No.

ベトナム国
電気通信訓練向上計画プロジェクト
終了時評価調査報告書

平成 16 年 4 月

（2004 年）

独立行政法人国際協力機構

社会開発部

社会
JR
06-085

序　　文

ベトナム社会主義共和国は、ドイモイ（刷新）政策により急速な経済成長を遂げ、今後の経済発展の重要なインフラのひとつとして、電気通信ネットワークの拡充を鋭意進めています。しかしながら、そのための技術者不足は深刻であり、電気通信ネットワーク拡充の大きな障害となっています。

このような状況を踏まえ、ベトナム社会主義共和国政府は、同国郵電公社（VNPT）の人材育成機関である第一郵電訓練センター（PTTC-1）の訓練設備を整備・拡充し、最新技術及びマネージメントに習熟した教官を育成するとともに、適切な訓練機材による実践的な訓練をできるようにしたいとして、我が国にプロジェクト方式技術協力を要請してきました。

これを受けて、独立行政法人国際協力機構では、1997 年 9 月の事前調査、1998 年 3 月の長期調査を経て、1999 年 2 月、実施協議調査団が討議議事録（R/D）の署名を取り交わし、第一郵電訓練センターの訓練実施能力を向上させ、電気通信技術の発展に即応した訓練コース（線路、交換、電送、無線、データ通信）を開設することをプロジェクト目標とした、5 年間にわたる「ベトナム電気通信訓練向上計画プロジェクト」を 1999 年 3 月 1 日から開始しております。

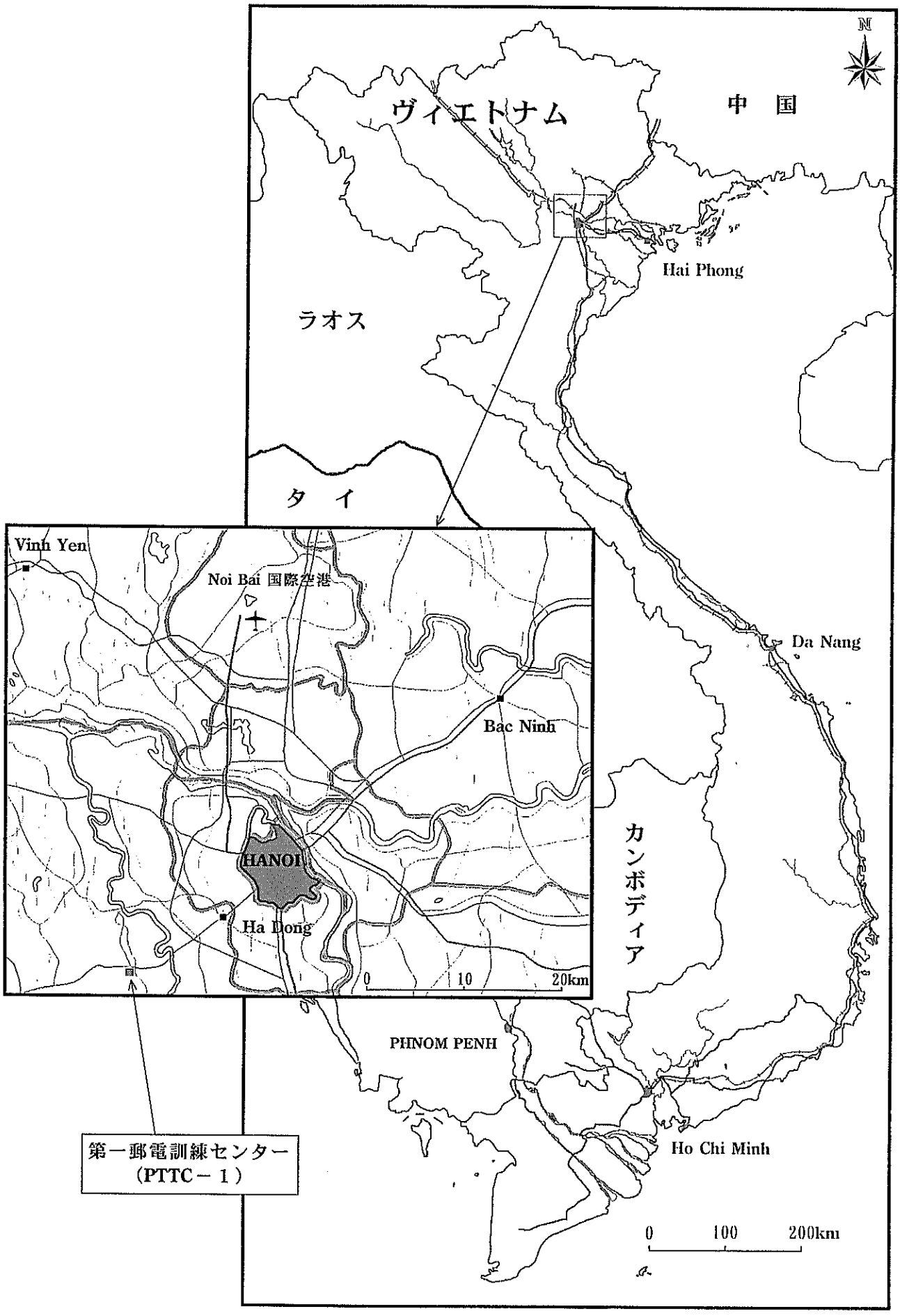
本プロジェクトは本年 2 月をもって終了することになっていたことから、昨年 9 月に終了時評価調査を実施しました。本調査においては、これまでのプロジェクトの実績を確認し、評価 5 項目の観点から終了時評価を実施し、プロジェクトについての提言を行うとともに、今後のプロジェクトに役立つ教訓を引き出す作業がなされ、これらについて協議を行い、結果をミニッツに取りまとめ、署名・交換を行いました。本報告書はこの終了時評価調査に関する報告書です。本報告書が関係者のみならず、広く一般の方にご覧いただき、ご活用されれば幸いです。

最後に本調査団の派遣に関し、ご協力いただいた両国の関係各位に対し深甚の謝意を表するとともに、あわせて今後のご支援をお願いする次第です。

2004 年 4 月

独立行政法人国際協力機構
社会開発部長　岡崎　有二

プロジェクト・サイト位置図



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評価調査結果要約表

I. 案件の概要	
国名：ベトナム社会主義共和国	案件名：ベトナム国電気通信訓練向上計画プロジェクト
分野：電気通信訓練	援助形態：技術協力プロジェクト
所轄部署： 社会開発協力部 社会開発協力第一課	協力金額（評価時点）： 機材供与総額：約 3,102,000 米ドル
協力期間 (R/D)： 1999 年 3 月 1 日～ 2004 年 2 月 29 日	先方関係機関： 郵電省（所管省） 郵電公社（所管公社） 郵電技術学院（所管機関） 第一郵電訓練センター（プロジェクト実施機関）
	日本側協力機関：総務省総合通信基盤局国際部国際協力課
	他の関連協力：東日本電信電話株式会社など

1. 協力の背景と概要

ベトナムの社会経済の発展は、ドイモイ（刷新）政策による市場経済の拡大とともに加速されてきた。この急速な発展にともない、電話台数の増加やデジタル技術の導入といった電気通信部門の成長と近代化がいっそう求められるようになってきた。

ベトナム郵電公社は、郵電庁（現郵電省）の人材開発政策に基づき、電信網の維持・運営のために第一郵電訓練センターやその他の訓練施設において技術職員の訓練を行ってきた。しかしながら同公社は、電信部門の訓練需要の急速な変化と拡大に対応するために訓練能力の向上を必要としていた。

そのため、ベトナム政府は日本政府に対してプロジェクト方式技術協力を要請し、最新の専門技術と訓練実施の能力を持った指導員を育成するための実務的な技術の移転とそのための機材を求めてきた。

この要請を受けた一連の調査の結果、1999 年 2 月 2 日に本プロジェクト実施のための協議議事録(R/D)が、実施協議調査団、郵電庁（現郵電省）、郵電公社、第一郵電訓練センター、計画投資省の代表者によって署名された。本プロジェクト期間は 1999 年 3 月 1 日から 2004 年 2 月 29 日までの 5 年間である。

2. 協力内容

(1) 上位目標

ベトナムの電気通信部門における人材開発と技術訓練の需要が満たされる。

(2) プロジェクト目標

ベトナムの電気通信の開発に必要な 5 技術分野（線路（光ファイバーケーブル）、交換、伝送、無線、データ通信（LAN））における訓練コースを実施するために第一郵電訓練セン

ターの訓練能力が向上する。

(3) 成果
・訓練システムが改善する。
・訓練生募集体制が確立する。
・指導員とトップマネジメントの能力が向上する。
・訓練コース（線路、交換、伝送、無線、データ通信）が確立する。
・訓練実施体制が確立する。
・モニタリングと評価のシステムが確立する。

(4) 投入（1999 年 3 月 1 日～2003 年 8 月 31 日）
【日本側】
長期専門家派遣： 9 名
短期専門家派遣： 9 名
機材供与： 総額約 3,102,000 米ドル
研修員受入： 15 名（さらに 2003 年 10 月に 1 名）

【ベトナム側】
カウンターパートの配置： 17 名（指導員 13 名、管理部門 4 名）
建物・施設：新築ビルディングの 2 フロア計 19 室、その他
ローカルコスト負担：約 40 億 1,300 万ベトナムドン（2003 年 3 月 31 日までの累計）

II. 評価調査団の概要			
調査者	団長・総括 小泉 純作	元国際協力事業団専門技術嘱託	
	訓練政策 渡辺 栄一	総務省総合通信基盤局国際部国際協力課	
	訓練技術 本郷 眞也	東日本電信電話株式会社技術部国際室	
	協力企画 池田純一郎	国際協力事業団社会開発協力部 社会開発協力第一課	
	評価分析 鶴田 伸介	(株) 地域計画連合	
調査期間	2003 年 9 月 21 日～2003 年 9 月 27 日 （評価分析団員は 9 月 15 日～9 月 27 日）		評価種類：終了時評価

III. 評価結果の概要

1. 評価結果の要約

(1) 妥当性

我が国の国別援助計画において、情報通信分野はベトナムの成長促進に資するものとして重点分野として位置付けられ、特に「通信インフラの保守人材及び IT 産業人材の育成」は最重要課題として掲げられていることから、本プロジェクトを通じた実施機関の能力強化は、その趣旨に合致している。

また、ベトナムでは、近年デジタル電信網が急速に拡大してきており、本プロジェクトは同部門における人材開発ニーズに応えることを目指している。国家電気通信開発戦略では、2010年までに全国で電話保有台数は人口100人中15人～18人に増加することが計画されており、技術スタッフの増員と技術の向上が求められている。したがって本プロジェクトは国家戦略に対してきわめて妥当性が高い。

(2) 有効性

カウンターパート指導員の指導能力の向上は、訓練生、彼らの所属組織、日本人専門家、指導員自身という4種類の関係者から高く評価されている。したがって電信技術5分野における本プロジェクトの有効性は高いと言える。

訓練コースの管理運営能力も大きく向上したことは、訓練コースの円滑な運営からも明らかである。以前と異なり、現在では訓練コースは計画的かつ体系的に運営されている。

以上、「第一郵電訓練センターの指導員の指導能力の向上」及び「訓練コースの管理能力の向上」等の成果があがることで、プロジェクト目標である同センターの訓練能力の向上が達成されたと判断できる。

(3) 効率性

本プロジェクトの拠点となる新ビルディングの建設が遅れたが、プロジェクト活動に悪影響を与えないよう仮の施設において技術移転を開始するなど、柔軟な対応がとられた。

また、中間評価調査団の提言によって、指導員の現場経験不足を補うために郵電局3か所と郵電公社傘下の設計建設会社1社においてカウンターパート指導員のオンザジョブ訓練が行われた。

技術移転については、日本人専門家からの移転に加えて、日本での研修が非常に効率の高いものであったと見られる。研修生は適切な内容の訓練を受けたばかりでなく、日本で学んだ技術をベトナムで同僚に移転しており、日本で入手した教材を共有するようにしている。

このように本プロジェクトの効率性は高いと評価される。

(4) インパクト

第一郵電訓練センターの指導員だけでなくその上部組織である郵電技術学院傘下の他機関の教官も彼らの訓練生や学生への指導において本プロジェクトで作成された教科書や供与された機材を利用している。また彼らは本プロジェクトのカウンターパート指導員とカリキュラムや教材の作成の方法を共有することで恩恵を受けている。

また、郵電公社は本プロジェクトを実務的な訓練コースのモデルと見なしており、本プロジェクトで確立したシステムを、郵電労働者訓練学校など同公社傘下の他の訓練機関にも導入することを考えている。

さらに、地方の郵電局の大部分は、本プロジェクトの訓練コースに職員を派遣したことによって恩恵を受けかつ良い影響を受けたとしている。

以上より、同センターが今後も継続的に訓練を行うことで、上位目標「ベトナムの電気通

信部門における人材開発と技術訓練の需要が満たされる」の達成の可能性は高いと評価できる。

(5)　自立発展性

(制度･組織面)

郵電公社、郵電技術学院、第一郵電訓練センターはベトナムの電信部門の人材開発における主流であり、指導員の技術習得の機会やその他の条件面での各種インセンティブがあり、大部分のカウンターパートはセンターに定着している。

また、2004 年の訓練計画はすでに作成されており、第一郵電訓練センターの所長は、本プロジェクトのフォローアップと訓練の継続のために、本プロジェクトのカウンターパートと他の指導員を統合すべくセンター組織を再構成することを検討しており、今後とも同センターにおける訓練は継続されていく見込みである。

このように、制度的自立発展性は高いと判断できる。

(財政面)

第一郵電訓練センターは、郵電公社からの予算と同公社傘下の職員の訓練にともなう歳入によって、財務面で持続的であると見られる。

郵電公社の規則により、機材の維持のために、その総額の 10%を留保することとされており、この方式によって第一郵電訓練センターは機材を更新することができる。さらに、郵電公社の承認があれば新システムを購入することもできる。

(技術面)

カウンターパートは、本プロジェクトから移転された技術をすでに習得している、もしくは遅くとも 2004 年 2 月までには習得する見込みであり、移転された電信技術およびその指導技術は今後とも維持されると考えられる。さらに、各分野に 2 名以上のカウンターパートが配置されていることや、彼らが職場に留まる傾向が強いことを考えると本プロジェクトの技術的達成は同センターの中で保持されると考えられる。

2. 効果発現に貢献した要因

(1) 計画内容に関すること

技術移転項目が比較的明確であり、プロジェクトモニタリング･評価が明示的に計画に位置づけられ実施された。

(2) 実施プロセスに関すること

ベトナム側の組織と個人のオーナーシップが高い点と日本人専門家の途上国での経験が概して豊富である点があげられる。

3. 問題点および問題を惹起した要因

(1) 計画内容に関すること

カウンターパートである指導員の実務経験が不十分であったため郵電局や設計建設会社でのオンザジョブ訓練を計画に盛り込むことで補足した。

(2) 実施プロセスに関すること

プロジェクトサイトとなるビルディングの建設が遅れたが関係者の柔軟な対応によって問題を回避することができた。

4. 結論

本プロジェクトは郵電省、計画投資省、郵電公社、郵電技術学院、第一郵電訓練センターおよび日本人専門家を始めとする諸関連機関職員の参加を得て成功裏に進捗してきた。しかも、本プロジェクトの達成結果はベトナム側の継続的な努力によって持続されると考えられる。

本プロジェクトの人員、機材、建物、施設などの投入は日本・ベトナム両者から十分に投入された。特にカウンターパート指導員は当初計画を上回って投入された。日本・ベトナム両グループ間の親密な関係は計画された活動の円滑な運営を助け、6 項目の成果を十分達成した。中でもカウンターパートの技術の向上は、日本人専門家、訓練生、彼らの派遣元の郵電局によって確認された。

本プロジェクトの達成はその目標を上回っている。当初に計画された 75 コースに対してプロジェクト終了までには 84 コースが実施される予定である。また、目標訓練生数 900 名に対してすでに 927 名が本プロジェクトの訓練を受講しており、コースに対する訓練生の満足度は目標の 80%を大きく上回っている。さらに、訓練需要は継続的にモニターされコースに取り込まれている。

こうした達成に基づき、本プロジェクトは、上位目標に沿ってベトナムの電信部門の人材開発に大きく貢献しつつある。

妥当性、有効性、効率性、インパクト、自立発展性という評価 5 項目からみても本プロジェクトは高く評価される。本プロジェクトの達成結果は、下記提言の実施を含む関係者の継続的な努力によって、制度面、財務面、技術面において今後とも持続されると考えられる。

5. 提言

技術と訓練需要の変化にいかに体系的に取り組むかが第一郵電訓練センターのひとつの課題となっている。したがって同センターの管理職員と指導員は郵電公社の電信網とサービスの開発戦略を熟知することが求められる。

また、郵電局への訪問やオンザジョブ訓練を通じた指導員の継続的な実務教育、さらには新しい訓練需要の分野における理論的知識の強化を、第一郵電訓練センターとして本プロジェクトの成果にもとづいて促進することが期待される。

さらに、第一郵電訓練センターが南部地域から多くの訓練生を受け入れることが推奨される。

6. 教訓

(1) 継続的なモニタリング・評価のシステムをプロジェクトに構築することは活動の適切な運営にとって重要である。

(2) プロジェクトの成功のためには実施機関およびその上部機関が強力であり、かつ同プロジェクトに対して強いオーナーシップを持っていることが期待される。一方、日本人専門家には高い技術水準が必要であるとともに途上国での経験を持っていることが望まれる。

(3) プロジェクトの円滑な実施には日本人専門家とカウンターパートとの良好な人間関係が鍵となる。

第１章　終了時評価調査の概要

1-1　調査団派遣の経緯と目的

本件協力要請のあった 1997 年当時、ベトナム国ではドイモイ（刷新）政策による市場経済の急速な活性化に伴い、経済社会状況は大きく改善され、電気通信分野においても電話回線数の増加、デジタル技術等の積極導入による技術の近代化・高度化が顕著になっていた。

郵電庁（現：郵政省）による人材育成計画に基づき、郵電公社は第一郵電訓練センターにおいて保守・運用の技術者訓練を実施してきたが、これに伴い電気通信需要の質・量の拡充に対応した技術者訓練の能力向上を目指すこととした。

上記背景のもと、ベトナム国の電気通信分野における人的資源の開発及び技術訓練の需要を満たすために、同センターの訓練設備の整備・拡充、最新技術及び訓練マネジメントを習熟した教官の育成、適切な訓練機材による実践的な訓練を軸とした技術協力を要請してきたものである。

かかる要請に基づき、1997 年 9 月の事前調査、98 年 3 月の長期調査を経て、99 年 3 月 1 日から第一郵電訓練センターの訓練実施能力を向上させ、電気通信技術の発展に即応した訓練コース（線路、交換、電送、無線、データ通信）を開設することをプロジェクト目標とした 5 カ年の協力を開始した。

プロジェクト活動の中盤となる 2001 年 11 月には、プロジェクトの進捗状況の中間評価及び協力終了までの実施計画の検討を目的に運営指導調査団が派遣された。

今般、協力期間も残り約半年となり、プロジェクト終了にあたって評価 5 項目による評価を行い、本プロジェクトの目標達成度、妥当性を検証するため、終了時評価調査団を派遣するものとする。

1-2　調査団の構成

区分	分野構成	氏名	所属
団長	総括	小泉　純作	元国際協力事業団専門技術嘱託
団員	訓練政策	渡辺　栄一	総務省総合通信基盤局国際部国際協力課
〃	訓練技術	本郷　眞也	東日本電信電話株式会社技術部国際室
〃	協力企画	池田純一郎	国際協力事業団社会開発協力第一課
〃	評価分析	鶴田　伸介	株式会社地域計画連合代表取締役

1-3　調査日程

日順	月日	曜日	移動および業務	備考
1	9 月 15 日	月	（コンサル団員） 09:50 成田　→13:55 香港 by JL-731 14:55 香港（発）→15:55 ハノイ（着）by CX-791	
2	9 月 16 日	火	09:00　JICA ベトナム事務所打合せ 10:30　第一郵電訓練センター(PTTC1)表敬 11:00　専門家との打合せ（調査項目・方法および PCM 説明） 13:30　プロジェクト施設・供与機材の視察 14:30　リーダーとの打合せ（OFC/LAN 含む）	

3	9 月 17 日	水	09:00　C/P 及び専門家個別打合せ（デジタル伝送） 10:00　C/P 及び専門家個別打合せ（デジタル交換） 11:00　C/P 及び専門家個別打合せ（デジタル無線） 13:30　専門家との打合せ 15:00　PTTC1 との協議	
4	9 月 18 日	木	09:00　個別 C/P ヒアリング（各部門リーダー） 13:30　個別 C/P ヒアリング（各カウンターパート）	
5	9 月 19 日	金	09:00　専門家との打合せ 13:00　資料整理・ミニッツ作成準備	
6	9 月 20 日	土	終日　資料整理・ミニッツ作成準備	
7	9 月 21 日	日	（官団員） 09:50 成田　→13:55 香港 by JL-731 14:55 香港（発）→15:55 ハノイ（着）by CX-791	
			（コンサル団員） 終日　資料整理・ミニッツ作成 夕刻　官団員への調査状況報告	
8	9 月 22 日	月	09:00　JICA ベトナム事務所打合わせ 10:00　在ベトナム日本大使館表敬 11:00　トレーニングコース視察（デジタル伝送） 14:30　郵政省(MPT)表敬 （郵電公社(VNPT)、郵電技術学院(PTIT)、第一郵電訓練センター(PTTC1)同席） 16:00　計画投資省(MPI)表敬	
9	9 月 23 日	火	09:00　PTTC1 との協議 13:00　専門家との打合せ（ミニッツ（案）協議）	
10	9 月 24 日	水	08:30　越側との協議(ミニッツ内容協議) 11:00　郵電局訪問 一部団員はミニッツ準備	
11	9 月 25 日	木	終日　越側との協議(ミニッツ内容協議)	
12	9 月 26 日	金	10:00　合同調整委員会開催／ミニッツ署名 16:00　在ベトナム日本大使館報告 17:00　JICA ベトナム事務所報告 23:35　ハノイ発（JL-752）	
13	9 月 27 日	土	06:50　成田着	

