been submitted by SLCoT. It is a great concern of

Evaluation Items		Current status as of March 10, 2010/ Tentative evaluation result by the Terminal Evaluation Team
Main Items	**Sub-Items**	
		the Terminal Evaluation Team that nobody remember what were submitted by SLCoT for 2010, as far as the Team interviewed. (4) The guarantee period of most of the equipment will be ended very soon. SLCoT will have to arrange service contracts for periodical maintenance with the suppliers. The service contracts are inevitable for proper maintenance and prompt repairs. However, the Terminal Evaluation Team has a doubt whether such contracts will be signed for all the necessary equipment, as the Team could not even find out whether the necessary budget estimate for the services was proposed.
Technology Are the methods of technology transfer used in the project being accepted?	Do the implementing agency and other related agencies have technical capacity to maintain the effects of the Project?	(1) It is appreciated that the technical level of the most of the instructors are satisfactory, in general. Their technical capacity to operate and maintain the equipment for the training is also sufficient, except a few. (2) It is a concern that the process of periodical monitoring, analysis, evaluation and implementation of the necessary actions for improvement of the quality of the courses has not yet established in SLCoT.
	Will the equipment be appropriately maintained & operated?	

ANNEX 10 : Result of the questionnaire survey to the students

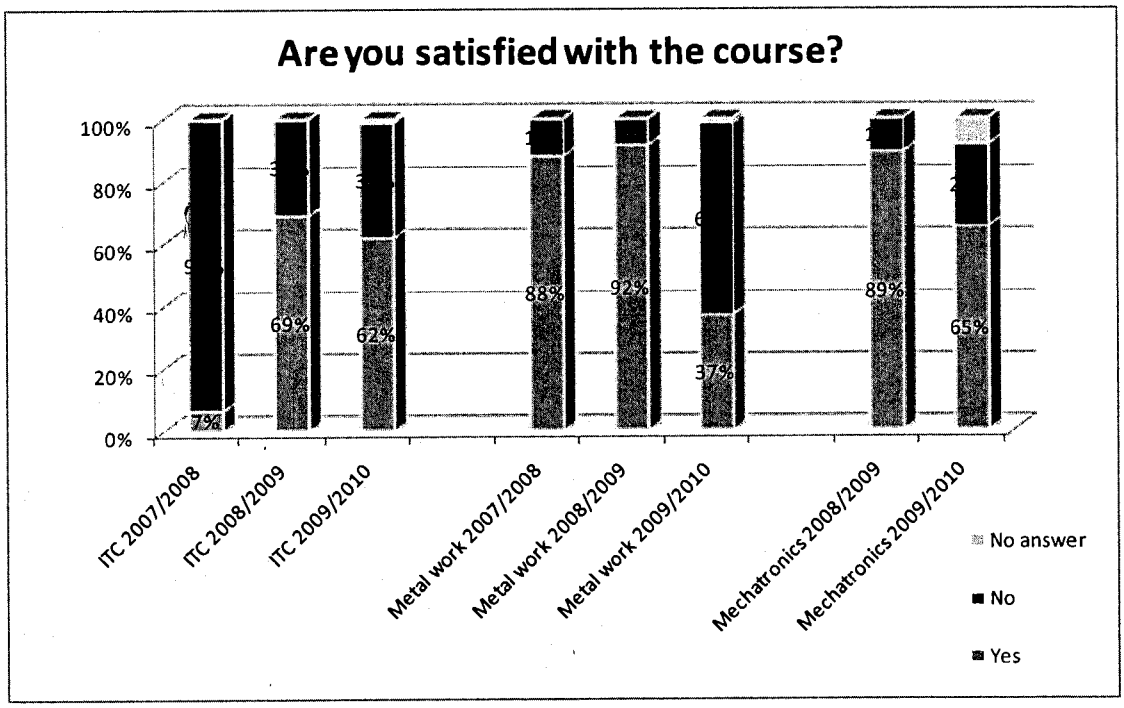
The questionnaire survey to the students of the model courses was conducted by the career guidance center of SLCOT as follows:

(1) The survey to the students of 2007/08 batch: conducted in October 2008, when the course study was almost at the end.