1-4　主要面談者（大使館、JICA 事務所を除く）

1) Ministry of Planning and Investment (MPI：計画投資省)
Mr. Tong Quoc Dat, Senior Expert of Infrastructure Department
Mr. Nguyen Xuan Tien, Expert of Foreign Economic Relations Department

2) Ministry of Posts and Telematics (MPT：郵政省)

Mr. Tran Duc Lai, Director General of Department of Organization and Personnel
Mr. Hoang Huy Loat, Deputy Director General of Department of Organization and Personnel
Ms. Tran Cam Huong, Training Officer of Department of Organization and Personnel

3) Vietnam Posts and Telecommunications Corporation (VNPT：郵電公社)
Mr. Nguyen Tat Dac, Deputy Director of Personnel Division

4) Posts and Telecommunications Institute of Technology (PTIT：郵電技術学院)
Dr. Phung Van Van, President
Dr. Nguyen Kim Lan, Vice President
Mr. Nguyen Khac Hoa, Deputy Training Manager

5) Posts and Telecommunications Training Center No.1 (PTTC-1：第一郵電訓練センター)
Dr. Le Huu Lap, Director
Mr. Chu Quang Toan, Deputy Director
Mr. Nghiem Cuong, Head of Administration Section
Ms. Bui Thu Nguyet, Staff of Administration Section
Ms. Nguyen Thanh Huong, Secretary Assigned by the Project

第２章　終了時評価の方法

2-1　評価用プロジェクト・デザイン・マトリックス(PDMe)

本終了時評価調査において、評価に使用した Project Design Matrix である PDMe は、付属資料 2 のとおりとなっている。

2-2　主な調査項目と情報・データ収集方法

本終了時評価は、前述の日本側評価団員と下記のベトナム側評価団からなる合同評価調査団によって実施された。

Mr. Hoang Huy Loat	郵電省　組織人事局　副局長
Mr. Nguyen Tat Dac	郵電公社　人事部　副部長
Dr. Phung Van Van	郵電技術学院　院長
Dr. Nguyen Kim Lan	郵電技術学院　副院長

本プロジェクトの達成と進捗は、プロジェクト・デザイン・マトリックス(PDM)に沿って評価された。この PDM は、1999 年 2 月 2 日にハノイで署名された協議議事録(R/D)によるものに対して 2001 年 12 月 6 日に中間評価調査団による修正が加えられたものである。終了時評価団員は、この現行 PDM の投入、活動、成果、プロジェクト目標、上位目標の達成を把握し、本プロジェクトの進捗を下記の 5 項目の視点から評価した。

1)妥当性：　ベトナムの現状に対する本プロジェクトの妥当性。
2)有効性：　本プロジェクト目標が、活動や成果を通じていかに効果的に実現されているか。
3)効率性：　本プロジェクトの投入は、いかに効率的に活動を引き起こし、成果を作り出しているか。
4)インパクト：　本プロジェクトが間接的に引き起こす正と負の影響。
5)自立発展性：　本プロジェクトによる支援の終了後において、その達成を維持・発展する第一郵電訓練センターの能力。

評価のために使用した資料は次のとおり。R/D、現行 PDM（議事録 ANNEX 1)、活動計画とその実施記録（議事録 ANNEX 2)、過去の一連の議事録、本プロジェクト期間中の諸報告書、本終了時評価期間中における会議と面談の結果。

第３章　調査結果

3-1　現地調査結果

3-1-1　MPT における協議概要（9 月 22 日（月））

冒頭、団長から本プロジェクトは 2004 年 2 月をもって終了を予定しており、日本経済の低迷の折、納税者である国民は国際協力に関する税金の使われ方についても高い関心があることから、有効に活用されていることを説明する上でも今回の調査は非常に重要なものであることを説明した。

また、評価は公正に行うことが必要であることから、日本、ベトナムの双方が協力して実施することを提言した。

これに対し、MPT ほか同席の VNPT、PTIT、PTTC-1 の代表者は理解を示し、以下のとおりコメントがあった。

いずれの機関からも、本プロジェクトは 99 年の開始以降順調に活動がなされたとの認識であり、各地の電話局職員の能力向上に深く寄与してきたことについて謝辞があった。プロジェクト終了後については、今後も継続してコースが実施できるよう人員配置、予算措置を行うとのことである。

MPT は約 1 年前に組織が改正され、ICT の分野も所管することとなった。

2004 年以降の PTTC-1 における ICT 技術の訓練を計画しており、現在日本側に技術協力を要請していることから、実現に向けての意見を求められた。

また、本プロジェクトの成果を今後より効果的に展開する方法として、日本の協力を得た上でのラオス、カンボジアに対する第三国研修の実施も要請しているとの話があった。

このことについて、調査団は今回の調査目的外の事項であることから、これらの計画を聞いたうえで日本に持ち帰り、本部関係機関の検討に資したい。

3-1-2　MPI における協議概要（9 月 22 日（月））

MPT における説明と同様に団長から趣旨説明をし、今後計画している ICT 技術訓練、第三国研修を中心に情報を収集し、意見交換を行った。

MPI からは本プロジェクトへの協力に感謝しているとのこと、また、ベトナム政府は今後も電気通信分野の人材育成に重点をおいていくことから、新規 ICT 技術訓練の技術協力について前向きに検討してもらいたいとの強い要望があった。

第三国研修の実施についても現在 MPT と調整しているとのことであるが、ベトナムでの実績がないことから実施にあたって必要な条件等について誤解している部分があった。

このため、想定している問題点等については JICA 事務所と相談をしてほしい旨伝えた。

3-1-3　PTTC-1 における協議概要（9 月 23 日（火））

前日の協議にあったベトナム側が今後計画している ICT 技術訓練、第三国研修に関して団内で検討した問題点を提起し、情報収集および意見交換を行った。

ICT 人材育成については、国の政策としてどのように新たな情報通信技術の導入を進めていくのか明確にする必要があることから、これに関する資料の提出を依頼した。

また、具体的にどのような分野の専門家が必要であるかの問いに対して、特にインターネット利用に係る新たなハードウェアを利用したネットワーク管理技術が求められており、2007 年までに 2 万人の VNPT 技術者に対して IP 技術の訓練を検討しているとの説明があった。

本件協力を検討する上で、PTTC-1 の訓練計画は重要な要素であることから、マスタープランができ次第提出するよう依頼した。

第三国研修については、対象国のニーズを確認することが必要であることを伝えた。

3-1-4　ミニッツに関する協議（9 月 24 日（水）から 25 日（木））

調査団が関係資料および関係者からの聞き取りにより作成したミニッツ案を提示し、概要説明および協議を行った。

プロジェクトの投入、活動、成果等について、ベトナム側も提示した案で問題はないとの回答であった。

プロジェクト目標、上位目標の達成状況についても双方とも成功裏に終了するとの考えであり、意見の食い違い等はなかった。

ミニッツの要旨は以下のとおりである。

本プロジェクトの目標である電気通信分野の技術訓練の向上は、現在においてもベトナム国の政策に合致するものであり、日本の援助政策とも整合している。

期間中の活動を通じて、特にプロジェクト目標の達成の指標となるコース実施回数は計画の 75 回を大きく上回る 84 回がプロジェクト終了までに計画されており、受講生も今年 8 月末の時点で計画の 900 名を超える 927 名となっている。

このように当初計画したスケジュールより早く、より多くの受講生を輩出できたことはカウンターパートと日本人専門家の間に早期から良好な関係を築くことができたこと、専門家派遣、機材供与、日本でのカウンターパート研修といった日本側投入、カウンターパート配置、建物・機材の導入、運営経費の措置といったベトナム側投入の双方が適切かつ効果的に行われたこと、MPT をはじめ、このプロジェクトに関係する機関の関心が高く十分な支援体制があったことによると考えられる。

今後もこの体制が維持されるのであれば、PTTC-1 の自立発展はもとより、上位目標である電気通信分野の発展に必要な人材の確保は近い将来充足できるものと考えられる。

3-2　プロジェクトの実績

3-2-1　投入

3-2-1-1　日本側の投入

本プロジェクトに対する JICA の投入は下記のとおりである。

(1)　専門家の派遣（議事録 ANNEX 3）

下記の 5 分野に対して延べ 9 名の長期専門家が派遣された。

1)　チーフアドバイザー／線路（光ファイバーケーブル）（2 名）
2)　業務調整員（2 名）
3)　交換（2 名）
4)　伝送
5)　無線（2 名）

また下記の 8 分野に対して延べ 9 名の短期専門家が派遣された。

1)　線路（光ファイバーケーブル）
2)　伝送
3)　交換
4)　無線
5)　LAN 技術（2 名）
6)　農村無線
7)　研修管理

8)　評価分析

(2)　供与機材（議事録 ANNEX 4）

日本側の供与機材総額は約 3,102,000 米ドルであった。JICA から供与された機材のリストは議事録 ANNEX 4 に示されているとおりである。当リストよりもさらに詳細な「JICA 技術機材管理リスト」によって、すべての主要機材は良好に維持されており、毎日あるいはコースの度に適切に使用されている。

(3)　日本でのカウンターパート研修（議事録 ANNEX 5）

下記の 7 分野において延べ 15 名のカウンターパートが日本での研修を受講した。

1)　光ファイバーケーブル技術
2)　伝送システム技術（4 名）
3)　交換システム技術（4 名）
4)　無線技術（2 名）
5)　データ通信技術（LAN）（2 名）
6)　外部プラントエンジニアリング
7)　電気通信管理

さらに 1 名のカウンターパートが、2003 年 10 月に日本での職業訓練向上セミナー研修に参加することとなっている。

3-2-1-2　ベトナム側の投入

終了時評価時点までのベトナム政府からの投入は下記のとおりである。

(1)　カウンターパートの配置（議事録 ANNEX 6）

4 名の管理職と 13 名の指導員の計 17 名が本プロジェクトのカウンターパートとして配置されている。

(2)　建物と施設（議事録 ANNEX 7）

本プロジェクトは、第一郵電訓練センターの A3 棟の 5 階と 6 階を使用している。A3 棟ビルディングはベトナム政府によって建設され 2000 年に完成したものである。本プロジェクトのための部屋数は 19 室である。ベトナム側から提供されている建物と施設は、議事録 ANNEX 7 に示されているとおりである。

(3)　現地経費の負担（議事録 ANNEX 8）

議事録 ANNEX 8 に示されているとおり、2003 年 3 月 31 日までに郵電公社が本プロジェクトに配分した予算総額は約 40 億 1,300 万ベトナムドンである。2003 年（1 月～12 月）の予算は約 20 億 8,000 万ベトナムドンである。

3-2-2　成果（議事録 ANNEX 9, 10, 11, 12, 13 and 14）

6 項目の成果の達成度は PDM の指標にそって測られた。活動を通じて達成された成果は

下記のとおりである。

成果(1)　訓練システムが改善する。

第一郵電訓練センターの訓練方針は郵電公社の人材開発計画に基づいている。同センターは、訓練需要を把握するために、同公社および地方（県、市）の郵電局や訓練生などの情報源から需要の情報を継続的に入手している。

成果(2)　訓練生募集体制が確立する。

訓練生募集体制が確立され、それにしたがって第一郵電訓練センターは訓練プログラムを配布し、各郵電局が訓練生を選定し派遣するようにしている。

成果(3)　指導員とトップマネジメントの能力が向上する。

日本人専門家、指導員自身、訓練生、派遣元の郵電局の評価から示唆されるように、指導員の能力向上は満足できるものである。

日本人専門家によると、5 技術分野（線路（光ファイバーケーブル)、交換、伝送、無線、データ通信（LAN)）の各々におけるカウンターパート指導員は下記の 4 項目の技術のすべてを習得している。

1)管理技術：　与えられた課題にしたがって一連のコースを管理し実施する能力
2)教材作成技術：　教科書、副教材、視聴覚プレゼンテーションなどの教材を作成する能力
3)専門技術：　十分な専門知識、および実例を紹介し訓練生からの質問にも的確に答える実務的な授業を行う能力
4)指導技術：　わかりやすい表現を用いた実際に役に立つ授業を行う能力

カウンターパートへの質問票調査によると、彼らは日本人専門家の支援なしで自分たちの仕事を遂行できるか、もしくは遅くとも 2004 年 2 月までには十分遂行できるようになるとの自信を持っており、本プロジェクト終了後に深刻な問題は生じないであろうと考えている。

訓練生への質問票調査によっても、5 分野のいずれにおいても 80%を超える訓練生がコースのほとんどの要素に対して肯定的な評価を与えている。

本プロジェクトによる訓練コースに職員を派遣したことのある各郵電局に対する質問票調査結果は、上記の高い評価と一致している。すなわち大部分の郵電局はコースのレベルが適切であり、訓練生の能力が強化され、訓練コースへの派遣は郵電局を利したと見なしている。

管理部門のカウンターパートも日本人専門家と密接に協力しながら業務を遂行している。彼らは、プロジェクト活動計画、予算作成、コースの運営管理にわたる本プロジェクトの運営管理全般において十分な能力を持っている。

成果(4)　訓練コース（線路、交換、伝送、無線、データ通信）が確立する。

カリキュラム、教科書、およびコンピュータプレゼンテーションなどの教材は、カウン

ターパートによって適切に作成されている。また、コースの内容は訓練生への質問票調査やその他の方法によって把握されたニーズに基づいて修正されており、作成された教材は本プロジェクトのコースの訓練生に使われているだけではなく訓練生の同僚など他の関係者にも活用されている。

成果(5)　訓練実施体制が確立する。

本プロジェクトによって据え付けられた機器類は、技術機材管理リストの他、専門家機材管理リスト、プロジェクト購入機材管理リストによって、適切に維持管理されている。また、資材管理チェックリストによって、資材は適切に管理されている。

スタッフの配置は、「2010 年までの郵電開発計画と 2020 年にむけた開発方針」を承認した首相の判断に沿うものである。第一郵電訓練センターは訓練実施システムを確立しており人材開発計画を有している。カウンターパート指導員数は 13 名で当初計画より多く、日本人専門家からの技術移転を吸収するに足る資質を持っている。

郵電公社傘下の各郵電局の訓練予算は、郵電省と郵電公社の人材開発計画によって配分されており、年間職員一人につき 80 万ベトナムドンとなっている。第一郵電訓練センターの運営予算もそれらの計画によって配分されている。

成果(6)　モニタリングと評価のシステムが確立する。

本プロジェクトは合同調整委員会と運営委員会によってモニターされている。また第一郵電訓練センターの所長、チーフアドバイザー、業務調整員、管理課長は、毎週のマネジメント会議を通じて本プロジェクトの活動をモニターし評価している。この会議には必要に応じてカウンターパート指導員も出席している。

さらにコースのモニタリングと評価の一手段として、各コースの訓練生に対する入口・出口試験と質問票調査を実施している。

3-2-3　プロジェクト目標

本プロジェクトの目標は、全国の電気通信の開発に必要な 5 技術分野における訓練コースを実施するために第一郵電訓練センターの訓練能力を向上することである。この目標は、下記の指標が示すように成功裏に達成されている。

第一に、本プロジェクトによる訓練コース数は 2003 年 8 月 31 日時点で 74 に達しており同年 9 月末までには目標の 75 を超える見通しである。2003 年末までには計 84 コースが開催される見込みである。

第二に、本プロジェクトのコースを受講した訓練生総数は 927 名に達しており目標の 900 名をすでに上回っている。

第三に、コースの質に関しては、コース内容、指導員、有用性などの諸項目において 80%を大きく上回る訓練生が満足している。

第四に、訓練生への質問票、地方郵電局への訪問、郵電公社からの情報など各種の手段を通じて電気通信部門のニーズは継続的に把握されており、訓練コースに適切に反映されている。

3-2-4　上位目標

下記に示されるように、ベトナムの電気通信部門における人材開発と技術訓練の需要は満たされつつある。

本プロジェクトによる訓練コースに職員を派遣したことのある各郵電局に対する質問票調査では、大部分の郵電局が本プロジェクトによる 5 技術分野のコースから大いにまたは相当収穫を得たとしている。

郵電公社の訓練政策に則り、2004 年から 2007 年の期間に同公社の電信部門の技術職員の90%以上が郵電技術学院で訓練を受けることになっており、その中で第一郵電訓練センターは中心的な役割を果たすものと期待されている。

2001 年以降、第一郵電訓練センターにおいて 50 を超える電信の訓練コースが開設されており、それらのすべてのコースが本プロジェクトと同様な過程を導入して実施されている。

本プロジェクトによって確立された訓練システムは、第一郵電訓練センター全体に普及されただけではなく第二郵電訓練センター（ホーチミン市）にも普及しており、実際、第二センターでもすでに本プロジェクトによるシステムが中心となっている。第二センターで実施予定の訓練コースは郵電技術学院の訓練ガイドブックに含まれているものであるが、同ガイドブックは第一センターが第二センターとの議論を通じて作成したものである。両センターは訓練プログラムや教材を交換している。また、南部地域の郵電局の中には本プロジェクトの訓練コースに職員を参加させた局もある。

第４章 評価結果

4-1　評価 5 項目による評価

4-1-1　妥当性

郵電公社の下で本プロジェクトの実施機関となっている第一郵電訓練センターは主として同公社の職員を訓練してきている。ただし、同公社職員に限定しているわけではない。民間企業が電気通信部門に参入しつつあり、第一郵電訓練センターは従来よりも多くの民間企業従業員を訓練している。

近年デジタル電信網が急速に拡大してきており本プロジェクトはその部門における拡大しつつある人材開発ニーズに応えることを目指している。国家電気通信開発戦略では、2010 年までに全国で電話保有台数は人口 100 人中 15 人～18 人に増加することが計画されている。これは 1,350 万台に相当すると推計される。同戦略は技術スタッフの増員と技術の向上を要求している。したがって本プロジェクトは、将来にむけた国家戦略に対して極めて妥当性が高い。例えば、中部地域には国際協力銀行の借款による電信網拡張プロジェクトがある。この拡張は現在の電信網の構造をはるかに複雑にするものであり高い技術を持ったスタッフの需要を増加させるものである。本プロジェクトは、中部地域の拡張された将来電信網の運用に大いに貢献することが期待されている。

デジタル電信網の引き続く拡張と並行して、郵電公社はインターネットシステムの推進の重要性も強調している。デジタル電信技術は、インターネットのようなより新しいネットワーク技術のために要求される基礎技術である。したがって本プロジェクトは新技術の視点からも妥当なものであると言える。

また、我が国の国別援助計画において、情報通信分野はベトナムの成長促進に資するものとして重点分野として位置付けられ、特に「通信インフラの保守人材及び IT 産業人材の育成」は最重要課題として掲げられていることから、本プロジェクトを通じた実施機関の能力強化は、その趣旨に合致している。

4-1-2　有効性

カウンターパート指導員の指導能力の向上は、訓練生、彼らの所属組織、日本人専門家、指導員自身という 4 種類の関係者から高く評価されている。したがって電信技術 5 分野における本プロジェクトの有効性は高いと言える。

訓練コースの管理運営能力も大きく向上したことは、訓練コースの円滑な運営からも明らかである。以前と異なり、現在では訓練コースは計画的かつ体系的に運営されている。

さらに、本プロジェクトを通じてカウンターパート職員が訓練コースの実施・管理のための英語によるドキュメンテーションやプレゼンテーションができるようになったことは注目される。

以上、「第一郵電訓練センターの指導員の指導能力の向上」及び「訓練コースの管理能力の向上」等の成果があがることで、プロジェクト目標である同センターの訓練能力の向上が達成されたと判断できる。

4-1-3　効率性

当初、本プロジェクトは新ビルディングで開始される計画であったが、建設が数か月遅れた。しかしながらプロジェクト活動に悪影響を与えないよう、柔軟な対応がとられた。例えば、工事の進捗を促しつつ、一方で仮のプロジェクトサイトで理論的知識の移転が最初に行われた。2000 年 7 月には、新ビルディング建設工事の全体完成を待たずに整備された 5 階において供与機材の据付が始まった。建設工事の完成は同年 9 月であった。2000 年 12 月に本プロジェクトサイトが新ビルディングに移転した後は、全面移転までの期間、新旧両方のビルディングを最大限利用してプロジェクト活動が継続された。その結果活動計画は深刻な遅滞無く進捗した。

また中間評価調査団の提言によって、指導員の現場経験不足を補うために、郵電局 3 か所と郵電公社傘下の設計建設会社 1 社においてカウンターパート指導員のオンザジョブ訓練が行われた。

技術移転については、日本人専門家からの移転に加えて、日本での研修が非常に効率の高いものであったと見られる。研修生は適切な内容の訓練を受けたばかりでなく、日本で学んだ技術をベトナムで同僚に移転しており、日本で入手した教材を共有するようにしている。

このように、本プロジェクトの効率性は高いと評価される。

4-1-4　インパクト

第一郵電訓練センターの指導員だけでなくその上部組織である郵電技術学院傘下の他機関の教官も彼らの訓練生や学生への指導において本プロジェクトで作成された教科書や供与された機材を利用している。また彼らは本プロジェクトのカウンターパート指導員とカリキュラムや教材の作成の方法を共有することで恩恵を受けている。例えば、ホーチミン市の第二郵電訓練センターは、訓練ガイドブック作成のためのガイダンスを通じて、本プロジェクトの訓練手法を同センターの活動に適用しつつある。その他に、郵電省のいくつかのプログラムの指導員の中には技術的なノウハウを本プロジェクトのカウンターパートから習得した者もいる。

郵電公社は本プロジェクトを実務的な訓練コースのモデルと見なしており、本プロジェクトで確立したシステムを、郵電労働者訓練学校など同公社傘下の他の訓練機関にも導入することを考えている。

質問票調査で明らかになったように、地方の郵電局の大部分は本プロジェクトの訓練コースに職員を派遣したことによって恩恵を受けかつ良い影響を受けたとしている。

さらに、本プロジェクトのインパクトとして、プロジェクト活動を通じて醸成された日本人専門家とカウンターパートとの間の極めて良好な関係が特筆される。

以上より、同センターが今後も継続的に訓練を行うことで、上位目標「ベトナムの電気通信部門における人材開発と技術訓練の需要が満たされる」の達成の可能性は高いと評価できる。

4-1-5　自立発展性

(1)　制度・組織面

郵電技術学院は 50 年の歴史を持っている。第一郵電訓練センターは同学院傘下の中心的な訓練センターであり、郵電公社の総裁の決定に基づいて 1999 年 3 月に諸訓練センターの新しいモデルとして再編された。したがって第一郵電訓練センターは、すでに確立している機構の中に組み込まれている。さらに、訓練の実施と管理は本プロジェクト期間中に大幅に強化され、現行のシステムは高い信頼性を持って適切に機能している。

郵電公社、郵電技術学院、第一郵電訓練センターはベトナムの電信部門の人材開発における主流であり、指導員の技術習得の機会やその他の条件面での各種インセンティブがあり、大部分のカウンターパートはセンターに定着している。

2004 年の訓練計画はすでに作成されている（議事録 ANNEX 15）。さらに、第一郵電訓練センターのトップマネジメントを担う所長は、本プロジェクトのフォローアップと訓練の継続のために、本プロジェクトのカウンターパートと他の指導員を統合すべくセンター組織を再構成することを検討している。2003 年末までには新組織が承認され公表される見込みであり、今後とも同センターにおける訓練は継続されていく見込みである。

また、ベトナムの電信網の現状と計画を把握するために、トップマネジメント、カウンターパート指導員、同センターの他の部署から選ばれた職員によるワーキンググループがすでに設置されている。

このように、制度的自立発展性は高いと判断できる。

ただし、技術と訓練ニーズの急速な変化や民間企業の電信部門への参入という課題がますます大きくなっている中で、第一郵電訓練センターはその上部機関とともに柔軟で常に改善を継続する組織でなければならない。そのためにも各部門内および異なる部門間の密接なコミュニケーションの維持が不可欠である。

(2)　財務面

郵電公社は極めて健全な財務運営を行っている。終了時評価時点で、第一郵電訓練センターの将来の年次財務計画は作成されていないが、同公社からの予算と同公社傘下の職員の訓練にともなう歳入によって、同センターは財務面で持続的であると見られる。

郵電公社の規則により、機材の維持のために、その総額の 10%を留保することとされており、この方式によって第一郵電訓練センターは機材を更新することができる。さらに、郵電公社の承認があれば新システムを購入することもできる。

(3)　技術面

カウンターパートは、本プロジェクトから移転された技術をすでに習得している、もしくは遅くとも 2004 年 2 月までには習得する見込みであり、移転された電信技術およびその指導技術は今後とも維持されると考えられる。さらに、各分野に 2 名以上のカウンターパートが配置されていることや、彼らが職場に留まる傾向が強いことを考えると本プロジェクトの技術的達成は同センターの中で保持されると考えられる。

一方、変化し続ける技術や訓練需要に対応するためには、各指導員は自分たちの知識と技術を向上し続けなければならない。また第一郵電訓練センターは、継続的に需要を把握

し、指導員の技術向上の努力を組織的かつ体系的に促進する必要がある。

4-2 結論

本プロジェクトは郵電省、計画投資省、郵電公社、郵電技術学院、第一郵電訓練センターおよび日本人専門家を始めとする諸関連機関職員の参加を得て成功裏に進捗してきた。しかも、本プロジェクトの達成結果はベトナム側の継続的な努力によって持続されると考えられる。

本プロジェクトの人員、機材、建物、施設などの投入は日本・ベトナム両者から十分に投入された。特にカウンターパート指導員は当初計画を上回って投入された。日本・ベトナム両グループ間の親密な関係は計画された活動の円滑な運営を助け、6 項目の成果を十分達成した。中でもカウンターパートの技術の向上は、日本人専門家、訓練生、彼らの派遣元の郵電局によって確認された。

本プロジェクトの達成はその目標を上回っている。当初に計画された 75 コースに対してプロジェクト終了までには 84 コースが実施される予定である。また、目標訓練生数 900 名に対してすでに 927 名が本プロジェクトの訓練を受講しており、コースに対する訓練生の満足度は目標の 80%を大きく上回っている。さらに、訓練需要は継続的にモニターされコースに取り込まれている。

こうした達成に基づき、本プロジェクトは、上位目標に沿ってベトナムの電信部門の人材開発に大きく貢献しつつある。

妥当性、有効性、効率性、インパクト、自立発展性という評価 5 項目からみても本プロジェクトは高く評価される。本プロジェクトの達成結果は、下記提言の実施を含む関係者の継続的な努力によって、制度面、財務面、技術面において今後とも持続されると考えられる。

第５章 提言と教訓

5-1　提言

技術と訓練需要の変化にいかに体系的に取り組むかが第一郵電訓練センターのひとつの課題となっている。したがって同センターの管理職員と指導員は郵電公社の電信網とサービスの開発戦略を熟知することが求められる。そうすることによって郵電公社、郵電技術学院と協力しながら現在と将来の訓練需要を把握することができよう。

また、郵電局への訪問やオンザジョブ訓練を通じた指導員の継続的な実務教育、さらには新しい訓練需要の分野における理論的知識の強化を、第一郵電訓練センターとして本プロジェクトの成果にもとづいて促進することが期待される。

さらに、第一郵電訓練センターが南部地域から多くの訓練生を受け入れることが推奨される。そうすることによって南部地域の電信技術者も日本からカウンターパートに移転された技術や本プロジェクトで供与された機材の恩恵を受けることができる。

5-2　教訓

(1) 継続的なモニタリング･評価のシステムをプロジェクトに構築することは活動の適切な運営にとって重要である。

(2) プロジェクトの成功のためには実施機関およびその上部機関が強力であり、かつ同プロジェクトに対して強いオーナーシップを持っていることが期待される。一方、日本人専門家には高い技術水準が必要であるとともに途上国での経験を持っていることが望まれる。

(3) プロジェクトの円滑な実施には日本人専門家とカウンターパートとの良好な人間関係が鍵となる。

付　属　資　料

1．ミニッツ及びジョイントエバリュエーションレポート
2．評価用プロジェクト・デザイン・マトリックス（PDMe）日本語版
3．プロジェクト組織図
4．第一郵電訓練センター組織図
5．訓練コース実施状況
6．訓練生受講状況

付属資料 1.　ミニッツ及びジョイントエバリュエーションレポート

MINUTES OF MEETINGS
BETWEEN
THE JAPANESE FINAL EVALUATION TEAM
AND
THE AUTHORITIES CONCERNED
OF
THE GOVERNMENT OF THE SOCIALIST REPUBLIC OF VIETNAM
ON
THE JAPANESE TECHNICAL COOPERATION
FOR
THE TRAINING CAPABILITY STRENGTHENING PROJECT
ON
THE POSTS AND TELECOMMUNICATIONS TRAINING CENTER No.1

The Japanese Final Evaluation Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA"), headed by Mr. Junsaku Koizumi visited the Socialist Republic of Vietnam from 21 September to 26 September 2003, for the purpose of the final evaluation of the Training Capability Strengthening Project on the Posts and Telecommunications Training Center No.1 (hereinafter referred to as "the Project").

During its stay in Vietnam, the Team had a series of discussions with the Vietnamese authorities concerned, jointly evaluated the achievement of the Project, and exchanged views on activities of the Project, which will be over at the end of February 2004.

As a result of the study and discussions, both sides agreed to report to their respective governments the matters referred to in the document attached hereto.

Hanoi, 26 September 2003

Mr. Junsaku Koizumi	Mr. Hoang Huy Loat
Leader	Deputy Director General
Japanese Final Evaluation Team	Department of Organization and Personnel
Japan International Cooperation Agency	Ministry of Posts and Telematics
Japan	Socialist Republic of Vietnam

ATTACHED DOCUMENT

1. Introduction

1.1. Background

The socio-economic development of Vietnam was accelerated with expansion of the market economy by the government's renovation policy called "DOIMOI". In accordance with the development, the growth and modernization of the telecommunication sector such as the rise in the number of telephone subscribers and the introduction of digital technologies were increasingly demanded.

The Vietnam Posts and Telecommunications Corporation (VNPT) was training technical staff for the maintenance and operation of the telecommunication network at the PTTC-1 and other training institutes based on the human development policy of the then Department General of Posts and Telecommunications (DGPT). However, the corporation needed to upgrade the training capability in order to meet the rapidly changing and expanding training needs in the sector.

In this context, the Government of Vietnam requested the Government of Japan for Project-type Technical Cooperation for practical training with appropriate equipment to foster instructors competent in modern technologies and training management.

Replying to the request, the Japanese Government conducted preparatory studies. Then on 2 February 1999, the Record of Discussions for the commencement of the project was co-signed by the representatives of the Implementation Study Team, the then DGPT, the VNPT, the PTTC-1 and the Ministry of Planning and Investment (MPI). The Project duration is five years from 1 March 1999 to 29 February 2004.

Now with the remaining Project period of approximately five months, JICA dispatched the Team for the aim of evaluation of the Project achievement.

1.2. Schedule of the Team

Date	Major Activities
September 21 Sunday	Arrival in Hanoi
22 Monday	Visits to JICA Vietnam Office, Embassy of Japan, PTTC-1, MPT (with representatives of VNPT, PTIT and PTTC-1) and MPI for interviews and discussions
23 Tuesday	Visit to PTTC-1 for interviews and discussions with the staff on the draft of the Minutes
24 Wednesday	Visits to PTTC-1 for the joint evaluation meeting with members of the Joint Coordinating Committee and the Steering Committee, and observation at Thai Nguyen PT
25 Thursday	Visits to PTTC-1 for the joint evaluation meeting with members of the Joint Coordinating Committee and the Steering Committee
26 Friday	Joint Coordinating Committee meeting / Signing on the Minutes Visits to Embassy of Japan, and JICA Vietnam Office Leaving Hanoi

1.3. Major Interviewees by the Team

(1) Ministry of Planning and Investment (MPI)
Mr. Tong Quoc Dat, Senior expert of Infrastructure Department
Mr. Nguyen Xuan Tien, Expert of Foreign Economic Relations Department

(2) Ministry of Posts and Telematics (MPT)
Mr. Tran Duc Lai, Director General of Department of Organization and Personnel
Mr. Hoang Huy Loat, Deputy Director General of Department of Organization and Personnel
Ms. Tran Cam Huong, Training Officer of Department of Organization and Personnel

(3) Vietnam Posts and Telecommunications Corporation (VNPT)
Mr. Nguyen Tat Dac, Deputy Director of Personnel Division

(4) Posts and Telecommunications Institute of Technology (PTIT)
Dr. Phung Van Van, President
Dr. Nguyen Kim Lan, Vice President
Mr. Nguyen Khac Hoa, Deputy Training Manager

(5) Thai Nguyen Posts and Telecommunications Office
Mr. Chu Duy Thiet, Director
Mr. Bui Hoan, Deputy Director

(6) Posts and Telecommunications Training Center No.1 (PTTC-1)
Dr. Le Huu Lap, Director
Mr. Chu Quang Toan, Deputy Director
Mr. Nghiem Cuong, Head of Administration Section
Ms. Bui Thu Nguyet, Staff of Administration Section
Ms. Nguyen Thanh Huong, Secretary Assigned by the Project

Mr. Quan Hoai Nam, Chief Counterpart Instructor (Optical Fiber Cable)
Mr. Tran Quang Huy, Counterpart Instructor (Optical Fiber Cable)

Mr. Nguyen Minh Phuong, Chief Counterpart Instructor (Digital Switching)
Mr. Ngo Xuan Thanh, Counterpart Instructor (Digital Switching)
Mr. Nguyen Tuan Phong, Counterpart Instructor (Digital Switching)

Mr. Truong An Hai, Counterpart Instructor (Digital Transmission)
Ms. Pham Thanh Mai, Counterpart Instructor (Digital Transmission)

Mr. Nguyen Van Thuan, Chief Counterpart Instructor (Digital Microwave)
Ms. Nguyen Thi Thanh Huong, Counterpart Instructor (Digital Microwave)
Mr. Nguyen Trung Kien, Counterpart Instructor (Digital Microwave)

Mr. Chu Quang Ngoc, Chief Counterpart Instructor (Data Communication/LAN)
Mr. Kim Ngoc, Counterpart Instructor (Data Communication/LAN)

(7) Embassy of Japan in Vietnam
Mr. Yoshito Kikumori, First Secretary

(8) JICA Vietnam Office
Mr. Fumio Kikuchi, Resident Representative
Mr. Masato Togawa, Senior Deputy Resident Representative
Mr. Atsushi Soma, Deputy Resident Representative
Mr. Katsutoshi Komori, Deputy Resident Representative

(9) Japanese Experts in PTTC-1
Mr. Mamoru Hirayama, Chief Advisor/Optical Fiber Cable
Mr. Hiromi Mizuta, Coordinator
Mr. Eihiko Hattori, Digital Microwave
Mr. Shoichi Fukuoka, Digital Transmission
Mr. Masayuki Ohkubo, Digital Switching

1.4. Joint Evaluation Team

The final evaluation was carried out by the joint evaluation team consisting of both Japanese and Vietnamese evaluators.

1.4.1. Japanese Evaluators

Mr. Junsaku Koizumi	Team Leader
Mr. Eiichi Watanabe	Training Policy
Mr. Shinya Hongo	Training Planning
Mr. Junichiro Ikeda	Cooperation Planning
Mr. Shinsuke Tsuruta	Analysis for Evaluation

1.4.2. Vietnamese Evaluators

Mr. Hoang Huy Loat	Deputy Director General, Department of Organization and Personnel, MPT
Mr. Nguyen Tat Dac	Deputy Director, Personnel Division, VNPT
Dr. Phung Van Van	President, PTIT
Dr. Nguyen Kim Lan	Vice President, PTIT

1.5. Method of Evaluation

The Project achievement and progress have been evaluated by using the Project Design Matrix (hereinafter referred to as "the PDM") based on the Record of Discussions (hereinafter referred to as "the R/D") signed in Hanoi on 2 February 1999, which was revised by the mid-term evaluation team on 6 December 2001. The evaluators understood the achievement of the Inputs, the Activities, the Outputs, the Project Purpose and the Overall Goal of the current PDM and evaluated the progress of the Project from the viewpoint of the following five criteria.

1) Relevance: How relevant the project is to the specific national context.
2) Effectiveness: How effectively or ineffectively the project purpose is achieved through the activities and the outputs.
3) Efficiency: How efficient or inefficient the project's inputs generate the activities to produce the outputs.
4) Impact: Positive and negative effects indirectly made by the project.

5) Sustainability: The PTTC-1's ability to maintain and develop the project achievement after the external assistance is over.

The materials for evaluation are as follows : the R/D, the current PDM shown in ANNEX 1, the Plan of Operation and Implementation of Activities shown in ANNEX 2, a series of Minutes of the Meetings, the minutes of discussions, reports during the Project period, and the results of meetings and interviews during the evaluation period.

2. Project Achievement

2.1. Inputs

2.1.1. Inputs from Japanese side

The following inputs have been provided by JICA for the Project.

(1) Experts (ANNEX 3)

A total of nine long-term experts have been dispatched in the following five fields:

1) Chief Advisor/Optical Fiber Cable (2 experts)
2) Coordinator (2 experts)
3) Digital Switching (2 experts)
4) Digital Transmission
5) Digital Microwave (2 experts)

A total of nine short-term experts have been dispatched in the following eight fields:

1) Optical Fiber Cable
2) Digital Transmission
3) Digital Switching
4) Digital Microwave
5) LAN Technology (2 experts)
6) Rural Radio
7) Training Course Management
8) Evaluation Analysis

(2) Equipment and Machinery (ANNEX 4)

The Japanese side has provided equipment equivalent to 3,102 thousand US Dollars. The list of equipment provided by JICA is shown in ANNEX 4. With the more detailed Management List for JICA Technical Equipment, all the major equipment is maintained in good conditions and utilized properly either every day or in every relevant course.

(3) Training of Counterparts in Japan (ANNEX 5)

A total of 15 counterparts participated in training in Japan in the following seven fields:

1) Optical Fiber Cable Technology
2) Digital Transmission System Technology (4 trainees)
3) Digital Switching System Technology (4 trainees)
4) Digital Radio Technology (2 trainees)
5) Data Communications Technology (LAN) (2 trainees)
6) Outside Plant Engineering
7) Telecommunications Management

One more counterpart is scheduled to undergo training in Japan in October 2003 as a participant of a vocational training improvement seminar.

2.1.2. Inputs from Vietnamese Side

The following inputs have been provided by the Government of Vietnam by the time of the final evaluation.

(1) Counterpart Personnel (ANNEX 6)

A total of 17 members of counterpart personnel, four managers and 13 instructors, are assigned to the Project by the time of final evaluation.

(2) Building and Facilities (ANNEX 7)

The Project has been utilizing the fifth and sixth floors of the A3 Building of the PTTC-1 for its activities. The building was constructed by the Government of Vietnam and completed in 2000. The total number of rooms provided by Vietnamese side is 19. The building and facilities provided by Vietnamese side is shown in ANNEX 7.

(3) Disbursement for Local Costs (ANNEX 8)

The VNPT has allocated an approximate total of 4,013 million Vietnamese Dong to the Project by 31 March 2003 as shown in ANNEX 8. The planned budget for 2003 (January to December) is approximately 2,080 million Vietnamese Dong.

2.2. Outputs (ANNEXES 9, 10, 11, 12, 13 and 14)

The achievement of the six outputs is measured by the indicators of the PDM. The outputs achieved through the activities by the time of the final evaluation are summarized as follows:

Output (1) The training system of the PTTC-1 is improved.

The training policy of the PTTC-1 is based on the human resource development plan of the VNPT. In order to identify the training needs, the PTTC-1 is informed of the needs from VNPT periodically as well as from other sources such as provincial and city offices of posts and telecommunications (PTs) and the trainees.

Output (2) Recruitment system for the trainees of the PTTC-1 is established.

The recruitment system has been established according to which the PTTC-1 publicizes the training program for the PTs to select and send their trainees.

Output (3) The capability of the instructors and top management of the PTTC-1 is improved.

The capability of the instructors has been satisfactorily improved as indicated by the Japanese experts, the instructors themselves, the trainees and the PTs.

According to the Japanese experts, the counterpart instructors in each of the five technical fields, namely optical fiber cables, digital switching, digital transmission, digital microwave and LAN, have mastered all the following four kinds of skills.

1) Management skills: ability to manage and conduct a series of courses in accordance with the assigned tasks.

2) Skills for preparation of teaching materials: ability to prepare materials such as textbooks, supplementary materials, audiovisual presentation, etc.

3) Technical skills: competence in technical knowledge and ability to conduct practical lessons by presenting actual examples and properly answering to questions from the trainees.
4) Pedagogic skills: ability to conduct practical lessons with easily understood presentation.

The questionnaire survey to the counterparts revealed that they are confident to manage their tasks without the support of the Japanese experts or at latest to fully manage them by February 2004 so that they expect no serious problems after the termination of the Project.

The questionnaire surveys to the trainees also show that in any of the five fields over 80% of them favorably evaluate most aspects of the courses.

The high appreciation is reaffirmed by the results of the questionnaire survey to the PTs which dispatched their staff to the training courses conducted by the Project. The dominant majority regard that the level of the courses is appropriate, that the capability of the trainees is strengthened and that they benefited from dispatching the trainees.

The counterpart staff for administration have been working in close cooperation with the Japanese experts. The staff are capable of the whole range of the project operation and management such as the project activity planning, budgeting, operating and managing the courses.

Output (4) The training courses (Optical fiber cable, Digital switch, Digital transmission, Digital microwave and LAN) are established.

The curricula, textbooks and teaching materials such as computer presentation have been prepared properly by the counterpart staff. The contents of the courses have been revised based on the needs of the trainees grasped by the questionnaire surveys to them and other means. The materials are utilized not only by the trainees of the courses of the Project but also by other staff such as colleagues of the trainees.

Output (5) The training implementation system of the PTTC-1 is established.

The equipment and machinery installed by the Project are properly maintained and managed with the Management List for Technical Equipment, the Management List for Experts' Equipment, and the Management List for Project Funded Equipment. The stocktaking is maintained properly with the Check List of the Stocktaking.

The staff assignment complies with the decision of the Prime Minister approving the Post and Telecommunication Development Plan until 2010 and Orientation toward 2020. The PTTC-1 has established the training implementation system and the human resources development plan. The number of counterpart instructors is 13, that is more than the originally planned 10. The instructors are capable of absorbing technologies transferred from the Japanese experts.

The training budget of the member units of the VNPT is allocated according to the human resource development plans of the MPT and the VNPT at a rate of 800,000 Vietnamese Dong per worker per annum. The operation budget of the PTTC-1 is also allocated according to the plans

Output (6) Monitoring and evaluation system is established.

The Project has been monitored by the Joint Coordinating Committee and the Steering Committee. The director of the PTTC-1 and the Chief Advisor monitor and evaluate the Project activities through the weekly management meetings with the Coordinator, the head of administration, and if necessary the counterpart instructors.

As a means to monitor and evaluate the courses, the Project attaches each course with questionnaire survey to the trainees.

2.3. Project Purpose

The project purpose is to improve the training capacity of the PTTC-1 for practicing training courses in the five technical fields as required by the national telecommunication development. The purpose has been successfully achieved as shown by the following indicators.

Firstly, the number of the training courses already reached to 74 as of 31 August 2003 and is going to exceed the target of 75 by the end of September 2003. By the end of the year, a total of 84 courses will be held.

Secondly, the total number of trainees who received the courses already reached to 927 against the target of 900.

Thirdly, regarding the quality of the courses, far over 80% of the trainees are satisfied with the courses in a number of items such as the contents, instructors and usefulness.

Lastly, the needs in the telecommunications sector are continuously grasped and reflected in the courses properly though various channels like the questionnaires to the trainees, visits to PTs and information from the VNPT.

2.4. Overall Goal

The demand for the human resource development and technical training is being satisfied in the field of the telecommunications in Vietnam as indicated by the following.

According to the questionnaire survey to the PTs which dispatched their staff to the training courses conducted by the Project, the dominant majority of the offices have benefited very much or considerably from the courses in the five technical fields.

In compliance with the VNPT's training policy, over 90% of its technical staff in telecommunications will be trained at the PTIT between 2004 and 2007, and the PTTC-1 is expected to play main roles for the training.