(2) The survey to the students of 2008/09 batch: conducted in October 2009, when the course study was almost at the end.

(3) The survey to the students of 2009/10 batch: conducted in 1st of March, 2010, in the middle of the course study.

Among the questions, the Terminal Evaluation Team selected the most significant question, "are you satisfied with the course?" and compares the replies given by the three batches of the students. The following figure shows the result of the comparison, which was utilized in the Evaluation as a reference:



ANNEX 11: List of Stakeholders interviewed

Name	Title
Mr. Thilak Hapangama	Secretary, MVTT
Mr. H. K. Geetasena	Additional Secretary (Development) , MVTT
Mr. A. R. Desapriya	Senior Assistant Secretary (Development), MVTT
Dr. T. A. Piyasiri	Director General, TVEC
Dr. H. L. Obeysekera	Director General, DTET
Mr. K. K. A. Karunathilaka	Director (R & D), DTET
Mr. L. M. Gurusinghe	Director (IR & CG), DTET
Mr. D. M. S. K. Bandara	Director Academic Affairs, DTET
Mr. J. A. D. W. Perera	Director Examinations, DTET
Ms. P. K. D. I. N. Panapitiya	Director Finance, DTET
Mr. T. Shanmugarajah	Director Infrastructure, DTET
Mr. Hector Hemachandra	Project Director, TEDP
Mr. Ranjan Perera	Planning and information, NAITA
Mrs. D. C. Wahalatantri	Deputy Director, Planning, NAITA
Mr. P. N. K. Dias	Assistant Director, Curriculum development, NAITA
Mrs. Indrani Perera	Deputy Director, Special Industry Training, NAITA
Mr. Patmasiri	Training Officer, Special Industry Training, NAITA
Prof. Kapila Gunasekera	Vice Chancellor, UNIVOTEC
Mr. Wijesinghe	Dean, Dept. of Industrial Training Technology, UNIVOTEC
Mr. W M C Bandara	Director, SLCoT
Mr. J Ariyasinghe	Senior Instructor & Head of the Department of Model Courses, SLCoT
Mr. N. Rathnaweera	Course Coordinator – Mechatronics, SLCoT
Mr K G A T Jayawardena	Instructor – Mechatronics, SLCoT
Mr A Navarathne	Instructor – Mechatronics, SLCoT
Mr C Dissanayake	Instructor – Mechatronics, SLCoT
Mr. K. Kulathunga	Course Coordinator – Metal Work, SLCoT
Mr G A Karunarathne	Instructor – Metal Work, SLCoT
Mr A A D Leelarathne	Instructor – Metal Work, SLCOT
Mr M L M Cooray	Instructor – Metal Work, SLCOT
Mr K D S D Wimalasekara	Instructor – Metal Work, SLCOT

Ms. Rajeevi Guruge	Course Coordinator – ICT, SLCoT
Ms Ranjani Kahandagamage	Instructor – ICT, SLCoT
Mr Wasantha Daundasekera	Instructor – ICT, SLCOT
Mr Nihal Padmasiri	Instructor – ICT, SLCOT
Mr A M G Seneviratne	Instructor – ICT, SLCoT
Mr. Wasantha Pothpitiya	CG Officer, SLCOT
Ms. Kanchana	CG Officer, SLCOT
Mr. Hiroshi Saito	JICA Long-term Expert, Acting Chief Advisor, JSCoT
Mr. Kumar Goonewardene	Project Coordinating Manager, JSCoT
Mr. Samantha S. Pathirathna	Consultant – Industrial Relations, JSCoT
Ms. Subhani Nanayakkara	Consultant – Career Guidance, JSCoT
Mr. Azad Ibrahim	Consultant – Know-How Dissemination, JSCoT
Prof. Kenji Hiramatsu	JICA long-term Expert (Mechatronics), JSCoT
Students of SLCOT	ICT, Mechatronics and Metal work
Passed-out students of SLCoT	ICT and Metal Work
Industries	Resosles IT Solutions (ICT), Colombo 8
	Colombo Dockyard (Welding): Colombo 15
	Matrix (ICT): Kelaniya

ANNEX 12: List of teaching materials and teaching books developed

Teaching materials

Section: Welding (NVQ 5 & 6)

Module ID	Module
BM 1	Engineering Mathematics
BM 2	Engineering Materials
BM 3	Fundamentals of Electricity & Electronics
BM 4	Mechanical Science
BM 5	Engineering Drawing
BM 6	Computer Literacy
BM 7	Safety & Workshop Environment
BM 8	Computer Aided Drafting
BM 9	Workshop Technology
BM 10	Workshop Practice
BM 11	Quality in Manufacture
BM 12	Technical English
TM 1	Personal Safety
TM 2	Working Environment
TM 3	Gas Cutting - 1
TM 4	Prepare Materials for Welding
TM 5	Heat Treatment
TM 6	MMA Fillet Weld
TM 7	MMA Plate Weld
TM 8	MMA Pipe Weld
TM 9	Oxy Acetylene Welding Plates
TM 10	Oxy Acetylene Welding Pipes
TM 11	Gas Cutting - 2
TM 12	Brazing
TM 13	Soldering
TM 14	MIG / MAG Welding Plates
TM 15	TIG Welding Plates & Pipes
TM 16	Metal Spraying
TM 17	Spot Welding
TM 18	Plasma Cutting
SM 1	Perform Welding Inspections & Identify Weld Defects
SM 2	Prevent Weld Defects
SM 3	Interpret Drawings
SM 4	Control Distortion
SM 5	Identify Materials Used in Welding & Select Appropriate Welding Process
SM 6	Monitor Maintenance Schedule of Welding Equipment
SM 7	Keep Records
SM 8	Maintain Occupational Health & Safety
SM 9	Prepare BOQ & Estimates
SM 10	Manage Resources

Section: Mechatronics (NVQ 5 & 6)

Module ID	Module
1	Workshop Technology
2	Engineering Mathematics
3	Engineering Drawing
4	Electricity
5	Electronics
6	Engineering Materials
7	Hydraulics
8	Control Systems
9	Applied mechanics
10	PLCs
11	Basic pneumatics
12	Costing and estimation
13	Communication studies
14	Design mechanical fixtures
15	Operate pneumatic systems
16	Operate hydraulic systems
17	Operate electrical systems
18	Operate electronic systems
19	Operate robotic systems
20	Operate PLC & SCADA systems
21	Perform operations using CNC machines
22	Maintain and repair electronic systems
23	Maintain and repair electrical systems
24	Maintain and repair pneumatic systems
25	Maintain and repair robotic systems
26	Maintain and repair PLC & SCADA systems
27	Maintain and repair hydraulic systems

Section: ICT (NVQ 5 & 6)

Module ID	Module
1	Install and implement database management system, database and database application packages
2	Perform database maintenance and troubleshooting
3	Collect requirement, analyze and prepare documentation
4	Design the concept and framework for graphic products
5	Manage images, photographs, illustrations and color
6	Print and finish process
7	Design network and communication system
8	Install and configure network and communication system
9	Customer training and maintenance of the network
10**	Design multimedia clip
11	Develop multimedia clip
12	Code software program unit
13	Test Software program unit
14	Identify user requirements for a software solution
15	Analyze requirements and design functionality of a software solution
16	Test Integration of software application
17*	Manage changes to a software application
18	Design an architectural framework
19	Configure middleware, application servers and third party software components
20*	Perform load testing and performance tuning of a software application
21	Design web based information system
22	Develop and host a web site
23	Communicate effectively and manage resources

* Modules 17 and 20 are not taught at SLCoT as they are Level 7 subjects - to be taught by UNIVOTEC.
** For teaching of this module, the students (on two occassions) were sent to NITESL / UNIVOTEC.