Since 2001, over 50 training courses of telecommunications have been opened at the PTTC-1, and all the courses have been implemented in the same process as that of the Project.

The training system established by the Project has been diffused not only in the whole PTTC-1 but also to the PTTC-2 in which the system already dominates. The training courses to be conducted by the PTTC-2 are included by the Training Guide Book of the PTIT, which was prepared by the PTTC-1 through discussions with the PTTC-2. The two centers are exchanging training programs and teaching materials. Moreover, some staff of PTs in southern provinces have participated in the courses of the Project.

3. Evaluation by Five Criteria

3.1. Relevance

The PTTC-1, being the executing organization of the Project under VNPT, has been training mainly but not limited to the workers of the VNPT. As private companies are entering into the telecommunication sector, the PTTC-1 is training an increasing number of their employees.

The digital telecommunication network has been rapidly expanding and the Project aims to meet the growing needs for human resource development in the sector. According to the national telecommunications development strategy, the number of telephone subscribers is planned to increase to between 15 and 18 per 100 population (or estimated 13,500 thousand subscribers) in the nation by 2010. The strategy requires increase in the number of the technical staff as well as improvement of their skills. The Project is therefore very relevant to the national strategy toward the foreseeable future.

For example, there is a project financed by the Japan Bank for International Cooperation (JBIC) for telecommunication network expansion in the central region. The expansion will make the current network structure far more complicated and the demand for the skilled staff will also be increased. The Project is expected to contribute a lot to the operation of the expanded regional network.

In parallel with the continued expansion of the digital network, the VNPT also emphasizes the importance of promoting the internet systems. As the digital telecommunication technologies are basic knowledge required for the newer network technologies like the internet, the Project is relevant also from the new technology point of view.

3.2. Effectiveness

The improvement in the training capability of the counterpart instructors is highly appreciated by the four groups concerned, namely the trainees, their organization, the Japanese experts and the instructors themselves. The project's effectiveness in the five fields of the telecommunication technologies is therefore highly evaluated.

The capability in management and administration of the training courses has also been considerably improved as presented by the smooth operation of the courses, which is now in a planned and systematic manner unlike in the past.

It is also noted that through the Project the counterpart staff have become capable of documenting and presenting in English for the implementation and management of the courses.

3.3. Efficiency

Although the project was originally planned to take place in the new building, the construction was delayed by several months. However, in order not to negatively affect the project activities, flexible measures were taken. For example, while expediting the construction, theoretical knowledge was transferred first in the temporary project site. In July 2000, the equipment started to be installed on the fifth floor, that was arranged in advance of the completion of the construction. The construction was completed in September of the year. The project site was moved to the new building in December 2000, however, the project activities had continued by fully utilizing both old and new buildings until the time of the move, resulting in proper progress of the plan of operation.

On-the-job training was held in three PTs and a design and construction company under the VNPT to complement the lack of field experiences of the counterpart instructors according to the recommendation by the mid-term evaluation team.

In addition to the technology transfer from the Japanese experts, the training in Japan is found to be very efficient. The trainees not only received appropriate training contents but also transferred the technologies they had learned to their colleagues in Vietnam. They also share the teaching materials obtained in Japan.

3.4. Impact

The instructors of the PTTC-1 and also other teachers of the PTIT utilize the textbooks prepared by the Project and the equipment provided by it for their teaching trainees and students. They are benefiting from sharing experiences with the counterpart instructors on how to prepare curricula and teaching materials. For example, the PTTC-2 in Ho Chi Minh City is applying the training method of the Project to its activities through the PTTC-1's guidance for preparing training guide books. In addition, some trainers of the MPT for certain programs have gained technical know-how from the counterparts.

The VNPT regards the Project to be a good model of practical training courses and so considers

introducing the system established by the Project to other training institutions of the corporation such as the workers training schools of posts and telecommunications.

As presented by the results of the questionnaire survey, the dominant majority of the PTs benefit from dispatching their staff to the training courses and receive positive impact from the Project.

It is noted that the very friendly relations between the Japanese experts and their counterpart staff fostered through the Project's activities can be included in the impact.

3.5. Sustainability

(1) Institutional Aspect

The PTIT has 50 years of tradition. As a leading training center under the institute, the PTTC-1was reorganized in March 1999 based on the decision of the Director General of the VNPT to be a new model of the training centers. Therefore, the PTTC-1 is within an already established organization. Moreover, the implementation and management of the training have very much strengthened during the Project period so that the current system is properly functioning with high reliability.

As the VNPT, the PTIT and the PTTC-1 being a main stream in the human resource development in Vietnam's telecommunication sector, most counterpart staff have remained at the work place with support of various incentives such as technical development opportunities and other work conditions.

The training plan for 2004 has been elaborated (ANNEX 15). Moreover, the top management of the PTTC-1 is considering restructuring of its organization in order to consolidate the current counterpart staff and other instructors for the follow-up of the project and the continued practice of the training. The new organization will be authorized and publicized by the end of 2003.

Thus the institutional sustainability is regarded to be high. In fact, a working group involving the top management, the counterpart instructors and selected members from other departments of the PTTC-1 is already set up in order to grasp the existing and planned telecommunications networks of Vietnam.

While there are increasing challenges of rapidly changing technologies and training needs as well as the private companies' entering into the sector, the PTTC-1 together with its parent organizations need to have flexible and ever improving organizations with close communication within each section and among different sections.

(2) Financial Aspect

The VNPT has highly sound financial operation. Although annual financial plans for the coming years are yet to be prepared and submitted to the VNPT, the PTTC-1 is regarded to be financially sustainable with the budget of the VNPT and the revenue for its training.

For the maintenance of its equipment, the VNPT's regulation stipulates to earmark 10% of the total value. The PTTC-1 can renew the equipment, and also can purchase new systems upon approval of the VNPT.

(3) Technical Aspect

The technologies in telecommunications and in training operation transferred by the Project are thought to be sustained as the counterpart staff have adequately mastered the technologies or at the latest will master all of them by the end of February 2004. Considering also that no less that two counterpart instructors are assigned to each field and that they tend to remain at the job, the technical achievement of the Project is thought to be sustained.

The instructors will need to improve their knowledge and skills to meet changing technologies and training demand and the PTTC-1 will need to keep identifying the needs and actively promoting such efforts in an organized and systematized manner.

4. Recommendations

How to address the changing technologies and training demand systematically remains as a challenge of the PTTC-1, the management staff and the instructors of the PTTC-1 are therefore encouraged to further share the development strategy of the telecommunication networks and services of the VNPT in order to identify the current and future training demand of the center in cooperation with the VNPT and the PTIT.

Accordingly, the PTTC-1 is expected to actively promote the continuous education of the instructors for practical technologies through visits to PTs and on-the-job training, as well as theoretical knowledge in the new fields of the training demand by enhancing the achievement of the Project.

It is also recommended that the PTTC-1 receive more trainees from southern provinces so that they can benefit from the technologies transferred by the Japanese experts to the counterpart instructors and also from the equipment provided by the Project.

With such activities, the counterpart instructors are expected to play key roles to further enhance the training capability of the PTTC-1.

5. Conclusion

The Project is regarded to be highly successful owing to the participation of concerned members of various organizations such as the MPT, the MPI, the VNPT, the PTIT, the PTTC-1 and the Japanese experts. Moreover, the achievement of the Project is expected to be sustained by their continued efforts.

The Project's inputs such as personnel, equipment and building facilities have been sufficiently made by both Japanese and Vietnamese sides. Notably, counterpart instructors more than originally planned have been assigned to the Project. The friendly relations between the two parties enabled smooth operation of the planned activities, through which the six outputs were fully produced. In particular, the improvement of the counterpart staff has been confirmed by the Japanese experts, the trainees of their courses and the PTs which dispatched their staff to the training conducted by the Project.

The Project's achievement is surpassing the purpose with a total of 84 courses scheduled by the end of the Project against the originally planned 75 courses. A total of 927 trainees have already received the courses as compared to the target of 900 trainees. The rate of satisfaction of the trainees of the courses has been far beyond the target of 80%. Training needs are continuously monitored and incorporated in the courses as stipulated by the purpose of the Project.

Based on the above mentioned achievement, the Project is contributing a lot to the human resource development in the telecommunication sector of Vietnam according to the Project's overall goal.

In terms of the five evaluation criteria, namely, the relevance, effectiveness, efficiency, impact and sustainability, the Project is also highly evaluated. It is noted that the achievement of the Project is thought to be well sustained institutionally, financially and technically in the coming years by the concerned members' continued efforts including the implementation of the recommendations.

6. Others

The Vietnamese side explained to the Team the following two projects to seek the JICA's technical cooperation depending on the attached papers titled INFORMATION BACKGROUND FOR NEW PROJECT PROPOSALS on "Training Capability Strengthening Project on Info-communication Technology Infrastructure Engineer Development for the Posts and Telecommunications Institute of Technology" and "Third Country Training Program", dated 26 September 2003.

(1) "The Training Capacity Strengthening Project on Info-communication Technology (ICT) Infrastructure Engineer Development for Posts and Telecommunications Institute of Technology" dated 1 July 2003 and has been sent to Japan through the diplomatic channel
(2) "The Third Country Training Program"

The Team stated that the background of the above mentioned project (1) shall be conveyed to the Japanese authorities concerned, and as to the project (2) mentioned above, the Team suggested that the Vietnamese side shall take necessary domestic procedures for the JICA's cooperation after consultation with the JICA Vietnam Office.

ANNEXES

1. Project Design Matrix for Evaluation

2. Plan of Operation and Implementation of Activities

3. Assignment of Japanese Experts

4. Major Technical Equipment for the Five Fields

5. Counterpart Training in Japan

6. Vietnamese Counterparts

7. Building and Other Facilities Provided by Vietnamese Side

8. Vietnamese side's Annual Budget Execution for JICA-PTTC1 Project

9. List of Textbooks Prepared by the Project

10. Project Organization

11. Evaluation Grid

12. Summary of Questionnaire Survey to Counterpart Instructors

13. Summary of Questionnaire Surveys to Trainees

    13-1. Report of 3rd combined Course

    13-2. Report of 2nd Advanced Course

    13-3. Report of 8th LAN and 2nd Rural Courses

14. Summary of Questionnaire Survey to Posts and Telecommunications Offices

15. Tentative Schedule of Training Courses in 2004

Project Design Matrix for Evaluation

The Training Capability Strengthening Project on the Posts and Telecoms Training Center-1 (PTTC-1)

Target Group : Technical Telecommunication staffs in VNPT Target Area : Northern Viet Nam

December 6, 2001

NARRATIVE SUMMARY	INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OVERALL GOAL			
The demands for human resources development and technical training in the field of the telecommunication in Vietnam are satisfied.	1. Over 80% of workplaces is satisfied with techniques which trainees have mastered. 2. Over 90% of VNPT technical telecommunication staffs have been trained at PTIT from 2004 to 2007. 3. The training system established in Project has dominated in other training courses in PTTC-1. 4. The training system established in PTTC-1 has dominated in PTTC-2.	1. Questionnaires to the trainees' workplace 2. Record in DGPT and VNPT 3. Record of PTTC-1 4. Record of other PTTCs	a. The needs for telecommunications technology keep on continuing in Vietnam. b. National telecommunication manpower development plan remains basically unchanged.
PROJECT PURPOSE			
The training capability of the Posts and Telecoms Training Center-1 is improved in order to practice training courses (Optical fiber cable, Digital switch, Digital transmission, Digital radio and LAN) required by telecommunication development in Vietnam.	1. Number of each held the new training course is 75 times. 2. There are 900 staff who are trained in new training courses. 3. Over 80% of trainees is satisfied with the contents of the new training courses. 4. The grasped needs in telecommunication sector are reflected to the contents of the new training courses in the Project immediately.	1. Record of PTTC-1 2. Record of PTTC-1 3. Questionnaires to the trainees 4. Record of PTTC-1	a. The machinery and equipment for new technology are installed at the recipient units of graduates. b. Improvement training is implemented continuously in PTIT. c. The techniques of planning, designing and constructing of each course in telecommunication sector are improved.
OUTPUTS			
1. The training system of the PTTC-1 is improved.	1-1 The PTTC-1 gets needs of training from VNPT periodically. 1-2 There are training policies in PTTC-1. 1-3 The training policies are along with the line of human resource development plan in VNPT.	1-1 Record of PTTC-1 1-2 Training policy of PTTC-1	a. Trained C/Ps and staff keep working in PTTC-1.
2. Recruitment system for the trainees of the PTTC-1 is established.	2-1 The application system is established. 2-2 The situation of PTs and ex-trainee's activities are grasped.	2-1 Record of PTTC-1 2-2 Record of interview to PTs	
3. The capability of the instructors and top management of the PTTC-1 is improved.	3-1 Over 80% of trainees evaluates the teaching method of instructors positive. 3-2 C/Ps understand each method and technique. 3-3 The information of each method and technique is exchanged among C/Ps	3-1 Questionnaires to the trainees 3-2 C/Ps interview 3-3 C/Ps interview	
4. The training courses (Optical fiber cable, Digital switch, Digital transmission, Digital radio and LAN) are established.	4-1 There is gist for making textbooks and teaching material. 4-2 The contents curriculum, texts and teaching materials are proper. 4-3 C/Ps can make curriculum, texts and teaching material by themselves.	4-1 The gist for making texts and teaching material 4-2 Questionnaires to the trainees 4-3 C/Ps interview	
5. The training implementation system of the PTTC-1 is established.	5-1 Management of facilities is proper. 5-2 Assignment of staff is along with the line of human resource development plan in DGPT and VNPT. 5-3 Securing budget is along with the line of human resource development plan in DGPT and VNPT.	5-1 Facility management notebooks of PTTC-1 5-2 The achievement of assignment staff, staff assignment plan of PTTC-1 5-3 The budget plan and settlement report of PTTC-1	
6. Monitoring and Evaluation system is established.	6-1 There are the Monitoring and Evaluation implementation plans. 6-2 There are the Monitoring and Evaluation implementation schedule and a person in charge.	6-1 The minutes of the Steering Committee and the Joint Coordinating Committee 6-2 The minutes of the Steering Committee and the Joint Coordinating Committee	

ANNEX.1

ACTIVITIES	INPUTS		
(below)	VIETNAMESE SIDE 1 . Assignment of C/P and staff: Project Director 1 Project Manager 1 (C/P instructors) Digital microwave 2 Digital transmission system 2 Digital switching system 2 Optical fiber cable 2 Data communication 2 (Admin. staff) Head 1 Staff 1 Drivers and others 2. Preparation of necessary facilities: Class rooms, workshop, expert rooms, etc. with electric, telephone, gas, water supply 3. Budgetary allocation for local cost:	JAPANESE SIDE 1. Dispatch of experts: a. Long-term expert Chief advisor/Outside plant 1 Coordinator 1 Microwave 1 Transmission 1 Switching 1 b. Short-term expert Data Communication, ISDN, and others will be dispatched if necessary. 2. Provision of Equipment and Machinery: for telecommunication technology training 3. C/P training in Japan: 15 persons for 5 years in the fields of ; Digital microwave, Digital transmission, Digital switching, Optical fiber cable, Data communication, Training management	The customs and procedures of transportation are not late in large term. PRE-CONDITIONS The building for the Project is completed along with the plan.

ACTIVITIES

1.1 To analyze the status in the field of the telecommunications in Vietnam
1.2 To grasp the training needs of the telecommunication situation in Vietnam
1.3 To make the training policy of the PTTC-1

2.1 To make recruitment system for applicants to the PTTC-1training courses
2.2 To hold the regular meeting with the organizations which trainees belong to

3.1 To introduce the method of how to develop the curriculum
3.2 To master the expertise techniques in the respective fields
3.3 To introduce the method of how to develop the textbook and teaching material
3.4 To master the methodology of training techniques
3.5 To introduce the method of course management
3.6 To introduce the method of course evaluation

4.1 To develop the curriculum of the training courses
4.2 To make the necessary textbooks and teaching material for the training courses
4.3 To implement the training courses
4.4 To evaluate the contents of the training courses
4.5 To revise the contents of the training courses

5.1 To introduce the method of how to maintain the machinery and equipment for training
5.2 To arrange appropriate personnel in accordance with the plan
5.3 To make budget plan and execute properly

6.1 To identify Monitoring and Evaluation implementation plans for the Project management.
6.2 To identify the implementation schedule and person in charge of Monitoring and Evaluation for the Project management.
6.3 To implement monitoring and evaluation for the Project management.

Plan of Operation and Implementation of Activities

Outputs	Activities	JFY / month	1999 Apr	1999 Oct	2000 Apt	2000 Oct	2001 Apt	2001 Oct	2002 Apt	2002 Oct	2003 Apt	2003 Oct	Responsible person: Expert	Responsible person: C/P
1. The training system of the PTTC-1 is improved.	1-1	To analyze the status in the field of the telecommunications in Vietnam											Chief Advisor	Deputy Project Manager
	1-2	To grasp the training needs of the telecommunication situation in Vietnam											Chief Advisor	Deputy Project Manager
	1-3	To advise on the training policy of the PTTC-1											Chief Advisor	Deputy Project Manager
2. Recruitment and selection system of the trainees of the PTTC-1 is established.	2-1	To make requirements for trainees of the PTTC-1											Chief Advisor	Deputy Project Manager
	2-2	To hold the regular meeting with the organizations which trainees belong to											Kami/Hattori	Deputy Project Manager
3. The capability of the instructors and top management of the PTTC-1 is improved.	3-1	To introduce the method of how to develop the curriculum											Fukuoka	Yen/Mai
	3-2	To master the expertise techniques in the respective fields											All	All
	3-3	To introduce the method of how to develop the textbook and teaching materials											Miyagishi /Okubo	Phuong
	3-4	To introduce the methodology of training techniques											Miyagishi /Okubo	Thanh
	3-5	To introduce the method of course management											Kami/ Hattori	Thuan
	3-6	To introduce the method of course evaluation											Fukuoka	Huy
4. The training courses (Optical fiber cable, Digital Switching, Digital transmission, Digital Radio and LAN) are establsished.	4-1	To develop the curriculum of the training courses											All	All
	4-2	To make the necessary textbook and teaching material for the training courses											All	All
	4-3	To implement the training courses											All	All
	4-4	To evaluate the contents of the training courses											All	All
	4-5	To revise the contents of the training courses											All	All
5. The training implementation system of the PTTC-1 is established.	5-1	To introduce the method of how to maintain the machinery and equipment for training											All	All
	5-2	To arrange appropriate personnel in accordance with the plan											Chief Advisor	Deputy Project Manager
	5-3	To make budget plan and execute properly											Corrdinator	Deputy Project Manager
6. Monitoring and Evaluation system is established.	6-1	To identify Monitoring and Evaluation implementation plans for the Project Management											Chief Advisor	Deputy Project Manager
	6-2	To identify the implementation schedule and person in charge of Monitoring and Evaluation for the Project management											Chief Advisor	Deputy Project Manager
	6-3	To implement monitoring and evaluation for the Project management											Chief Advisor	Deputy Project Manager

Note) ..... Plan
——— Result

ANNEX 2

Assignment of Japanese experts

As of 31 Aug. 2003

	JFY			1998		1999				2000				2001				2002				2003				
	Month					4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	2/29
	Name	Field	Term																							
Long-term experts	Hiroshi Morita	Chief Advisor/ Optical Fiber Cable / LAN	1999.3.31~2002.3.30		3/31																3/30					
	Izumi Yamamoto	Coordinator	1999.3.31~2001.3.30		3/31												3/30									
	Toshihisa Kami	Digital Microwave	1999.5.25~2002.3.24		5/25																3/24					
	Shoichi Fukuoka	Digital Transmission	1999.5.25~2004.2.29		5/25																					
	Hiroshi Miyagishi	Digital Switching	1999.7.21~2002.7.20			7/21															7/20					
	Hiromi Mizuta	Coordinator	2001.3.1~2004.2.29										3/1													
	Mamoru Hirayama	Chief Advisor/ Optical Fiber Cable / LAN	2002.3.1~2004.2.29														3/1									
	Eihiko Hattori	Digital Microwave	2002.3.1~2004.2.29														3/1									
	Masayuki Okubo	Digital Switching	2002.7.8~2004.2.29																		7/8					
Short-term experts	Toshifumi Takei	Digital Switching	2000.8.29~2000.9.27							8/29	9/27															
	Shigeki Kawata	Digital Transmission	2000.8.22~2000.9.20							8/22	9/20															
	Susumu Ishikawa	Digital Microwave	2000.9.4~2000.9.30							9/4	9/30															
	Katsuyuki Otsu	Optical Fiber Cable	2000.8.22~2000.9.30							8/22	9/30															
	Yoshie Shimamura	LAN Technology	2000.9.4~2000.12.1 2001.6.11~2001.7.14							9/4			12/1	6/11	7/1											
	Junji Mori	LAN Technology	2000.9.4~2000.12.1							8/22			12/1													
	Masayuki Takazawa	Evaluation Analysis	2001.3.4~2001.3.24										3/4	3/24												
	Keiko Nomura	Rural Radio	2001.10.14~2002.2.9													10/14	2/									
	Hidenobu Tada	Training course management	2003.1.13~2003.1.24																		1/13 — 1/2					

ANNEX 3

Major Technical Equipment for the five fields
(OFC, Switching, Transmission, Radio, LAN)