Textbooks for Welding

Module ID	Name of Module	Pages in the textbook	Author	Release date
SM 7	Keep Records	61	Nawaloka Engineering	2008
SM 9	Prepare BOQ	78		
SM 10	Manage Resources	77		

Textbooks for ICT

Module ID	Name of Module	Pages in the textbook	Author	Release date
3	Collect requirements, analyse & document the graphic design	69	Intergrated Micro Systems	10-Jan-09
4	Design the concept and framework for graphic products	64		
6	Print & finish process	74		
10, 11	Multimedia Production - Part 1	432	UNIVOTEC & Open University	2009
10, 11	Multimedia Production - Part 2	335		
10, 11	Multimedia Production - Part 3	107		
10, 11	Multimedia Production - Part 4	473		
10, 11	Multimedia Production - Part 5	142		
10, 11	Multimedia Designing	296		
8, 9	Install & configure network & communication systems	255	S Janakan + B Sanjayan	
8, 9	User Training & Maintenance of Network Systems	110	S Janakan + B Sanjayan + N Sarma	

ANNEX 13 : Project Design Matrix (Version 4)

□ **Project Name: Project for Establishment of Japan Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka**

□ **Period: 5 years**

□ **Target Group: (direct) DTET and SLCOT, (indirect) other TC/COT, industries**

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
(Overall Goal) 1. Quality of the trained manpower in TC/COT meets the labor market demand 2. COTs are established and managed by utilizing lessons and experiences of SLCOT.	1. 70% of the students of the TC/COT obtained course-related employment on/ after completion of the courses 2-1. Application of the youth to TC/COT is increased by 2% annually. 2-2. Every course obtains sufficient number of qualified students according to their seating capacity 2-3. Dropout rates of the students reduce from present 20% into 10%. 3. DTET produces 1000 middle level technicians of NVQ level 5&6 annually 4. A COT is established in each province	1. Employment status of the passed-out students 2-1. No. of application per year 2-2. No. of students compared with seating capacity 2-3. No. of students dropouts per year 3. No. of students obtained diploma per year 4. No. of COT established	
(Project Purpose) DTET gains managerial and technical capacity to establish COTs in each province by introducing model courses of NVQ level 5&6 in SLCOT to train middle level technicians	1. 90% of the passed-out students of the model courses obtain expected level of course-related employment 2. Youth applying for the model courses increase 10% annually. 3. Manuals/documents developed in SLCOT and DTET are utilized in other COTs	1. Reports of the survey on employment status on the passed-out students 2. Statistical Handbook on Technical Education 3. Interviews/survey to the director/principal and staff of other TC/COT	• Economic development and labor demand for the middle level technical personnel will be continued. • Policy and priority area of the Sri Lanka government on human resource development will not be changed. • Ministry's policy on establishing COT will not be changed. • ADB, GTZ and KOICA will support the Sri Lankan Government in establishing COTs.
(Outputs) 1. NVQ level 5&6 model training courses are introduced and conducted effectively in SLCOT in the fields of Information and Communication Technology, Mechatronics and Metal Work.	1.1. The endorsed National Skill Standard and Curriculum Outlines of the 3 model courses become available. 1.2. Appropriate syllabuses and teaching materials for the model courses are developed. 1.3. Equipments necessary for the model courses are purchased and installed. 1.4. Training infrastructures necessary for the model courses	1.1. Endorsed National Skill Standard and Curriculum Outlines of the 3 courses 1.2. Syllabuses and teaching materials developed 1-3 List of installed equipments	• Policy and priority area of the Sri Lanka - government on human resource development will not be changed • Ministry's policy on establishing COT will