Optical Fiber Cable	Digital Switching	Digital Transmission	Digital Microwave· Rural Radio	LAN
1.SM-10/125-0.5-UV(500m)×1 2.SM-10/125-0.5(250m)×1 3.SM-10/125-0.5-4T(500m)×1 4.Heat Sleeve FP-04-T(25PCS)×100 5.Heat Sleeve FP-03-T(25PCS)×100 6.Flooding Module Type SM×10 7.Holder FH-250×10 8.Holder FH-900×5 9.Holder FH-2×5 10.Holder FH-SM 4U×10 11.40SM-WBA(P)(1000m)×1 12.1-40SM-WBA(P)(1000m)×2 13.1-40SM Single core (P)(200m)×2 14. 32SM Inside Cable (SC-D4(30m)×2 15 SM FC for measurement (4MT-Seconnector type,3m)×2 16.OFC SM FC for measurement (FD4／FSC-2SM Type,3m)×2 17.CTF F#(U)OACTF-S)×1 18.Closure Box (SMCO-12B2)×13 19.FSC/FFC-2SM type 3m×2 20.FSC-2SM type 3m×2 21.Optical Time Domain Reflect meter ×2 22.Tool for maintenance×1set 23.Fusion Spicer×2 24.Optical Loss Test Set×3 25.Optical Loss test & Accessories×2 26 MT Connector Assembling machine ×2 27.Hot Jacket Stripper×12 28.Optical Fiber Cuter×10 29.MT Connector Single Core×1000 30.MT Connector 4 Core (MT Ferrule 4MT-1)×1000 31.Tape Dividing Tool×6 32.Jacket Coat Peeling Cutter×10 33.Terminationmember Cutting tool×10	1. Power Supply Equipment Rectifier 50A x 5Set, Battery 300AH x 2Set 2. Host (1) Signaling: No.7 &MFC-R2 (2) Ordinary Sub.×84 circuit (3)ISDN×34 circuit (4) Pay Phone×4 circuit (5)Digital Circuits×16DTI (6)Charging Equipment x (7)Basic Frame(CPU,TDM etc,) (8)Line and Trunk Frame (9)Operation and Maintenance Equipment: 1set (10)Printer For Maintenance Terminal): 1Set (11)Alarm Display (12)Magnetic Tape Unit (13)Software Program (14)Office Data (15)Power Supply Frame (16)Accessory 3.REMOTE (1)Signaling: No.7 &MFC-R2 (2)Ordinary Sub.×19 circuit (3)ISDN×6 circuit (4)Pay Phone×1 circuit (5)Digital Circuit×3DTI (6)Line controller×1 set (7)Software Program(for remote)×1 set (8)Office Data(for remote)×1 set 4.Maintenance Tools×1Set 5.Call Simulator ×1 6. Protocol Analyzer ×1	1.SMS-600V STM-1 &STM-4 Add/Drop Multiplexer×3 2 .NE6011 2M PCM multiplexer×2 3 NE6011 Sub rack×3 4. ETS V rack×3 5. M8011 Distribution frame×3 (1)M8011AB Terminal Panel×3 (2)M8011CA Terminal Panel×3 (3)M8011DB Optical fiber Distribution Panel ×3 (4)N8778DA Terminal panel×3 6.(1)LCT×3 (2) PCT×2 (3)KZ26G Signal Test Set×1 (4)Test cord set 1set (5)Tool for construction×1 (6)Tool for maintenance×1 7. SDH/PDH/ATM Analyzer×2 8. Optical Power Meter×1 9. Optical Attenuator×3 10.Digital Multimeter×2 11.PCM Channel Analyzer −×2 12.Data Transmission Analyzer×1 13.Analog oscilloscope×2 14.Signal tester×1 15.Resistance Attenuator×2 16.Decade Attenuator×2 17.Optical Spectrum Analyzer×1 18.Stabilized Light Source×1 19.Portable test Rack×12 20.Adaptor for Optical Cable (FC-FC, FC/D4 Optical Cable with Connector, D4-D4, FC-SC) ×35 20.Instruction Manual English & Japanese version ×3	1. STM-1 Digital Microwave TR set×3 2. Remote Control Set×1 (1) LCT×2 (2) OAM &P module×4 (3) Spare PKG 1set 3. MDF×1 (1) Coaxial Power Cable (2) Fixed Attenuator (3) Variable Attenuator 4. Maintenance set×1 5. Test cord set, Tool set 6. Installation tool set×1 7. Manual (E/J)×3 8, Digital Multi-meter×2 9, Spectrum Analyzer×2 10, Transmission Measurement set×1 11, Digital Microwave system Analyzer ×1 12 Frequency Counter×2 13, Power Mater×2 14, Synthesizer Sweep Generator X1 15, Carrier×6 16, Attenuator set×1 17, Adapter set×1 18. Terminal Adapter set×1 19, Microwave Amp×1 20. Rural Radio Access Base system set (Micro BTS)×1 21. Rural Radio Access Switching & Remote Control & Subscriber set (WSC)×1	1.Computor(with a built-in Wide Ultra SCSI Broad)×2 2.Ininterrupted Power Supply×2 3.Software MS - Windows NT4.0 (5Clients)×2 4.Software MS-Windows NT 4.0 Work station×10 5.Spoftware MS-Exchange Server 5.5×2 6.Router: CISCO1601×3 7.Computor (Work station) Compaq, Dpend P600/10/128/NTC LPN/ENG ×10 8.Printer Jet 4050N×2 9.SW Hub×3 10.Hub CISCO 1538M×3 11.ISDN Simulator×1 12.Network Analytical Software Set×1 13.Cable Tester×2 14.LAN Tool Kits×4 15.Instruction Manual×3sets Each 16.Hard disk Drive (Compaq Model : 14671-B22 with Japanese manual)×2.

ANNEX 4

Counterpart Training in Japan

As of 31 Aug. 2003

Name	Field	Term	Accepted Organization	Japanese Fiscal Year
				1999 (4 7 10 1) / 2000 (4 7 10 1) / 2001 (4 7 10 1) / 2002 (4 7 10 1) / 2003 (4 7 10 1 27/29)
Ms. Nguyen Duy Bien Yen	Digital Transmission System Technology	1999.9.14~1999.11.30	NTT-West	
Dr. Le Huu Lap	Telecommunications Management	1999.10.11~1999.10.30	NTT-East	
Mr Tran Quang Huy	Outside Plant Engineering	2000.1.10~2000.3.20	NTT-West	
Mr. Dao Quang Chieu	Digital Switching System Technology	2000.5.16~2000.6.29	NTT-East	
Mr. Nguyen Van Thuan	Digital Radio Technology	2000.5.22~2000.8.5	NTT-West	
Mr. Quan Hoai Nam	Optical Fiber Cable Technology	2000.1.8~2000.3.20	NTT-West	
Mr. Chu Quang Ngoc	Data Communications Technology	2000.1.9~2002.2.17	NTT-East	
Mr. Nguyen Minh Phuong	Digital Switching System Technology	2001.5.15~2001.6.28	NTT-East	
Ms. Nguyen Thi Thanh Huong	Digital Radio Technology	2001.9.17~2001.12.3	NTT-West	
Mr. Truong An Hai	Digital Transmission System Technology	2001.9.17~2001.12.3	NTT-West	
Mr. Ngo Xuan Thanh	Digital Switching System Technology	2002.6.24~2002.8.10	NTT-Neomeit	
Ms. Pham Thanh Mai	Digital Transmission System Technology	2002.9.30~2002.11.10	NTT-Neomeit	
Mr. Nguyen Trung Kien	Digital Transmission System Technology	2002.9.30~2002.11.10	NTT-Neomeit	
Mr. Duong Tran Duc	Data Communications Technology	2003.1.7~2003.2.15	NTT-DO	
Mr. Nguyen Tuan Phong	Digital Switching System Technology	2003.8.11~2003.9.21	NTT-Neomeit	

ANNEX 5

Vietnamese Counterparts

As of 31 Aug. 2003

JFY				1999				2000				2001				2002				2003				
Month			3/1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	4	7	10	1	2/29
Assign.	Name	Position																						
Administration	Dr. Le Huu Lap	Deputy Project Manager																						
	Mr. Chu Quang Toan																							
	Mr Nghiem Cuong																							
	Ms. Bui Thu Nguyet																							
Optical Fiber Cable	Mr Tran Quang Huy			7/1																				
	Mr. Quan Hoai Nam	Chief		7/20																				
Digital Switching	Mr. Dao Quang Chieu			7/1												4/17								
	Mr. Nguyen Minh Phuong	Chief		7/20																				
	Mr. Nguyen Tuan Phong							1/1																
	Mr. Ngo Xuan Thanh							10/9																
Digital Transmission	Ms. Nguyen Duy Bien Yen	Chief		7/1																				
	Mr. Truong An Hai			7/20																				
	Ms. Pham Thanh Mai							9/30																
Digital Microwave	Ms. Nguyen Thi Thanh Huong			7/1																				
	Mr. Nguyen Van Thuan	Chief		7/1																				
	Mr. Nguyen Trung Kien							10/9																
Data Communications	Mr. Chu Quang Ngoc	Chief		7/1																				
	Mr. Duong Tran Duc							9/4																
	Mr. Ha Cong Thanh							10/4								9/6								

ANNEX 6

Building And Other Facilities Provided by Vietnamese Side

No.	Name	No. of Room	Location
1	A-3 Building	-	PTTC-1
2	Project Leader Room	1	A-3 Building
3	Chief Advisor Room	1	A-3 Building
4	Administration Room	1	A-3 Building
5	Expert/Counterpart Room	1	A-3 Building
6	Teacher Room	2	A-3 Building
7	Class Room	2	A-3 Building
8	Computer Room	1	A-3 Building
9	Library	1	A-3 Building
10	Store	1	A-3 Building
11	Meeting Room	1	A-3 Building
12	Optical Fiber Cable Room	1	A-3 Building
13	Digital Switching Room	1	A-3 Building
14	Digital Transmission Room	1	A-3 Building
15	Digital Microwave Room	1	A-3 Building
16	Rural Radio Room	1	A-3 Building
17	LAN Room	1	A-3 Building
18	Logical Circuit Room	1	A-3 Building
Total		19	-

Vietnamese Side's Annual Budget Execution for JICA-PTTC1 Project

(VN Dong)

No.	Project Year	1	2	3	4	Total
	Period	1 Apr 1999 to 31 Mar 2000	1 Apr 2000 to 31 Mar 2001	1 Apr 2001 to 31 Mar 2002	1 Apr 2002 to 31 Mar 2003	
I	Staff salary & allowance	242,252,975	485,375,100	515,181,200	546,836,500	*1,789,645,775*
II	Operate expenses	258,914,578	642,148,700	726,773,610	595,956,256	*2,223,793,144*
1	Business travel allowance	3,840,000	13,786,000	13,939,488	38,103,000	*69,668,488*
2	Meetings, seminar	25,658,300	21,274,000	47,736,600	45,029,000	*139,697,900*
3	Stationary	30,843,900	74,895,100	-	14,121,800	*119,860,800*
4	Electricity & Water	1,997,742	1,440,000	66,409,000	4,270,300	*74,117,042*
5	New equipment purchase & maintenance	123,766,100	164,179,000	109,277,522	126,406,620	*523,629,242*
6	P&T service	12,464,736	65,354,200	17,654,400	134,622,036	*230,095,372*
7	Books & magazine	1,540,000	35,008,000	11,601,200	33,434,600	*81,583,800*
8	Delivery service charge of donated equipment	2,386,800	139,733,400	76,988,200	6,528,700	*225,637,100*
9	Reception expenses		40,749,300	19,727,600	39,078,700	*99,555,600*
10	Expenses for Training courses		18,078,000	284,312,800	25,320,700	*327,711,500*
11	Others	56,417,000	67,651,700	79,126,800	129,040,800	*332,236,300*
	Total	*501,167,553*	*1,127,523,800*	*1,241,954,810*	*1,142,792,756*	*4,013,438,919*

Note: The Vietnamese fiscal year is from January to December. The amounts in the above table have been rearranged according to the Japanese fiscal year from April to March. The budget for the Vietnamese fiscal year of 2003 amounts to 2,079,621 thousand Vietnamese Dong.

ANNEX 8

List of Textbooks and Lesson Plans prepared by the Project

	Name of Texbook	No. of Pages			
		Textbook		Lesson Plan	
		English	Vietnamese	English	Vietnamese
Optical fiber cable					
Combined	Outline of telecom network	14	24	15	24
Ditto	OFC Installation & Maintenance	101	108	14	33
Ditto	Standard closure	21	19	6	-
Ditto	Fusion Splicing	17	18	6	-
Ditto	MT connector	14	15	4	-
Ditto	Practice in fundamental logic circuit	40	42	8	8
Ditto	Optical fiber communication system	48	30	15	30
Ditto	Optical fiber cable technology	115	132	13	59
Ditto	OTDR practice	34	35	4	-
Ditto	Loss tester practice	11	10	3	-
Ditto	Digital transmission Technology	12	12	12	12
Switching					
Combined	Fundamentals of logic circuit & Pulse circuits practice	88	91	42	42
Ditto	Introduction to Traffic Theory	74	70	36	36
Ditto	Basics of Digital Switching	73	56	26	26
Ditto	Common Channel Signalling No7	69	63	24	24
Ditto	ATM	25	29	10	10
Ditto	LAN and TCP/IP	38	46	6	6
Ditto	ISDN	28	35	12	15
Ditto	Introduction and Application Subsystem of NEAX61igma	118	94	30	30
Ditto	Switching Subsystem of NEAX61igma	62	62		
Ditto	O&M subsystem	37	32	32	29
Ditto	Processor Subsystem of NEAX61igma	10	9	5	5
Ditto	Remote line unit of NEAX61Sigma	7	7	22	20
Ditto	Outline of NEAX61igma software	45	47	13	7
Ditto	Practice of NEAX61Sigma (V1)	33	40	14	14
Ditto	Practice of NEAX61Sigma (V2)	109	120	33	33
Ditto	Practice of NEAX61Sigma (V3)	55	67	22	22
Advanced	Fundamentals of VoIP	62	68	18	18
Ditto	ADSL	43	36	7	5
Ditto	Practice of NEAX61Sigma (V4) & (V5)	12	95	13	13
Transmission					
Combined	Fundamental digital transmission	91	122	48	50
Ditto	Fundamental theory of logic circuit	36	50	17	18
Ditto	Logic circuit practice-Pulse circuit	49	44	20	21
Ditto	Logic circuit practice-A/D & D/A converter	46	46	23	24
Ditto	Logic circuit practice-Pulse circuit	43	42	21	45
Ditto	Logic circuit practice-Counter	39	39	10	10
Ditto	SDH technology	54	54	23	23
Ditto	NE6011 2M PCM Multiplexer	181	147	15	15
Ditto	SMS-600V SDH Add/ Drop Multiplexer	91	91	13	13
Ditto	Setting up configuration for SMS 600V	140	124	12	12
Ditto	Maintenance management technology	51	73	10	10
Ditto	Digital transmission technology	91	89	29	29
Ditto	Telecommunication network technology	16	24	15	24
Advanced	Introduction of network planning	78	7	7	7
Ditto	Measurement equipment	60	60	10	10

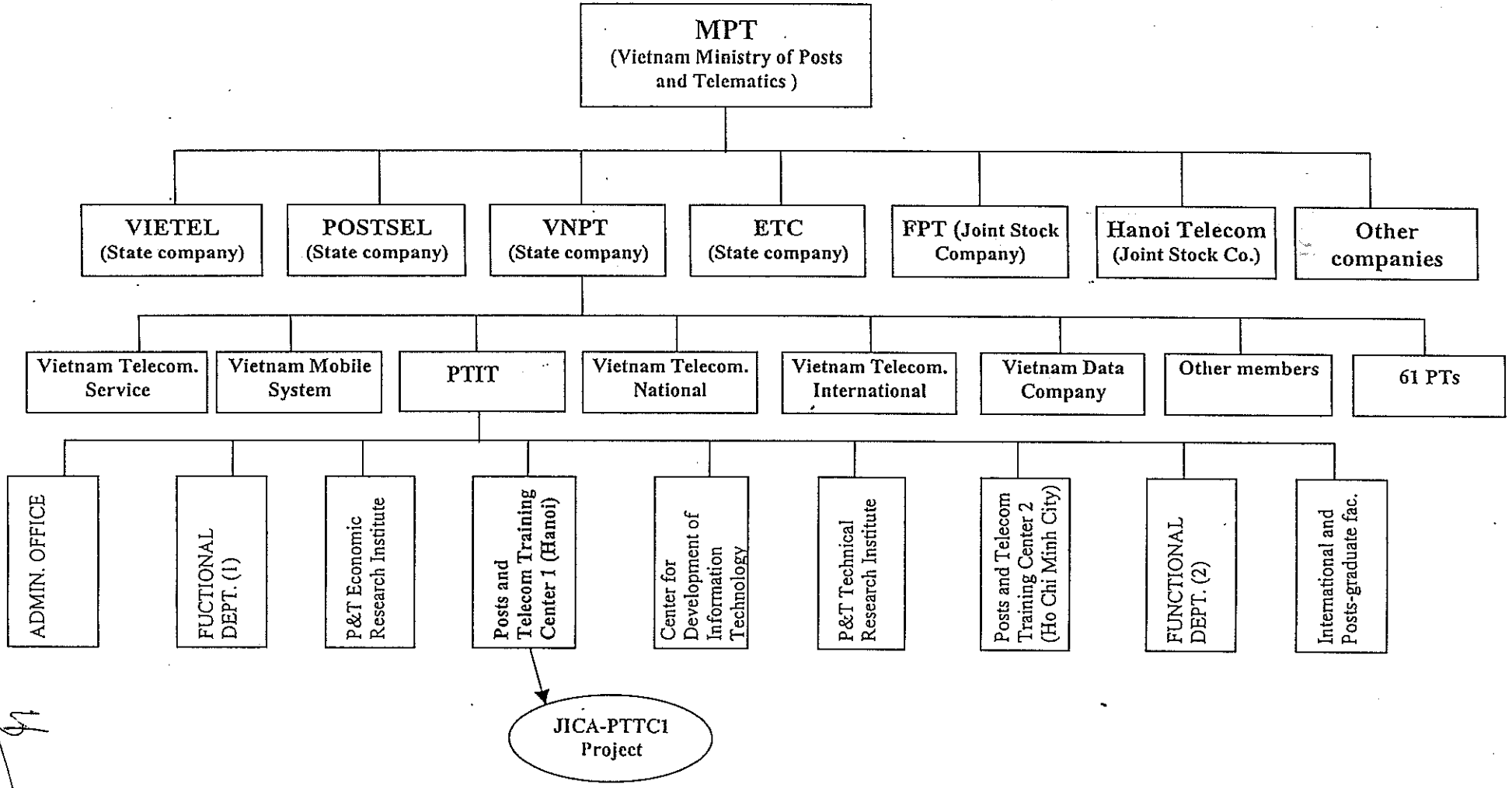
Radio

Ditto	Telecoms network technology	21	24	8	9
Ditto	Digital transmission theory	98	117	110	115
Ditto	Fundamental logic circuit	34	36	8	10
Ditto	Logic circuit practice-fundamental	41	44	15	17
Ditto	Logic circuit practice-A/D&D/A	47	44	13	15
Ditto	Logic circuit practice-Pulse circuit	45	47	10	12
Ditto	Logic circuit practice-Counter	37	40	15	17
Ditto	FM Logic Circuit	35	37	30	32
Ditto	Base of Radio Technology	67	69	34	35
Ditto	SDH technology	37	51	23	23
Ditto	Digital Radio Technology	81	69	18	13
Ditto	3000S SDH Radio System	59	71	11	14
Ditto	OAM&P on 3000S SDH Radio	79	90	11	10
Advanced	Management & operation for the digital microwave path	27	29	10	11
Ditto	Digital microwave path design	110	123	23	25
Rural	Rural telecommunication system	81	88	5	7
Ditto	CDMA technology	105	106	20	21
Ditto	CDMA-WLL equipment system	85	102	10	11
Ditto	OAM&P on CDMA-WLL system	194	200	31	32
Ditto	V5.2 Interface	32	37	7	8

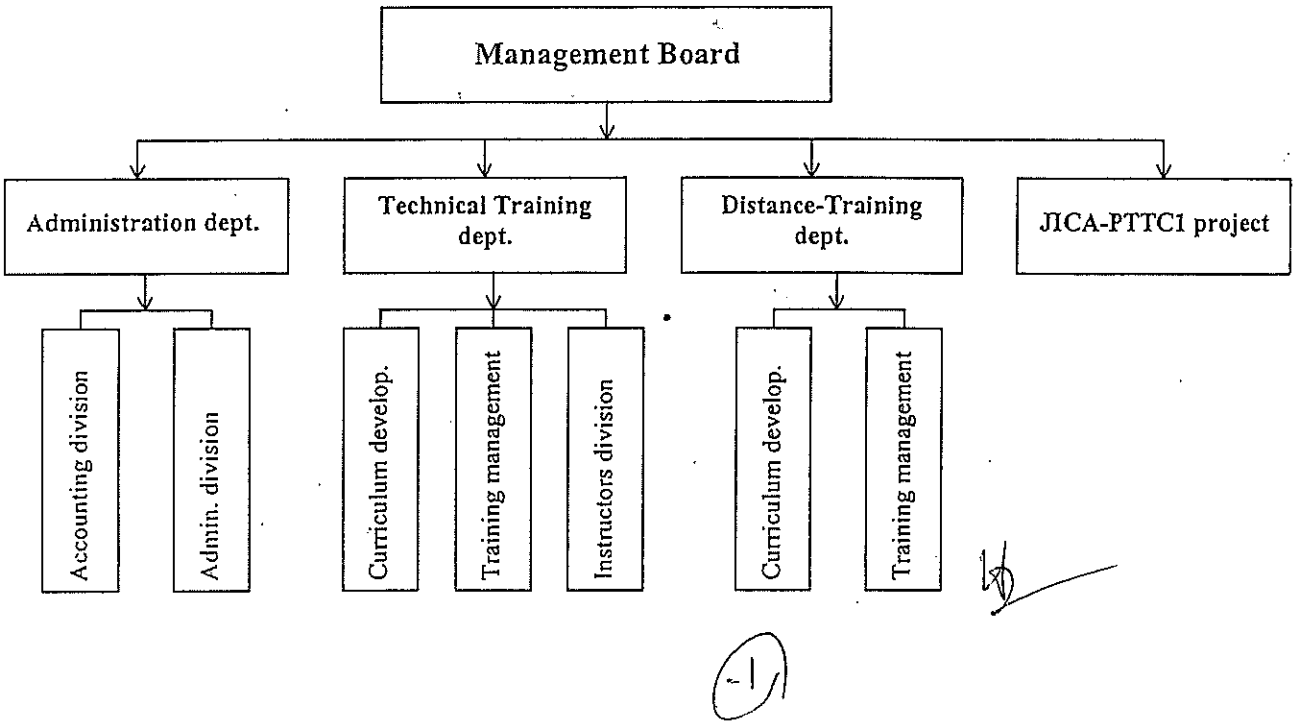
LAN

LAN	LAN Basic	92	140	6	8
Ditto	Windows NT	231	186	18	20
Ditto	Practice of Windows NT	97	82	3	-
Ditto	Router and switch	49	75	5	5
Ditto	Practice of Router and switch	85	85	6	-