	are established. 1-5. Counterpart staff gains sufficient knowledge to teach in the model courses. 1-6. Adequate weekly and monthly training schedules for each course are formulated. 1-7 More than 80% of the full-time students of the first batch complete the courses and obtain diploma, and part-time courses are established. 1-8. Monitoring is conducted periodically and lessons learned are reflected to the courses and documented	1-4 Record of establishment of training infrastructures 1-5 Reports of technical transfer and trainings in Japan 1-6 Weekly and monthly training schedule Formulated 1-7 Statistical Handbook on Technical Education 1-8 Monitoring and evaluation reports of the courses and records on actions taken	not be changed • Trained staff will remain working for TC/COT
2. DTET establishes a system for the training courses to fulfill industry's needs.	2-1-1. Technical Committee is formed for each model courses and meetings are held more than 3 times a year 2-1-2. Industries visit the model training courses to monitor and evaluate the courses 3 times a year 2-1-3. Recommendations are made by the industry to improve the courses 2-1-4. Survey on industry's needs are conducted continuously 2-2. System of in-plant training is established and students of the model courses gains experiences in industry 2-3-1. Short-term courses are held 2-3-2. Periodical Industrial placement for C/P staff is implemented	2-1. List of the member of Technical Committee and Minutes of Technical Committee meetings 2-1-2. Minutes of Technical Committee meetings 2-1-3. Minutes of Technical Committee meetings 2-1-4. Minutes of Technical Committee meetings 2-2. Record on the in-plant training conducted 2-3-1. Record on short-term courses held. 2-3-2. Reports of industrial placement of the C/P staff.	
3. Management capacity of DTET for training delivery of the NVQ level 5 & 6 courses and for the implementation of career guidance/counseling, textbook development and skills competitions is improved.	3-1-1. More than 90% of the students are using the career guidance/ labor market information available at the SLCOT 3-1-2. Individual counselling is held for more than 5 students per month 3-1-3. Career guidance seminar is held for the applicants to give appropriate idea on course related employment. 3-1-4. Career guidance seminar is conducted for COT students 11 times a year. 3-2-1. A system of conducting periodical studies to ensure the relevance of the quality and level of the training is established. 3-2-2 Results of the studies are effectively used to improve quality and level of the training. 3-3. Developed teaching materials such as textbooks, visual tools, etc. are used effectively and	3-1-1. Record on No. of students using the data base 3-1-2. Record on No. of counselling held per month 3-1-3. Record on No. of career guidance seminars held prior to entrance 3-1-4. Record on No. of career guidance seminars held for COT students per year 3-2-1. Reports of the periodical studies 3-2-2. Reports of the actions taken 3-3. Report of the evaluation made by students and	