PROJECT ORGANIZATION



Organization Chart of Posts and Telecommunications Training Center No. 1



Evaluation Grid

Criteria	Evaluation Items	Confirmation Items	Information Sources	Results
Achievement	Overall Goal The demands for human resources development and technical training in the field of the telecommunication in Vietnam are satisfied.	1. Over 80% of workplaces are satisfied with techniques which trainees have mastered.	Questionnaires to PTs	Questionnaires to PTs
		2. Over 90% of VNPT technical telecommunication staffs have been trained at PTIT from 2004 to 2007.	PTIT	PTIT: Over 90% of VNPT technical telecommunication staffs will be trained at PTIT from 2004 to 2007. PTTC1 is responsible for providing training on digital technology for 100% of VNPT technical staff who got technical degree from college level. Data = PTTC1 annual reports Provide training for PT staff according to the annual plan assigned by VNPT and training demand of PTs. No. of ex-trainees between 1999-2003 and information on PTIT's training faculties showing a present ability of PTIT Data = Pre-feasibility Report of the working group
		3. The training system established in the Project has dominated in other training courses in PTTC-1.	PTTC-1	PTTC-1: Since 2001 up to now all the training courses of PTTC1 are implemented in the same process of the project's ones. Over 50 training courses in the field of telecommunications had been opened at PTTC1 since 2001 Data -1 = Current situation of training implementation at PTTC1 Data -2= PTIT Course Guide Books
		4. The training system established in PTTC-1 has dominated in PTTC-2.	PTIT	PTIT: The training system established in PTTC-1 has dominated in PTTC-2. The training program and document were exchanged for better training activities of the two training centers. The process of developing training content was much improved Since 2001, the training courses to be conducted by PTTC2 had been included in Training Book Guide of PTIT which was prepared by PTTC1 through exchanging discussion with PTTC2. Some trainees from southern PTs participated the project's courses. Data-1= PTIT Course Guide Books Data-2= PTIT arranged for three visits to PTTC2 for experts and counterparts of JICA-PTTC1 project for exchanging information Data -3= The project's trainees list
	Project Purpose The training capacity of the Posts and Telecoms Training Center-1 is improved in order to practice training courses (Optical fiber cable, Digital switch, Digital transmission, Digital radio and LAN) required by telecommunication development in Vietnam.	1. Number of new training courses is 75.	Experts	Expert: No of training course has already reached to 74 as of 31 Aug 2003 and is reaching to 75 within Sept 2003. Data = Project's training course summary- Number of training courses
		2. 900 members of staff have been trained in the new training courses.	Experts	Expert: No of staff has already reached to 927 as of 31 Aug 2003, which is more than the target of the project purpose. Data = Project's training course summary – Number of trainees
		3. Over 80% of trainees are satisfied with the contents of the new training courses.	Experts	Expert: More than 80 % trainees has been satisfied with the contents of the new training courses. Data = Project's training course summary- Questionnaires to trainees
		4. The grasped needs in telecommunication sector are reflected in the contents of the new training courses in the Project immediately.	Questionnaires to PTs Experts	Questionnaires to PTs Expert: The grasped needs in telecommunication sector have been reflected in the contents of the new training courses in the project immediately. Data = Questionnaires to trainees. Data = Report of the PT visit. Data = Record of improvement on textbook, curricula, and LP.

	Outputs 1. The training system of the PTTC-1 is improved.	1-1 The PTTC-1 gets needs of training from VNPT periodically.	Experts	Experts : The PTTC-1 has been getting needs of training from VNPT periodically. Data-1=PTIT's instruction letter to PTTC1 re. 2003 training guide book Data-2 = File holders of OJT and PTs survey visits.
		1-2 There are training policies in PTTC-1.	PTTC-1	PTTC-1: There are training policies in PTTC1. PTTC1 provide training based on staff titles, new technologies and services, marketing & foreign language knowledge Data -1=PTIT Course Guide Books Data-2 = PTTC1 annual reports
		1-3 The training policies are along with the line of human resource development plan in VNPT.	VNPT	VNPT: Yes, The training policies have been along with the line of human resource development plan in VNPT. Data-2=PTIT's instruction letter to PTTC1 re. 2003 training guide book
	2. Recruitment system for the trainees of the PTTC-1 is established.	2-1 The application system is established.	PTTC-1	PTTC-1: The application system has been established. Data-1=Current situation of training implementation in PTTC1 Data-2=The PTIT Course Guide Books Data-3=PTTC1 Web-site (pttc1.edu.vn)
		2-2 The situation of PTs and ex-trainees' activities are grasped.	Questionnaires to PTs PTTC-1	Questionnaires to PTs PTTC-1: The situation of PTs and ex-trainees' activities has been grasped. Data-1=The questionnaires to PTs Data-2=The study report of PTs through OJT and survey visits made by the project's experts and counterparts
	3. The capacity of the instructors and top management of the PTTC-1 is improved.	3-1 Over 80% of trainees evaluate the teaching method of instructors positive.	PTTC-1	PTTC-1: Over 80% of trainees evaluated the curriculum, textbook and teaching skill positively according to the questionnaire to them. Data=Questionnaire to trainees
		3-2 C/Ps understand each method and technique.	Questionnaires to CPs CPs	Questionnaires to CPs C/Ps: almost all of the each method and technique have been understood. Data= Questionnaire to CPs.
		3-3 The information of each method and technique is exchanged among C/Ps.	Questionnaires to CPs CPs	Questionnaires to CPs C/Ps: The information of each method and technique has been being exchanged among C/Ps. Data-1=Summarized training report Data-2=Presentation of PT visit and OJT.

	4. The training courses (Optical fiber cable, Digital switch, Digital transmission, Digital radio and LAN) are established.	4-1 There is gist for making textbooks and teaching material.	Experts	Experts: We have formed the gist in order to produce adequate textbooks and teaching materials. Data-1 =Document Layout for Course Material -making method rule in 1999 Data-2 =The Effective Instruction Technique
		4-2 The contents of curricula, texts and teaching materials are proper.	Experts	Experts: The contents of curricula, texts, and teaching materials are proper. Data = Questionnaires to trainees
		4-3 CPs can make curricula, texts and teaching material by themselves.	Questionnaires to CPs CPs	Questionnaires to CPs CPs: All CPs made all curricula, texts and teaching materials by themselves. Data =The questionnaires
	5. The training implementation system of the PTTC-I is established.	5-1 Management of facilities is proper.	Experts	Experts: Up dating of the equipment-List has being made properly: Data = Management-List for Technical equipment Management-List for Expert's equipment Management-List for Project fund's equipment Implementation of the stocktaking has being made properly: Data = Checking-List of the stocktaking, Results of the stocktaking, Plan of countermeasure
		5-2 Assignment of staff is along with the line of human resource development plan in MPT and VNPT.	MPT VNPT PTIT PTTC-I	MPT: Yes. Data: Decision by the Prime Minister approving the Post and Telecommunication development until 2010 and orientations up to 2020 VNPT: Yes. VNPT annually give the target of no. of trainees to PTTCI together with the financial plan on facilities investment based on the VNPT development plan Data: PTTCI annual reports Data: VNPT development plan of five years from 2001 to 2005 PTIT: Yes. VNPT and its member organizations have the long-term and short-term plan for human resource development, which are approved by MPT & VNPT. Beside, PTTC1 and PTTC2 always over-complete the annual targets Data: PTTC1 annual reports PTTC-1: Yes. The training implementation system and human resource development plan were established. In 2001, PTTCI re-structured its technical training department by putting more attention on marketing in order to introduce PTTCI training courses and to grasp training needs of VNPT production units Data 1 = Current situation of training implementation in PTTCI Data 2 = PTTCI organization chart

		5-3 Securing budget is along with the line of human resource development plan in MPT and VNPT.	MPT VNPT PTIT PTTC-1	VNPT: Yes. VNPT member-units have the training budget of 1,200,000VND/labour/year for the staff working in the VNPT's divisions, training budget of 600,000VND/labour/year for the PTs which don't have BCC contracts; and training budget of 500,000VND/labour/year for the PTs which have BCC contract. Data = VNPT regulations on tuition collection PTIT: Yes. The budget is planned and approved annually. Data = VNPT regulations on tuition collection PTTC-1: Yes. Training budget of VNPT's member-units and operation budget of PTTC1 are always along with the line of human resource development plan in MPT and VNPT. PTTC1's training budget comes from tuition. Data = in 2002 budget plan is of 1.9 billion VND; and in 2003 is of 2,3 billion VND Data = PTTC1 annual reports
	6. Monitoring and evaluation system is established.	6-1 There are the Monitoring and Evaluation implementation plans.	Experts	Expert: The way of identifying the Monitoring and the Evaluation implementation plans has been determined by the Mid Term Evaluation and being shown on the documents at Clause-III, III-1, Data = Clause- III-1 in the Minutes of the Mid Term Evaluation
		6-2 There are the Monitoring and Evaluation implementation schedule and a person in charge.	Experts	Expert: Implementation Schedule and Person in charge of Monitoring and Evaluation for the Project Management are reviewed at SC and JCC as well as weekly Management Meeting. Data = Records of discussion of the SC and JCC as well as weekly Management Meeting.

	Pre-conditions	The building for the Project is completed along with the plan.	PTTC-I	PTTC-I: The A3 building has been completed a bit behind the schedule and become available for use of project's activities on early August 2000, and then fully completed on 13 September 2000. Data = A3 building construction progress report (Minutes of SC meetings No.1~13; and JCC meetings No1 and No2)
	Inputs (Vietnamese)	1. Assignment of C/P and staff Project Director 1 Project Manager 1 (C/P instructors) Digital microwave 2 Digital transmission system 2 Digital switching system 2 Optical fiber cable 2 Data communication 2 (Administrative staff) Head 1 Staff 1 Drivers and others	PTTC-I	PTTC-I: Assignment of counterparts and staff, including administrative staff has been satisfactorily executed in accordance with the ANNEX-V of the R/D. Data = List of the counterpart's allocation Personal history of the counterpart
		2. Preparation of necessary facilities Classrooms, Workshop, Expert rooms, etc. with electric, telephone, gas water supply	PTTC-I	PTTC-I: All the necessary facilities are well-arranged by the PTTC1 to facilitate the smooth implementation of the project. At the beginning time the Project was located at A1 Building and latter on, it moved to the new building A3, which has enough space for installation of JICA equipment. The construction work of the A3 Building was commenced on 23rd October 1999, and completed on 13th Sept 2000. However, before completion ceremony of the construction work, the first shipment of JICA technical equipment had arrived and they had been installed at 5th floor of the A3 Building in July 2000. Then the Project had completed to move its sites to the A3 Building, which had been providing as essential utility as mentioned in Annex VI of the R/D, on 20th Dec 2000. Data: Minutes of the SC and JCC meetings
		3. Budgetary allocation for local cost	PTTC-I	PTTC-I: Local cost has been well-secured and executed by PTTC1. Data = Vietnamese side's Annual Budget Execution for JICA-PTTC1 project

	Inputs (Japanese Side)	1. Dispatch of experts a. Long-term experts Chief advisor/outside plant/optical fiber cables 1 Coordinator 1 Microwave 1 Transmission 1 Switching 1 b. Short-term experts Data communication, ISDN, and others will be dispatched if necessary.	Experts	Expert: 5 Long-term experts have been ceaselessly assigned in accordance with the ANNEX II of the R/D, and the short-term experts have been dispatched in accordance with the necessity based on the ANNEX II of the R/D.. Data = Assignment of Japanese Experts
		2. Provision of Equipment and Machinery for telecommunication technology training	Experts	Expert: Provision of the technical equipment has been successfully made in accordance with the ANNEX III of the R/D. Data = Master-List of the technical equipment.
		3. C/P training in Japan 15 persons for 5 years in the fields of Digital microwave, Digital transmission, Digital switching, Optical fiber cable Data communication, Training management	Experts	Expert: 15 counterparts have already been dispatched to Japan as of 31 Aug 2003 in accordance with the mutual consensus obtained at SC and JCC. Further more, one counterpart is currently scheduled to be dispatched to Japan in October 2003. Data = List of counterpart training in Japan.(from F/Y1999-F/Y2003)

Criteria	Evaluation Items	Confirmation Items	Information Sources	Results
Process of activities	Activities against schedule	1.1 To analyze the status in the field of the telecommunications in Vietnam 1.2 To grasp the training needs of the telecommunication situation in Vietnam 1.3 To make the training policy of the PTTC-1	Experts	Expert: 1.1 We analyzed the status as schedule. Data1=A study report of consultant Data2=Pre-feasibility Report of the working group Data3=The study report of PTs 1.2 We grasped the training needs as schedule. Data=The study report of PTs 1.3 We made the training policy as schedule. Data-1=PTTC1 annual report Data-2='Training courses in plementation plan of the Project
		2.1 To make recruitment system for applicants to the PTTC-1 training courses 2.2 To hold the regular meeting with the organizations which trainees belong to	Experts	Expert: 2.1 We made the recruitment system as schedule Data-1=The current situation of training implementation at PTTC1 Data-2=The Course guide 2.2 We hold the meeting as schedule Data=The study report of PTs
		3.1 To introduce the method of how to develop the curriculum 3.2 To master the expertise techniques in the respective fields 3.3 To introduce the method of how to develop the textbooks and teaching material 3.4 To master the methodology of training techniques 3.5 To introduce the method of course management 3.6 To introduce the method of course evaluation	Questionnaires to CPs CPs	Questionnaires to CPs 3.1 We introduced the method of how to develop the curriculum. Data=Report by the Short Term Expert. Note: Method has been introduced by the Long Term and Short Term Experts. 3.2 We made the CPs master the expertise techniques in the respective fields. Data=Instructor rotation table for each lecture, OJT report, Result of questionnaire to trainees. 3.3 We introduced the method of how to develop the textbooks and teaching material. Data-1 = Manual "Document Layout for Course Material AD1999-002-8(E)" and the actual textbooks, Data-2=The Effective Instruction Technique. 3.4 We made CPs master the methodology of training techniques. Data-1=Questionnaire to trainees, Data-2=The Effective Instruction Technique. 3.5 We introduced the method of course management. Data-1='Training program, evaluation of trainees about training course. Data-2=Current situation of training implementation at PTTC-1. 3.6 We introduced the method of course evaluation. Data=Questionnaire to trainees.

		4.1 To develop the curriculum of the training courses 4.2 To make the necessary textbooks and teaching material for the teaching courses 4.3 To implement the training courses 4.4 To evaluate the contents of the training courses 4.5 To revise the contents of the training courses	Experts	Expert: 4.1 Curriculum for the training courses has been completed. 4.2 Necessary textbooks and teaching material for the teaching courses have been completed. 4.3 The training courses have been implemented. Data=SC minutes and PDM Project Report. 4.4 Evaluation of the contents of the training courses has been completed. Data=The course summary 4.5 The contents of the training courses have been revised accordingly. Data=Training Course Management Report
		5.1 To introduce the method of how to maintain the machinery and equipment for training 5.2 To arrange appropriate personnel in accordance with the plan 5.3 To make a budget plan and execute it properly	Experts CPs	Expert: We introduced the method as follows 5.1 Equipment F/Y1998-2002 have been delivered accordingly. Data=Master-List for Technical equipment from F/Y1998 to 2002. Up dating of the Equipment-List has been made accordingly. Data=Master-List for Technical equipment from F/Y1998 to 2002 Data=Management-List for Technical equipment from F/Y1998 to 2002 Data=Management-List for Expert's equipment F/Y1999 to 2003 Data=Management-List for Project fund's equipment F/Y1999 to 2003 Guidance for equipment checking & maintenance was made accordingly. Data=Management-List for Technical equipment from F/Y1998 to 2002 Data=Management-List for Expert's equipment F/Y1999 to 2003 Data=Management-List for Project fund's equipment F/Y1999 to 2003 Preparation for receiving Technical equipment from F/Y1998 to 2002 has been made accordingly. Data=Management-List for Technical equipment from F/Y1998 to 2002 Stocktaking has been executed accordingly. Data=Checking-List of the stocktaking, Results of the stocktaking, Plan of countermeasure 5-2 The planned counterparts for Administration, OFC, Switching, Transmission, Radio and LAN (at least 2 for each technical field) have been allocated in accordance with the ANNEX-V of the R/D. Data= List of the counterpart's allocation Personal history of the counterpart 5-3 Vietnamese annual budget plan for the project (F/Y1999-2003) has been provided.

				Data = Annual budget plan for the project for F/Y1999-2003. Expenditure of the budget has been executed in line with the budget plan. Data = Results of the Annual budget execution for F/Y1999-2002.
		6.1 To identify Monitoring and Evaluation implementation plans for the Project management. 6.2 To identify the implementation schedule and a person in charge of Monitoring and Evaluation for the Project Management. 6.3 To implement monitoring and evaluation for the Project management.	Experts CPs PTTC-1	Expert: 6.1 The way of identifying the Monitoring and the Evaluation implementation plans has been determined by the Mid Term Evaluation and being shown on the documents at Clause-III, III-1. Data = Clause-III, III-1 in the Minutes of the Mid Term Evaluation 6.2 Implementation Schedule and person in charge of Monitoring and Evaluation for the Project Management have been reviewed at SC and JCC as well as weekly Management Meeting. Data = Record of Discussion of the SC and JCC as well as Weekly Management Meeting. 6.3 Monitoring and Evaluation have been made by MM, SC and JCC meeting. Data = Record of Discussion of the SC and JCC as well as Weekly Management Meeting. **PTTC-1:** Director of PTTC1 directly identify the project implementation plan, and he himself monitor and evaluate the project activities through the weekly management meetings with project's Chief Advisor and Coordinator, and regular meetings with the project's Head of administration and Vietnamese counterparts. Data = Minutes of weekly meeting between PTTC1 Director and Chief Advisor, minutes of SC, JCC meetings

	Monitoring	Adjustment of PDM	Experts	
	Cooperation between Japanese experts and counterparts	Relationship Joint efforts to address major issues Ownership of counterparts	Experts CPs PTTC-1	Expert: Very Good We have held several JCC to address major issues. Data = Minutes of JCC CPs have produced Training Plan for F/Y2004. Data = Training Plan for F/Y2004 PTTC-1: Japanese experts and Vietnamese counterparts has developed very good cooperative relation. Japanese experts are good example of working in accordance with the plan. They are very serious in the job, and experienced in management. Especially, Japanese experts always sympathy with the Vietnamese conditions and enthusiastically support Vietnamese counterparts in fulfilling their duties. Data 1= Exchange work related information through the weekly management meetings, SC, JCC meetings Data 2= Survey visits together to VNPT's production units in order to grasp the training needs and to listen to their comments on the project's training courses Data 3= Spend summer holiday together (2000: in Cat-ba island; 2001: Mong-cai beach; 2002: Cua-lo beach; 2003: Quang-binh province). Picnics and other out-office activities were organized for the counterparts and experts. Vietnamese counterparts take every efforts to study and improve their technical and managerial knowledge, step by step take their own initiatives in implementing the project's activities. The technical skill and knowledge of the counterparts are much improved. The communication, writing and reading skill in English is improved thanks to the daily communication with the experts and papers of the project daily work is written in English. Training course management is much improved Data 1: Questionnaires to trainees after each training course Data 2: Textbooks prepared by the counterparts in English
	Feedback from the trainees	Utilization of the feed back	Experts	Expert: We have improved the contents of training for the next coming training course based on the trainees questionnaires. Data = Course summary.
	Ownership of PTTC-I	Participation of the management staff Budget allocation Assignment of counterparts	Experts CPs PTTC-I	Expert: Vietnamese management staff has been regularly participating to the MM, SC and JCC. Data = Minutes of MM, SC and JCC. Vietnamese budget has been appropriately allocated. Data = Annual budget plan for the project for F/Y1999-2003 Results of the Annual budget execution for F/Y1999-2002 Assignment of counterparts has properly executed.

				Data = List of the counterpart's allocation Personal history of the counterpart PTTC-I: Administration counterparts are the persons who have contributed a lot to the project result from the project work planning, budgeting, activities implementation to the monitor, management, evaluation on the project's activities. The close cooperation with the experts has been set up to carry out all activities in the most effective way. Data = Minutes of weekly management meetings and SC, JCC meetings The project's local cost has been properly budgeted from the beginning of every year, and the budget has been executed for the project operation accordingly. Data = Annual budget plan and execution for JICA-pTTc1 project provided by Vietnamese side The assignment of counterpart has been made beyond the original plan. Data = List of counterparts allocation

Criteria	Evaluation Items	Confirmation Items	Information sources	Results
Relevance	Consistency between the overall goal and the Vietnam's national development policy	Consistency with the national development policy (Reference: Satisfying the demand of the "sector = HRDP & training" develops integrated socio economics in the national development policy)	MPT VNPT PTIT PTTC-I Note: It seems that this column should include MPI.	MPT: The overall of the project exactly matches the national policies and so does the project purpose. Data = The decision by the Prime Minister approving the post and telecommunication development to 2010; and orientations up to 2020 VNPT: Yes, consistent Data = VNPT summary report on speed-up development plan in the field of post and telecommunication – period of 1993-1995 and 1996-2000 PTIT: Completely consistent because the training and education policy is put as the top priority by the Government Data = The decision by the Prime Minister approving the post and telecommunication development strategy to 2010, and orientations up to 2020 PTTC-I: The Government of Vietnam always considers the posts and telecommunications sector as an important economic sector, playing important role in the country's development process. Especially, in the coming period of integration and competition, MPT and VNPT pay a special attention to the human resource development policies. Data = VNPT annual plan re. human resource development
		Meeting the demand of the sector (Sector = Telecommunication field)	MPT VNPT PTIT PTTC-I	MPT: Basically meet the human resource demand of the telecoms sector. Data: The decision by the Prime Minister approving the post and telecommunication development strategy to 2010, and orientations up to 2020 VNPT: Meeting partly the VNPT training demand on basic training in the field of telecommunication and information technology Data: The decision by the Prime Minister approving the post and telecommunication development strategy to 2010, and orientations up to 2020 PTIT: The modernization speed of the Post and telecommunication sector is classified at high level in the region, therefore, provide training to help staff master new technologies is an important duty of PTIT. PTIT always try to fulfill this duty in order to meet the requirements of the sector and the society. Data = Pre-feasibility study report made by the PTTC1 working group-Part of PTIT instruction PTTC-I: The project has created a new capability for VNPT in terms of training equipment system, good team of instructors and managers. Moreover, the project has trained for around 900 technical staff of VNPT, making considerable contributions to the technical capability improvement of its staff. Data 1 = List of project's training equipment system Data 2 = Questionnaires to trainees after each training course Data 3 = List of textbooks in Vietnamese and English prepared by counterparts Data 4 = List of project's trainees
	Consistency with Japan's ODA policy	Consistency with the ODA policy for Vietnam	JICA	"The five priority areas of Japan's ODA for Vietnam were agreed upon between the Government of Vietnam and the Government of Japan. One of them is Economic Infrastructure Development. This project is consistent with this priority. Note: The Government of Japan is planning to revise its policy to Vietnam, with which this project will consistent.
		Japan's technological advantages	Experts	Expert: Japan has completed the digitalization for telecommunication network and been accumulating a lot of experiences for human resource development and related training.

	Relevance in terms of the equity	Selection procedures of the trainees	Experts PTTC-1	Expert: The selection procedure is proper. Data = The course result summary. PTTC-1: The selection procedures for the trainees are standardized and the selected trainees have met the requirements on training participation. Data 1 = PTTC1 Web-site (pttc1.edu.vn) Data 2 = PTIT Training Book Guide Data 3 = Training result report after each training course
	Consistency between the Project purpose and the Vietnam's needs	Consistency with the MPT's overall strategy	MPT	MPT: Yes. Data = Vietnam Post & Telecommunication Development strategy till 2010 and orientation till 2020
		Relation between public and private organizations	MPT VNPT PTIT PTTC-1	MPT: MPT is in charge of regulatory management and giving directions in the fields of posts and telematics. VNPT is incumbent. PTTC-1 is belong to PTIT in charge of training field. PTIT is under directly supervision and guidelines of VNPT as well as MPT. Data 1 = Government decree on MPT obligations and structure Data 2 = Decision on PTTC1 establishment VNPT: Cooperation relation under the legal frame of the State of Vietnam. The point of view is cooperation for together development. PTIT: The government encourages the business activities of private enterprise, therefore, there is no difficulty in the relation between the public and private organization. Data = List of training courses provided by PTTC1 to other telecommunication companies, etc PTTC-1: PTTC1 not only provides training for VNPT's staff, but also for staff of other organizations like VIETEL, ETC, SAIGON POSTEL, etc. Data = List of training courses provided by PTTC1 to other telecommunication companies
Effectiveness	Achievement of the Project purpose	Current status of the indicators of the Project purpose	Experts Questionnaires to PTs	Expert: Current status of the indicators of the Project purpose are as follows; 1) No of training course has already reached to 74 as of 31 Aug 2003 and is reaching to 75 within Sept 2003. Data = Training course summary-Number of training course. 2) No of staff has already reached to 927 as of 31 Aug 2003, which is more than the target of the project purpose. Data = Training course summary-Number of trainees 3) More than 80 % trainees has been satisfied with the contents of the new training courses. Data = Training course summary-Questionnaires to trainees. The grasped needs in telecommunication sector have been reflected in the contents of the new training courses in the project immediately. Data = Questionnaires to trainees. Data = Report of the PT visit. Data = Record of improvement on textbook, curricula, and LP. Questionnaires to PTs
	Factors constraining project outputs to achieve Project purpose	CPs' achievement	Experts Questionnaires to CPs CPs	Expert: We had no particular factor to constrain project output. Questionnaires to PTs

Criteria	Evaluation Items	Confirmation Items	Information sources	Results
Efficiency	Quantity, quality and timing of the inputs	Vietnamese and Japanese	Experts CPs PTTC-1	Expert: All inputs have been implemented in accordance with the plan. Data = PDM Project Report (From Mar 2002 to Aug 2003) Data = Minutes of Mid Term Evaluation PTTC-1: Regarding the inputs, both Vietnamese and Japanese sides had contributed according to the mutual agreements mentioned in the Minutes of Discussion signed from the beginning days of the project.
	Utilization of the inputs	Curricula	Experts CPs PTTC-1	PTTC-1: Curriculum has been well evaluated. The classrooms, laboratories, working rooms, training equipment and tool, and training material have been utilized effectively
	Factors promoting Project activities to produce Project outputs	CPs' technical development	Experts Questionnaires to CPs CPs	Expert: OJTs recommended by the Mid Term Evaluation have been carried out. Data = OJT Report C/Ps Training in Japan have been implemented as scheduled. Data = List of C/Ps Training in Japan Visiting PTs have been implemented. Data = Presentation record made by the C/Ps. Questionnaires to CPs
	Linkage with other cooperation projects		Experts	Expert: For instance, there is a network expansion project in the central PTs, which seems to make current network structure far more complicated and more demands on the staff concerned. The output of the project shows its capabilities to meet the demand derived from the network expansion project. Data = Outline of the network expansion project in the central PTs.
Impact	Prospects of the overall goal		MPT VNPT PTIT PTTC-1	MPT: The overall goal of the project will be matched the national policies as well as project purpose. Data = Vietnam Post and Telecommunications development strategy to 2010 and orientations up to 2010 VNPT: The project has made impact on the training orientations of VNPT in the coming years. Since the project is equipped with the modern training equipment system, and well-prepared textbooks the number of trainees registers for each course is increasing. PTTC1 annual reports showing the increasing number of trainees year by year. Data = PTTC1 annual reports PTIT: Achieve the overall goal of improving the training capability of PTTC1. PTTC1 now is able to organize the international training course. Data 1= PTTC1 proposal for third-country training based on JICA-PTTC1 project's facilities Data 2= List of international training courses conducted by PTTC1 in 2003 (Vannex-15) PTTC-1: Technical training equipment and curriculum of the project are likely to be used for human resource training of VNPT contributing to the firm development of telecommunication sector in general. Data = 2004 Tentative schedule of the project
	Impact on PTTC-1		PTTC-1 CPs Experts	Expert: For instance, some C/Ps have carried out the training course of PTTC-1 Data = PTTC-1: Managerial capability and quality of training courses are increasing in the PTTC-1. The trainee selection system and training course evaluation are very close to the production fields. Data 1= Current situation of training implementation in PTTC1 Data 2= List of textbooks which are approved for training in PTTC1
	Impact outside PTTC-1	Capacity building of PTs	MPT	MPT: Enhancing the human resource capability of the PTs.

			VNPT PTIT Questionnaires to PTs	Data = The questionnaires to PTs VNPT: VNPT is satisfactory to the impact created by the project to PTs which had sent their staff to attend the project's training courses at PTTC1. Data = The questionnaires to PTs PTIT: Positive impact to other training organizations. Impact on PTTC2 through guidance in preparing Training Guide Book. Data 1 = PTIT Course Guide Books Data 2 = List of training courses for other telecommunications companies and worker training school 1 Data 3: Questionnaires to PTs
	Impact on reputation of Japan's cooperation		Experts	Expert: Public media, such as magazine and newspapers. Data = Public magazine and newspapers.

Criteria	Evaluation Items	Confirmation Items	Information sources	Results
Sustainability	Institutional sustainability	Organizational strength	PTTC-1	PTTC-1: PTTC1 structure is organized in such a way to stabilize and effectively implement training courses, and in line with the obligations assigned by VNPT.
		Staff assignment, appropriateness, stability	PTTC-1	PTTC-1: Staff assignment is appropriate and stable.. Data = PTTC1 plans to continue utilize the project's counterparts as the PTTC1 instructors
		Operation and management capability	PTTC-1	PTTC-1: PTTC1 is improved a lot in terms of operation and management capability. The growth in terms of No. of trainees and revenue is reflected in the annual reports of PTTC1 Data = PTTC1 annual reports
		Feedback from the PTs	PTTC-1 Questionnaires to PTs	PTTC-1: Training curriculum, training organization and management are highly appreciated. Annually PTTC1 organizes customer conference inviting the personnel managers and the training in-charge persons at PTs in order to listen to their comments on PTTC1 training courses including the project's training courses. Data 1 = PTTC1 annual reports Data2 = Report at the Conference on PTTC1 Training Quality Improvement Questionnaires to PTs
		Continued support by the government	MPT VNPT PTIT PTTC-1	MPT: Continued to receive support from the government such as: finance investment, facilities investment, strengthening teachers' capability and others. Data = Vietnam post and telecommunication development strategy to 2010 and orientations up to 2020 VNPT: Since VNPT is 100% invested by the State, the support by the government shall be continuos to the corporation. PTIT: The project on human resource training is encouraged and supported by the government. Data = The list of human resource development projects supported by the Government to PTIT PTTC-1: The Government creates favorable conditions for Telecommunications field development. PTTC1 is supported by several projects. Data 1= The list of human resource development projects supported by the Government to PTTC1/PTIT Data 2=The distance training project of PTTC1 Data 3: Visits to PTTC1 made by high-ranking officials including the Deputy Prime Minister Nguyen Tan Dung.
		Incentives of staff and attractiveness of PTTC-1 as a job	PTTC-1	PTTC-1: Apart from the favorable policies of the sector, PTTC1 ensures good implementation of the salary policies, encouraging its staff to improve the capability Data = Average income of PTTC1 staff is higher than the average income of VNPT's and PTIT's member-units.
		Monitoring system	PTTC-1	PTTC-1: The monitoring system is kept improving in line with management activities. Data = New personnel arrangement of PTTC1 reflected in its organization chart
	Financial sustainability	Financial soundness	PTTC-1	PTTC-1: VNPT, PTIT and PTTC1 always have budget plan for training activities and human resource development. Data = PTTC1 annual reports
		Trend of budget from the government	MPT VNPT	MPT: Receive financial support directly from VNPT VNPT: Budget will be continuously provided by the government.

			PTIT PTTC-1	Data = Budget for VNPT is provided based on some percentage of the corporation's revenue **PTIT:** The trend can be seen through the annually approved budget Data = PTTC1 plan approved by PTIT in 2003 **PTTC-1:** The state budget is suitable for requirements of the Post and Telecommunication sector's human resource development. Data = VNPT Training budget for its production units
		Trend of the own financial source	PTTC-1	**PTTC-1:** The financial income of PTTC1 is based on the annual training plan and practical implementation. A trainee has to pay 300,000VND for one-week training at PTTC1. Data = Regulations on tuition collection to PTTC1 trainees
	Technical sustainability	Sustainability of transferred technologies	PTTC-1	**PTTC-1:** Keeping providing training and updating knowledge for VNPT staff, ensuring the effectiveness of production and business activities. Data = Draft of PTIT Course Guide Book 2004
		How to cope with CPs' lack of field experiences	PTTC-1 Questionnaires to CPs CPs	**PTTC-1:** Continue to send them for on the job training at production units of VNPT. Data = Project tentative schedule 2004 **Questionnaires to CPs**
		Maintenance and upgrading of equipment	PTTC-1 Questionnaires to CPs CPs	**PTTC-1:** The plan on regular maintenance and upgrading of the equipment will be issued by PTTC1. The budget for regular maintenance and upgrading of the equipment is included in the PTTC1 annual plan approved by PTIT. Data = PTTC1 annual plan approved by PTIT **Questionnaires to CPs**
		Need for spare equipment	Experts PTTC-1 CPs	**Expert:** The project has some necessary spare parts and if needed more in future, Vietnamese side shall be required to provide them by themselves. Manufacturer's list will be provided. Data = Manufacturer's list **PTTC-1:** Personal computers, upgrading of software of the exchanges, purchase additional terminals for practical exercises of trainees Data = LAN, software of NEAX61 Sigma, operation PC, transmission, microwave, rural radio, etc.

	Prospects of external conditions	**Activity Level** The customs and procedures of transportation do not cause long delays.	PTTC-1	**PTTC-1:** The delays due to customs and procedures of transportation may continue, however, PTTC1 already had specific plan for each training course to limit the difficulty. Data = PTTC1 course announcement letter
		Outputs Level Trained C/Ps and staff keep working in PTTC-1.	PTTC-1	**PTTC-1:** Yes. The project staff and counterparts keep on working at PTTC1 since they had already signed long-term labour contract with the PTTC1 Director Data = Long-term labour contracts between the PTTC1 Director and the counterparts
		Project Purpose Level a. The machinery and equipment for new technology are installed at the recipient units of graduates.	MPT VNPT	**MPT:** Yes Data = Vietnam post and telecommunication development strategy to 2010 and orientations up to 2020 **VNPT:** Installation of new equipment at the training recipient organizations goes along with the business operation plan of VNPT and its member units Data = Ten central province project
		b. Improvement of training is implemented continuously in PTIT.	PTIT	**PTIT:** The project's target is reached and has positive effects on PTIT development. Data 1 = Draft of PTIT Course Guide Book 2004 Data 2 = Project tentative schedule 2004
		c. The techniques of planning, designing and constructing each course in telecommunication sector are improved.	PTTC-1	**PTTC-1:** The techniques are much improved and step by step become a compulsory task for instructors and staff. Data 1 = Textbooks and lesson-plans prepared by the project's counterparts Data 2 = Draft of PTIT Course Guide Book 2004
		Overall Goal Level a. The needs for telecommunications technology keep on continuing in Vietnam.	MPT VNPT	**MPT:** Yes. Data = Vietnam post and telecommunication development strategy to 2010 and orientations up to 2020 **VNPT:** It is true: from analog technology in 1980s, to digital technology in 1990s and to IP technology in 2002 Data 1: VNPT summary report on speed-up development of the sector Data 2: VNPT development strategy in the period of 2001-2005
		b. National telecommunication manpower development plan remains basically unchanged.	MPT VNPT	**MPT:** Basically national telecommunication manpower development plan is unchanged but it is added to IT manpower development. Data = Vietnam post and telecommunication development strategy to 2010 and orientations up to 2020 **VNPT:** Yes, basically unchanged Data = VNPT development strategy in the period of 2001-2005 Part of Solution for human resources development

Summary of Questionnaire Survey to Counterpart Instructors

I. Framework of the Questionnaire

Language: English

Period: August 2003

Respondents: All the counterpart instructors shown below.

Courses	No. of counterpart Instructors
Optical fiber cables	2
Digital switching	3
Digital transmission	3
Digital radio	3
LAN	2
Total	13

II. Summary of Results

QUESTIONNAIRE TO COUNTERPART INSTRUCTORS

Training Capability Strengthening Project on the PTTC-1
Final Evaluation Study Team

Would you please answer the following questions by encircling relevant numbers and filling in the blanks.

1. May we know about yourself?

Name:( )
Age:(Average 28.2 years old)
Academic background:( )
Former job:( )
Year of joining PTTC-1:(On average 1999 or 4 years in PTTC-1)

2. How do you evaluate your capability in your course?

Remarks: In the table below, unless otherwise indicated, (1) means "I am already able to do the task without the support of the Japanese experts".
(2) means "By the end of February 2004, I will be able to do the task without the support of the Japanese experts".
(3) means "At the end of February 2004, I will have minor difficulty to do the task without the support of the Japanese experts".
(4) means "At the end of February 2004, I will have major difficulty to do the task without the support of the Japanese experts".

	Evaluation				If you encircle (3) or (4), describe the causes.
1.Basic knowledge and skills of yourself	(1)Sufficient = 12 (2)Acceptable = 1 (3)Insufficient = 0				
2.Identification of training needs	(1) 10	(2) 3	(3) 0	(4) 0	
3.Preparation of curricula	(1) 11	(2) 2	(3) 0	(4) 0	
4.Preparation of teaching materials such as texts	(1) 13	(2) 0	(3) 0	(4) 0	
5.Technology for training (theory)	(1) 10	(2) 3	(3) 0	(4) 0	
6.Technology for training (practice)	(1) 11	(2) 2	(3) 0	(4) 0	
7.Operation and management of training courses	(1) 10	(2) 3	(3) 0	(4) 0	
8.Maintenance and management of training equipment	(1) 11	(2) 2	(3) 0	(4) 0	
9.Management of unexpected incidents such as equipment	(1) 10	(2) 3	(3) 0	(4) 0	

troubles and complaints from trainees					
10.Monitoring and evaluation of courses	(1) 7	(2) 6	(3) 0	(4) 0	
11.Conducting advanced courses	(1) 9	(2) 4	(3) 0	(4) 0	

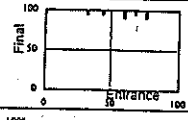
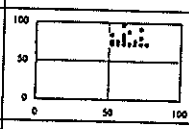
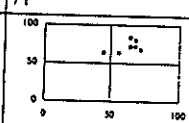
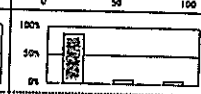
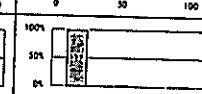
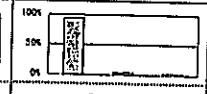
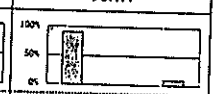
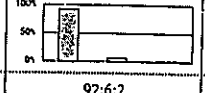
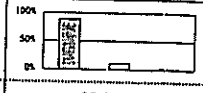
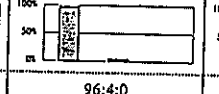
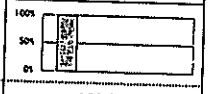
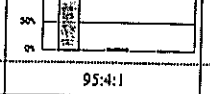
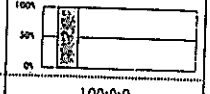
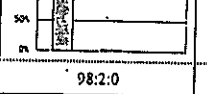
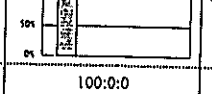
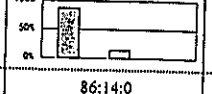
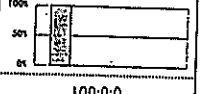
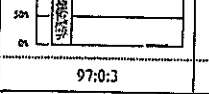
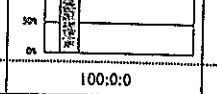
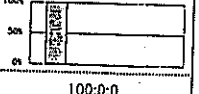
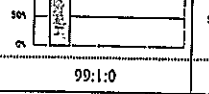
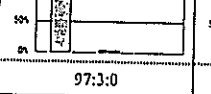
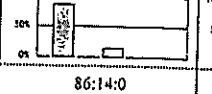
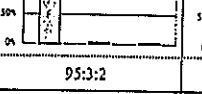
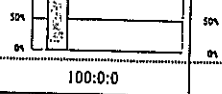
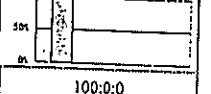
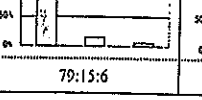
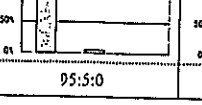
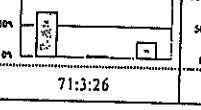
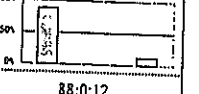
3. If you have or may have any serious difficulty or important challenge in your tasks, please mention the difficulty or challenge with your ideas to address it.
(No comments.