4. Know-how in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, 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 TC/COT.	appreciated at all the COT/TC. 3-4. Skills competitions are continuously held and budgetary provisions for the event are given to make the event financially sustainable. 4-1-1. Documents on delivering of NVQ level 5&6 courses are prepared. 4-1-2. Technical Committee/Advisory Council are established in other TC/CoTs 4-1-3. The improved system to collect and update labor market information is introduced in other TC/CoTs. 4-1-4. Know-how to support student's job placement is introduced in other TC/COTs. 4-1-5 Studies are conducted in other TC/COT to ensure the relevance of the courses. 4-2. Seminars and workshops are held by counterpart staff of the Project.	staff of other TC/COT 3-4. Report on skills competitions 4-1-1 Documents such as syllabuses, teaching materials, training plans for delivering NVQ level 5&6 courses 4-1-2 Records and minutes of Technical Committee/Advisory Council in other TC/COT: 4-1-3 Progress report from Career Guidance Centre in other TC/CoT 4-1-4 Record on student's job placement in other TC/COT 4-1-5 Study report 4-2. Report on short-term courses held by Project counterpart staff	
(Activities) 1-1. Follow up on establishing of the National Skill Standards and Curriculum Outline of the model courses 1-2. Develop syllabuses and teaching materials for the model courses 1-3. Install equipment for the courses 1-4. Establish training infrastructure for the courses 1-5. Update teaching staff's technical skill and teaching method for the courses. 1-6. Formulate weekly and monthly training schedule along with the time tables to allocate teaching staff, equipment, and class rooms. 1-7. Conduct full-time and part-time courses 1-8. Monitor the courses periodically 2-1. Formulate functional Technical Committee for each model course to establish collaborative relationships between COT and industry, including activities such as; • Implement course visits by industry to 3 model courses and evaluate the model courses • Reflect the recommendations made by industry in the model courses • Realize surveys on industry's needs 2-2. Promote in-plant training of the model courses by enhancing industrial relationship.	**(Inputs)** **Japanese side:** 1. JICA Long term experts including; • Chief Advisor • Project Coordinator • Information and Communication Technology • Mechatronics • Metal Work • JICA Short term experts in necessary fields 2. Equipment (necessary for the model courses) 3. Counterpart training in Japan for: • Counterparts/ teaching staff of SLCOT • Directors/Principals of TC/COT **Sri Lankan side:** Counterparts including; • Director General of DTET • Directors of DTET • Director of SLCOT • Teaching staff of the model courses Administrative personnel Necessary Infrastructure for the Project including; • Office facility equipped with office furniture, electricity supply and direct telephone line, for the Project team	• Process of purchasing the equipment for the model course is not hampered by uncontrollable factors. • Timely constructions of necessary infrastructure of the Project is not hampered by uncontrollable factors • Counterpart of the Project will continue working for SLCOT. • National Skill standards and Curriculum Outlines of the model courses are endorsed. **(Pre-condition)**

2-3. Enhance public relations of SLCOT, including implementation of short-term courses on model courses, industrial placements of teaching staff etc. 3-1. Enhance capacity of DTET to conduct effective career guidance and counselling, including; • Implement survey and studies to improve career guidance and counselling in SLCOT • Improve the system to collect and update labor market information for the students in SLCOT • Provide advice to the career guidance officers of SLCOT in the fields of; effective and continuous implementation of career guidance and counselling, communication with industry, etc. • Support students in job placement 3-2. Conduct periodical survey and studies at SLCoT to ensure the relevance of the quality and level of the training, including; • A survey on employment status of the passed-out students. • Evaluation of the training courses with the participation of the students • A survey on quality and skill level of the passed out students by inquiring industries they are working for. 3-3 Develop and Improve teaching materials 3-4 Conduct and expand Skills Competitions annually. 4-1. Disseminate improved management skills to other TC/COT by providing documents/manuals and conducting training, in the fields of; • Conducting of training courses of NVQ level 5&6 • Industry collaboration • Career guidance/counselling • Assistance for job placement • Conducting of part-time diploma/ short-term courses • Research/studies to ensure the relevance of the courses 4.2. Provide in-service training to improve technical skills of the instructors engaging in teaching of similar subjects to the model courses. 4-3. Conduct interviews/survey to the director/principal and staff of other TC/COT about the utilization of know-how	• Classrooms and workshops for the model courses • Basic facilities for the model courses like white board, desks, chairs and shelves. Budget for the Project such as; • Expenses for the implementation of the model courses • Construction expenses for the installation of the equipment for the model courses	

ANNEX 14 : Project Design Matrix (version 5 of March 18, 2010)

Project Name: Project for Establishment of Japan Sri Lanka College of Technology to Strengthen Technical Education and Training in Sri Lanka

❖ Period: 5 years

❖ Target Group: (direct) DTET and SLCOT, (indirect) other TC/COT, industries

Narrative Summary	Objectively Verifiable Indicators
(Overall Goal) 1. Quality of the trained manpower in ~~TCs/COTs~~ SLoCT meets the labor market demand 2. Lessons and experience of SLCoT on management and course delivery are utilized by other CoTs. Changed from "*COTs are established and managed by utilizing lessons and experiences of SLCOT*". Indicators were changed accordingly	1.1. More than 70% of the students* of SLCoT obtained expected level of employment within 6 months after completion of the final NVQ assessment. 1.2. Representatives of industries visited SLCoT more than 4 times a year for the occasions of Industry Orientation Programme, TC meetings, presentation of final project work, etc. 1.3. More than 70% of the students of SLCoT show their satisfaction to the courses. 1.4. Machineries and tools of the training is utilized well and maintained in a good condition. 2.1. SLCoT had sufficient opportunities to present** their experience and lessons learned on management and course delivery to the higher authorities such as MVTT, TVEC and DTET. 2.2. Based on the above mentioned presentation, necessary actions were taken for improvement, such as training for instructors, effective screening of students at the time of entrance, timely assessment, etc. * Out of those who sit for the written exam prior to the final assessment. ** presentation may include dialogue, discussions, expression o f opinions at the meetings.
(Project Purpose) DTET gains managerial and technical capacity to establish COTs in each province by introducing model courses of NVQ level 5&6 in SLCOT to train middle level technicians	1. 90% of the passed-out students of the model courses obtain expected level of course-related employment 2. Youth applying for the model courses increase 10% annually. 3. Experience and lessons learned at SLCoT are appreciated by other TCs/CoTs at the final seminar Changed from "*Manuals/documents developed in SLCOT and DTET are utilized in other COTs*"

(Outputs) 1. NVQ level 5&6 model training courses are introduced and conducted effectively in SLCOT in the fields of Information and Communication Technology, Mechatronics and Metal Work.	1-1. The endorsed National Skill Standard and Curriculum Outlines of the 3 model courses become available. 1-2. Appropriate syllabuses and teaching materials for the model courses are developed. 1-3. Equipments necessary for the model courses are purchased and installed. 1-4. Training infrastructures necessary for the model courses are established. 1-5. Counterpart staff gains sufficient knowledge to teach in the model courses. 1-6. Adequate weekly and monthly training schedules for each course are formulated. 1-7 More than 80% of the full-time students of the first batch complete the courses and obtain diploma, and part-time courses are established. 1-8. Monitoring is conducted periodically and lessons learned are reflected to the courses and documented
2. ~~DTET~~SLCoT establishes a system for the training courses to fulfill industry's needs.	2-1-1. Technical Committee is formed for each model course~~s~~ and meetings are held more than 3 times a year 2-1-2. Industries visit the model training courses to monitor and evaluate the courses 3 times a year 2-1-3. Recommendations are made by the industry to improve the courses 2-1-4. Survey on industry's needs are conducted continuously 2-2. System of in-plant training is established and students of the model courses gains experiences in industry 2-3-1. Short-term courses are held 2-3-2. Periodical Industrial placement for C/P staff is implemented
3. Management capacity of ~~DTET~~SLCoT for training delivery of the NVQ level 5 & 6 courses and for the implementation of career guidance/counseling, textbook development is improved.	3-1-1. More than 90% of the students are using the career guidance/ labor market information available at the SLCOT 3-1-2. Individual counseling is held for more than 5 students per month 3-1-3. Career guidance seminar is held for the applicants to give appropriate idea on course related employment. 3-1-4. Career guidance seminar is conducted for SLCOT students 11 times a year. 3-2-1. A system of conducting periodical studies to ensure the relevance of the quality and level of the training is established. 3-2-2 Results of the studies are effectively used to improve quality and level of the training. 3-3. Developed teaching materials such as textbooks, visual tools, etc. are used effectively and appreciated by the students.
Changed from "....is accumulated in DTET to share....."	Indicators were changed accordingly
4. Know-how of SLCoT in the fields of implementation of NVQ level 5 & 6 courses, industry collaborations, career guidance/ counseling is shared with other TCs/COTs.	4-1. In-service training is held periodically. 4.2. Counterpart officers in DTET and SLCoT make demonstrations/ presentations on their experience and lessons learned to other TCs/CoTs in final seminar.

(Activities)

1-1. Follow up on establishing of the National Skill Standards and Curriculum Outline of the model courses
1-2. Develop syllabuses and teaching materials for the model courses
1-3. Install equipment for the courses
1-4. Establish training infrastructure for the courses
1-5. Update teaching staff's technical skill and teaching method for the courses.
1-6. Formulate weekly and monthly training schedule along with the time tables to allocate teaching staff, equipment, and class rooms.
1-7. Conduct full-time and part-time courses
1-8. Monitor the courses periodically
2-1. Formulate functional Technical Committee for each model course to establish collaborative relationships between COT and industry, including activities such as;
- Implement course visits by industry to 3 model courses and evaluate the model courses
- Reflect the recommendations made by industry in the model courses
- Realize surveys on industry's needs

2-2. Promote in-plant training of the model courses by enhancing industrial relationship.
2-3. Enhance public relations of SLCOT, including implementation of short-term courses on model courses, industrial placements of teaching staff etc.
3-1. Enhance capacity of SLCoT to conduct effective career guidance and counseling, including;
- Implement survey and studies to improve career guidance and counseling in SLCOT
- Improve the system to collect and update labor market information for the students in SLCOT
- Provide advice to the career guidance officers of SLCOT in the fields of; effective and continuous implementation of career guidance and counseling, communication with industry, etc.
- Support students in job placement

3-2. Conduct periodical survey and studies at SLCoT to ensure the relevance of the quality and level of the training, including;
- A survey on employment status of the passed-out students.
- Evaluation of the training courses with the participation of the students
- A survey on quality and skill level of the passed out students by inquiring industries they are working for.

3-3 Develop and Improve teaching materials
3-4 Conduct and expand Skills Competitions annually.
4-1. Provide in-service training to improve technical skills of the instructors engaging in teaching of similar subjects to the model courses.
4-2. Make presentations on experience and lessons learned at SL/CoT at the final seminar in the fields of;
- Conducting of training courses of NVQ level 5&6
- Industry collaboration
- Career guidance/counseling
- Assistance for job placement
- Conducting of part-time diploma/ short-term courses
- Research/studies to ensure the relevance of the courses

Changed from "*.Disseminate improved management skills to other TC/COT by providing documents/ manuals and conducting training, in the fields of;...*"

4-2. Provide in-service training to improve technical skills of the instructors engaging in teaching of similar subjects to the model courses.
4-3. Conduct interviews/survey to the director/principal and staff of other TCs/COTs about the ~~utilization of the know-how~~ presentation at the final seminar.

(Inputs)

Japanese side:

1. JICA Long term experts including;
   - Chief Advisor
   - Project Coordinator
   - Information and Communication Technology
   - Mechatronics
   - Metal Work
   - JICA Short term experts in necessary fields
2. Equipment (necessary for the model courses)
3. Counterpart training in Japan for:
   - Counterparts/ teaching staff of SLCOT
   - Directors/Principals of TC/COT

Sri Lankan side:

Counterparts including;
- Director General of DTET
- Directors of DTET
- Director of SLCOT
- Teaching staff of the model courses

Administrative personnel
Necessary Infrastructure for the Project including;
- Office facility equipped with office furniture, electricity supply and direct telephone line, for the Project team
- Classrooms and workshops for the model courses
- Basic facilities for the model courses like white board, desks, chairs and shelves.

Budget for the Project such as;
- Expenses for the implementation of the model courses
- Construction expenses for the installation of the equipment for the model courses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JICA