)

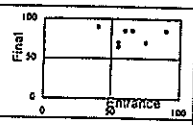
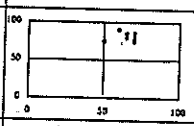
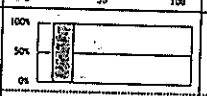
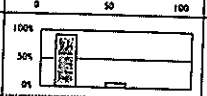
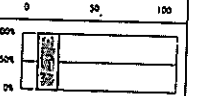
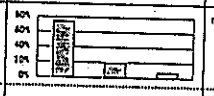
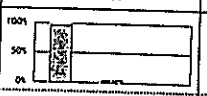
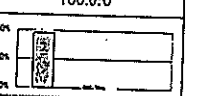
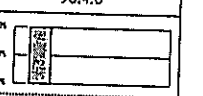
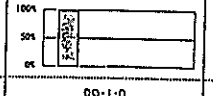
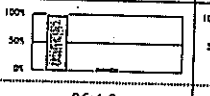
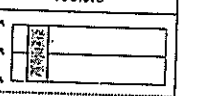
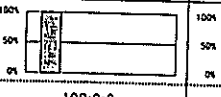
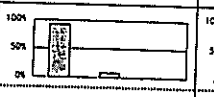
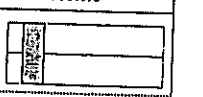
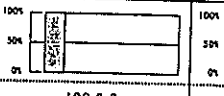
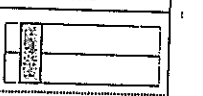
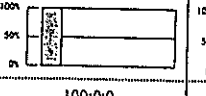
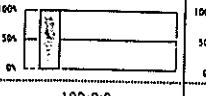
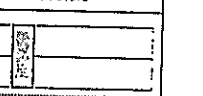
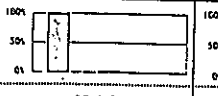
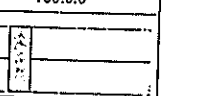
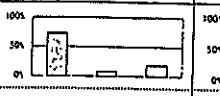
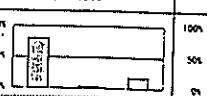
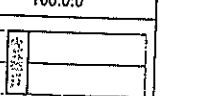
4. How do you evaluate the counterpart training courses in Japan?
The following items under Question 4 are for those who attended the courses in Japan.
4.1. Period: (1)Too long = 0 (2)Appropriate = 10 (3)Too short = 2
4.2. Curriculum: (1)Satisfactory = 4 (2)Acceptable = 8 (3)Unsatisfactory = 0
Please mention what you highly evaluate or what you think is problematic.
(
)
4.3. Have you transferred the knowledge and technology you had learned in Japan to your fellow instructors?
(1) Yes, sufficiently = 2 (2)Yes, to a certain extent = 10 (3)No, not sufficiently = 0
Please mention the way of the technology transfer from you or the reasons for the insufficiency.
(
)

5. What are your prospects of your course in the PTTC-1 after the termination of the JICA Project?
5.1. Technical aspects such as training instruction and equipment maintenance
(1)No problems are expected. = 2 (2)No major problems are expected. = 11
(3)Some problems are expected. = 0 (4)Serious problems are expected. = 0
If you encircle (3) or (4), what will be the problems?
(
)
5.2. Operation and management aspects
(1)No problems are expected. = 5 (2)No major problems are expected. = 8
(3)Some problems are expected. = 0 (4)Serious problems are expected. = 0
If you encircle (3) or (4), what will be the problems?
(
)
5.3. Financial aspects
(1)No problems are expected. = 3 (2)No major problems are expected. = 9.
(3)Some problems are expected. = 1 (4)Serious problems are expected. = 0
If you encircle (3) or (4), what will be the problems?
(
)
5.4. Measures for sustainable development of your course in the PTTC-1
In order for your course in the PTTC-1 to develop after the termination of the JICA project, what measures do you think are important to take? Please let us know your idea.
(
)

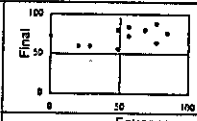
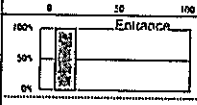
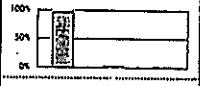
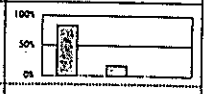
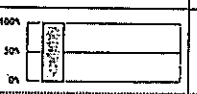
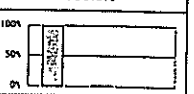
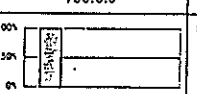
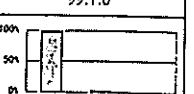
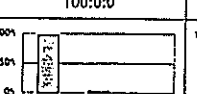
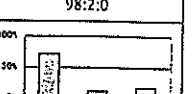
Report of 3rd combined course

No.	Item		Transmission	Optical fiber	Switching	Micro wave
1	Period(days)		105(15)	95(14)	105(15)	89(13)
2	Duration		Jun. 14-Aug. 1, 2003	Jul 22-Aug. 8 , 2003	Aug. 11-Aug. 29,2003	Aug 5.-Aug. 21,2003
3	Trainee	No. of trainees	13	12	34	10
		No. of engineer	8	0	15	8
		No. of technician	5	12	19	2
		No. of manager	(1)	(3)	(0)	(0)
4	Age	Under 29	10	10	24	8
		30-39	2	2	10	1
		40-49	1	0	0	1
		Over 50	0	0	0	0
		Distribution				
5	Level check	Entrance (Ave.)	61	47	59	63
		Final (Ave.)	94 (33point up)	70 (23point up)	76 (17point up)	71 (8point up)
		Distribution				
6	Questionnaire	Training level (Suitable)				
		Suitable:Fair:No suitable	88:4:8	98:2:0	87:7:6	98:1:1
		Contents of training (Useful for work)				
		Useful:Fair:Unuseful	86:7:7	94:4:2	81:7:12	91:0:9
		Content of Training (appropriate)				
		appropriate:fair:inappropriate	92:6:2	100:0:0	88:11:1	95:0:5
		Content of training (Understood)				
		Understood:fair:inunderstood	93:6:1	96:4:0	88:11:1	100:0:0
		Constitution/ good				
		Good:Fair:Not so good	95:4:1	100:0:0	95:5:0	100:0:0
		Content of the Textbook/ good				
		Good:Fair:Not so good	98:2:0	100:0:0	86:14:0	100:0:0
		Content of the visual/good				
		Good:Fair:Not so good	97:0:3	100:0:0	100:0:0	100:0:0
		Instructor/ comprehensible				
		Comp.:Fair:incomp.	99:1:0	97:3:0	86:14:0	100:0:0
		Progress of the class/good				
		Good:Fair:Not so good	95:3:2	100:0:0	93:7:0	100:0:0
		Period of Training/ appropriate				
		appropriate:fair:inappropriate	79:15:6	95:5:0	71:3:26	88:0:12

Report of 2nd Advanced course

No.	Item		Transmission	Optical fiber	Switching	Micro wave
1	Period(days)		56(8)	35(5)	49(7)	42(6)
2	Duration		May 14-May 23, 200	May 25-May 30, 2003	May 27-Jun 6, 2003	May 15-May 22,2003
3	Trainee	No. of trainees	11	9	13	10
		No. of engineer	3	4	6	6
		No. of technician	8	5	7	4
		No. of manager	(0)	(0)	(0)	(0)
4	Age	Under 29	4	4	6	5
		30-39	5	3	5	2
		40-49	2	2	2	3
		Over 50	0	0	0	0
		Distribution				
5	Level check	Entrance (Ave.)	63	64	36	66
		Final (Ave.)	77 (14 point up)	83 (19point up)	78 (42point up)	86 (20point up)
		Distribution				
6	Questionnaire	Training level. (Suitable)				
		Suitable:Fair:No suitable	90:10:0	100:0:0	92:8:0	100:0:0
		Contents of training (Useful for work)				
		Useful:Fair:Unuseful	96:3:1	74:19:7	96:4:0	96:4:0
		Content of Training (appropriate)				
		appropriate:fair:inappropriate	100:0:0	100:0:0	99:1:0	100:0:0
		Content of training (Understood)				
		Understood:fair:ununderstood	99:1:0	96:4:0	100:0:0	100:0:0
		Constitution/ good				
		Good:Fair:Not so good	100:0:0	100:0:0	92:8:0	100:0:0
		Content of the Textbook/ good				
		Good:Fair:Not so good	100:0:0	100:0:0	100:0:0	100:0:0
		Content of the visual/good				
		Good:Fair:Not so good	100:0:0	100:0:0	100:0:0	100:0:0
		Instructor/ comprehensible				
		Comp.:Fair:incomp.	100:0:0	100:0:0	100:0:0	100:0:0
		Progress of the class/good				
		Good:Fair:Not so good	99:1:0	100:0:0	100:0:0	100:0:0
		Period of Training/ appropriate				
		appropriate:fair:inappropriate	73:8:19	100:0:0	80:3:17	100:0:0

Report of 8th LAN & 2nd Rural courses

No.	Item		LAN	Rural
1	Period(days)		91(13)	72(11)
2	Duration		Jul. 16-Aug. 1, 2003	Apr. 9-Apr. 23, 2003
3	Trainee	No. of trainees	11	19
		No. of engineer	4	11
		No. of technician	7	8
		No. of manager	(0)	(1)
4	Age	Under 29	9	12
		30-39	2	5
		40-49	0	2
		Over 50	0	0
		Distribution		
5	Level check	Entrance (Ave.)	51	54
		Final (Ave.)	75 (24 point up)	76 (22point up)
		Distribution		
6	Questionnaire	Training level (Suitable)		
		Suitable:Fair:No suitable	100:0:0	93:6:1
		Contents of training (Useful for work)		
		Useful:Fair:Unuseful	96:3:1	83:17:0
		Content of Training (appropriate)		
		appropriate:fair:inappropriate	100:0:0	97:3:0
		Content of training (Understood)		
		Understood:fair:inunderstood	100:0:0	99:1:0
		Constitution/ good		
		Good:Fair:Not so good	100:0:0	99:1:0
		Content of the Textbook/ good		
		Good:Fair:Not so good	100:0:0	99:1:0
		Content of the visual/good		
		Good:Fair:Not so good	100:0:0	100:0:0
		Instructor/ comprehensible		
		Comp.:Fair:incomp.	100:0:0	99:1:0
		Progress of the class/good		
		Good:Fair:Not so good	100:0:0	98:2:0
		Period of Training/ appropriate		
		appropriate:fair:inappropriate	97:3:0	72:12:18

Summary of Questionnaire Survey to Post and Telecommunications Offices

I. Framework of the Questionnaire

Language: Vietnamese

Period: August 2003

Target: 34 Posts and Telecommunication Offices which have dispatched their staff to the training courses

Respondents: 29 Posts and Telecommunications Offices

II. Summary of Results

QUESTIONNAIRE TO THE POSTS AND TELECOMMUNICATIONS OFFICES

Training Capability Strengthening Project on the PTTC-1
Final Evaluation Study Team

Would you please answer the following questions by encircling relevant numbers and filling in the blanks.

1-1. Please write the name of your PT and its address.

Name of PT:( )

Address:( )

1-2. How are the methods and procedures of the recruitment of the trainees for the PTTC-1 courses?

(1)Good = 22 (2)Acceptable = 3 (3)Need revision = 3 (Please specify:)

1-3. How are the methods and procedures for selecting the trainees for the PTTC-1 courses?

(1)Good = 20 (2)Acceptable = 9 (3)Need revision = 0 (Please specify:)

	Optical fiber courses (25 PTs)	Digital transmission courses (23 PTs)	Digital switching courses (24 PTs)	Digital radio courses (22 PTs)	LAN courses (21 PTs)
2. Were the subjects covered by the course appropriate?					
(1)Very appropriate	6	5	9	8	3
(2)Mostly appropriate	18	15	14	12	16
(3)Mixture of appropriate and inappropriate subjects	1	3	1	2	1
(4)Need minor revision	0	0	0	0	0
(5)Need major revision	0	0	0	0	0
3. Was the level of the course appropriate?					
(1)Very appropriate	7	2	4	5	3
(2)Mostly appropriate	14	19	16	16	15
(3)Mixture of appropriate and inappropriate levels	3	2	3	1	2
(4)Need minor revision	0	0	1	0	1
(5)Need major revision	0	0	0	0	0
4. Has the course strengthened the capability of the trainees?					
(1)Yes, very much	5	8	6	6	6
(2)Yes, considerably	18	12	16	14	11
(3)Yes, sometimes	2	3	2	2	4
(4)No, not much	0	0	0	0	0
(5)No	0	0	0	0	0

	Optical fiber course	Digital transmission course	Digital switching course	Digital radio course	LAN course
5. Has your PT benefited from dispatching the trainees?					
(1)Yes, very much	7	10	5	5	5
(2)Yes, considerably	13	10	15	12	9
(3)Yes, sometimes	5	3	4	5	7
(4)No, not much	0	0	0	0	0
(5)No	0	0	0	0	0
6. How is the duration of the course for your PT?					
(1)Too long	0	0	0	0	0
(2)Little long	2	1	2	2	0
(3)Appropriate	15	18	19	17	16
(4)Little short	8	4	3	3	4
(5)Too short	0	0	0	0	1
7. Are the textbooks and other study materials of the course useful for the staff who did not attend the course?					
(1)Yes, very much	5	4	1	1	3
(2)Yes, considerably	8	10	8	10	9
(3)Yes, sometimes	12	9	14	10	8
(4)No, not much	0	0	1	1	0
(5)No	0	0	0	0	0
8. Has the technology obtained from the course been transferred to the staff who did not attend the course?					
(1)Yes, very much	4	2	1	3	3
(2)Yes, considerably	5	7	9	6	8
(3)Yes, sometimes	15	13	13	12	10
(4)No, not much	1	1	1	1	0
(5)No	0	0	0	0	0

Tentative Schedule of Training Courses In 2004

Course category	Field	Duration	Time arrangement												Remarks
			1	2	3	4	5	6	7	8	9	10	11	12	
Combined	OFC	8			↔		↔				↔				
	Switching	13			↔		↔				↔				
	Transmission	9		↔	↔		↔				↔				
	Microwave	9		↔			↔								
Advanced	OFC	5							↔	↔			↔		
	Switching	9							↔	↔		↔			
	Transmission	8							↔	↔		↔			
	Microwave	6							↔		↔				
	Rural Radio	13				↔				↔		↔			
Basic/ Advance	LAN	10		↔			↔			↔					
	IP Switching	8									↔		↔		

OFC: 6; Switching: 8; Transmission: 6; Microwave: 4; Rural Radio: 3; LAN: 3

Note: The above schedule was presented in the sixth Joint Coordinating Committee.

ANNEX 15

POSTS AND TELECOMMUNICATIONS INSTITUTE OF TECHNOLOGY
POSTS AND TELECOMMUNICATIONS TRAINING CENTER NO1

INFORMATION BACKGROUND

FOR NEW PROJECT PROPOSALS

on "Training Capability Strenthening Project on Infor-communication Technology Infrastructure Engineer Development for the Posts and Telecommunications Institute of Technology" and **"Third Country Training Program"**

HANOI, VIETNAM - SEPTEMBER 2003

付属資料2．評価用プロジェクト・デザイン・マトリックス（PDMe）日本語版

プロジェクト名：ベトナム国電気通信訓練向上計画プロジェクト　（主な）対象グループ：郵電公社の電気通信技術職員　（主な）対象地域：北部ベトナム　作成2001年12月6日

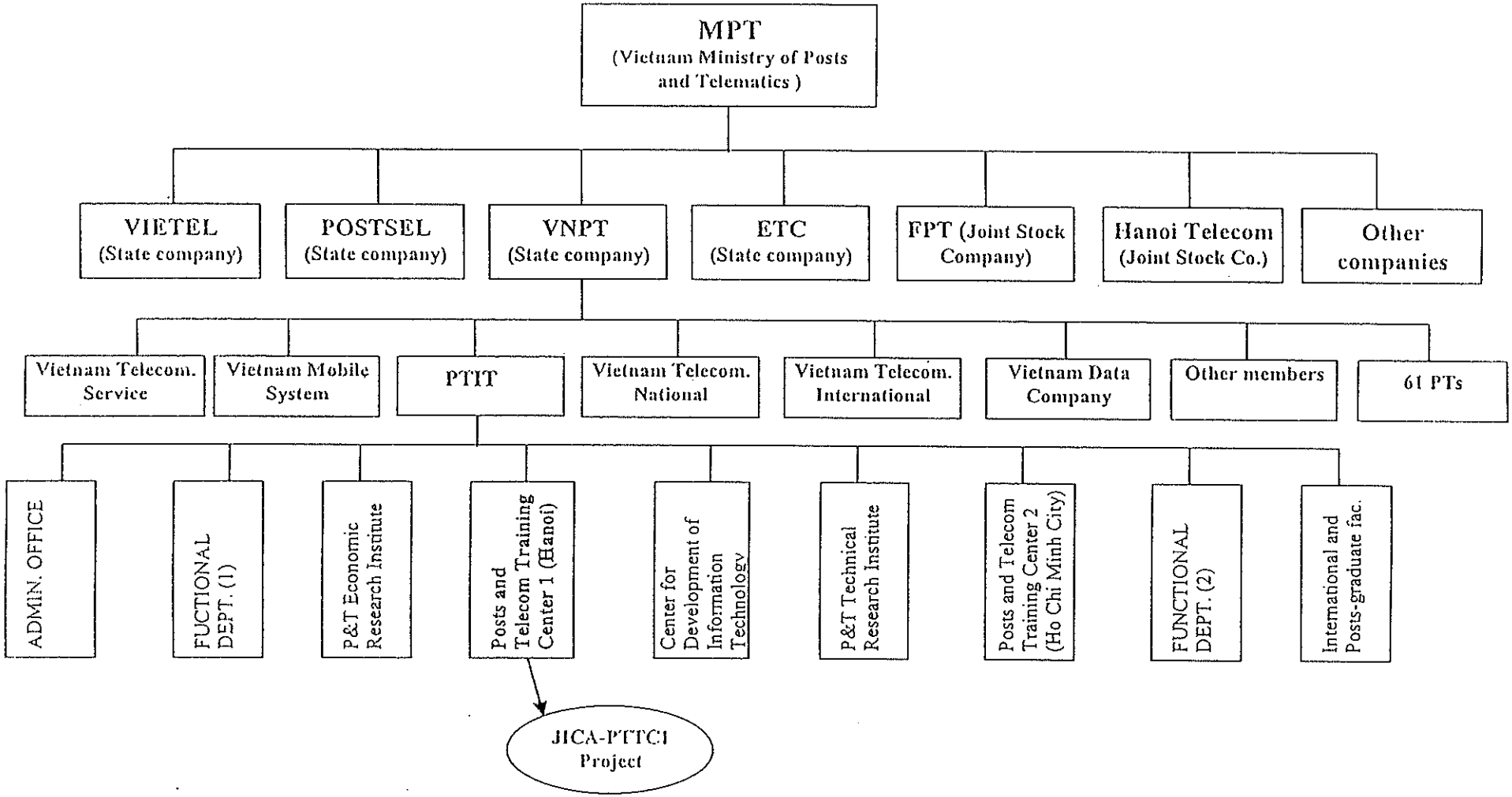
プロジェクト要約	指標	入手手段	外部条件
上位目標 ベトナムの電気通信部門における人材開発と技術訓練の需要が満たされる。	1. 訓練生が習得した技術に80%以上の職場が満足する。 2. 2004年～2007年の間に郵電公社の電信技術職員の90%以上が郵電技術学院で訓練を受ける。 3. プロジェクトで確立された訓練システムが第一郵電訓練センターの他のコースでも主流となる。 4. 第一郵電訓練センターで確立された訓練システムが第二郵電訓練センターでも主流となる。	1. 訓練生の職場への質問票 2. 郵電庁（現郵電省）と郵電公社の記録 3. 第一郵電訓練センターの記録 4. 他の郵電訓練センターの記録	a. ベトナムにおいて電気通信技術の必要性が存続する。 b. 国家電信人材開発計画が基本的に変わらない。
プロジェクト目標 ベトナムの電気通信の開発に必要な5技術分野（線路、交換、伝送、無線、データ通信）における訓練コースを実施するために第一郵電訓練センターの訓練能力が向上する。	1. 新訓練コースが75回開催される。 2. 900人の職員が新訓練コースで訓練される。 3. 80%以上の訓練生が新訓練コースの内容に満足する。 4. 把握された電信分野の需要が即座にプロジェクトによる新訓練コースの内容に反映される。	1. 第一郵電訓練センターの記録 2. 第一郵電訓練センターの記録 3. 訓練生への質問票 4. 第一郵電訓練センターの記録	a. 卒業生の勤務先において当該技術分野の新技術設備が導入される。 b. 郵電技術学院において訓練が継続的に改善される。 c. 電気通信分野各コースの計画、設計、構築手法が改善される。
成果			
1．訓練システムが改善する。	1-1 第一郵電訓練センターが定期的に郵電公社から訓練ニーズを把握する。 1-2 第一郵電訓練センターに訓練方針が存在する。 1-3 その訓練方針は郵電公社の人材開発計画に沿う。	1-1 第一郵電訓練センターの記録 1-2 第一郵電訓練センターの訓練方針	訓練を受けたカウンターパートと職員が第一郵電訓練センターで勤続する。
2．訓練生募集体制が確立する。	2-1 応募システムが確立される。 2-2 郵電局の状況と訓練修了生の活動が把握される。	2-1 第一郵電訓練センターの記録 2-2 郵電局との面談記録	
3．指導員とトップマネジメントの能力が向上する。	3-1 80%以上の訓練生が指導員の訓練手法を肯定的に評価する。 3-2 カウンターパートが各手法と技術を理解する。 3-3 各手法と技術の情報がカウンターパート間で交換される。	3-1 訓練生への質問票 3-2 カウンターパートとの面談 3-3 カウンターパートとの面談	
4．訓練コース（線路、交換、伝送、無線、データ通信）が確立する。	4-1 教科書と教材を作成するための要点のまとめがある。 4-2 カリキュラム、教科書、教材の内容が適切である。 4-3 カウンターパートがカリキュラム、教科書、教材を独力で作成できる。	4-1 教科書と教材を作成するための要点のまとめ 4-2 訓練生への質問票 4-3 カウンターパートとの面談	
5．訓練実施体制が確立する。	5-1 施設の運営が適切である。 5-2 職員の配置が郵電庁（現郵電省）と郵電公社の人材開発計画に沿っている。 5-3 予算の確保が郵電庁（現郵電省）と郵電公社の人材開発計画に沿っている。	5-1 第一郵電訓練センターの施設管理簿 5-2 第一郵電訓練センターの職員配置の計画と実績 5-3 第一郵電訓練センターの予算計画と決算報告	
6．モニタリングと評価のシステムが確立する。	6-1 モニタリングと評価の実施計画が存在する。 6-2 モニタリングと評価の実施日程と担当者が存在する。	6-1 運営委員会と合同調整委員会の議事録 6-2 運営委員会と合同調整委員会の議事録	

活動	投入		外部条件
(下記)	(ベトナム側) 1. カウンターパートの配置 プロジェクトディレクター 1 プロジェクトマネジャー 1 (カウンターパート指導員) 無線2 伝送2 交換2 線路2 データ通信2 (事務職員) 主任1 職員1 その他運転手等 2. 訓練センター施設 教室、 実習室、 専門家室などの施設および 電気、電話、ガス、水道 3. 訓練センター運営経費	(日本側) 1. 専門家派遣 a. 長期専門家 チーフアドバイザー／線路1 業務調整1 無線1 伝送1 交換1 b. 短期専門家 データ通信、 ISDN、 その他、必要に応じて派遣 2. 機材供与 電気通信技術訓練用機材他 3. 日本での研修 5年間で15人程度 無線、伝送、交換、線路、データ通信、研修管理	通関、輸送手続きが大幅な遅れを生じない。 **前提条件** プロジェクトの建物が計画どおり完成する。

1.1 ベトナムの電気通信分野の現状を分析する。
1.2 ベトナム電気通信分野の訓練ニーズを把握する。
1.3 第一郵電訓練センターの訓練方針を立案する。
2.1 第一郵電訓練センターの訓練コースの応募採用システムを構築する。
2.2 訓練生の所属先と定期的な会合を持つ。
3.1 カリキュラム開発手法を導入する。
3.2 分野毎の専門技術を習得する。
3.3 教科書・教材開発手法を導入する。
3.4 訓練技法を習得する。
3.5 コース管理手法を導入する。
3.6 コース評価手法を導入する。
4.1 訓練コースのカリキュラムを作成する。
4.2 訓練コース用教科書・教材を作成する。
4.3 訓練コースを実施する。
4.4 訓練コース内容を評価する。
4.5 訓練コース内容を改善する。
5.1 訓練機材の管理手法を導入する。
5.2 計画に応じた適切な人材を配置する。
5.3 予算を確保し適切に執行する。
6.1 プロジェクト管理のためのモニタリングと評価の実施計画を作成する。
6.2 プロジェクト管理のためのモニタリングと評価の実施日程と担当者を決定する。
6.3 プロジェクト管理のためのモニタリングと評価を実施する。

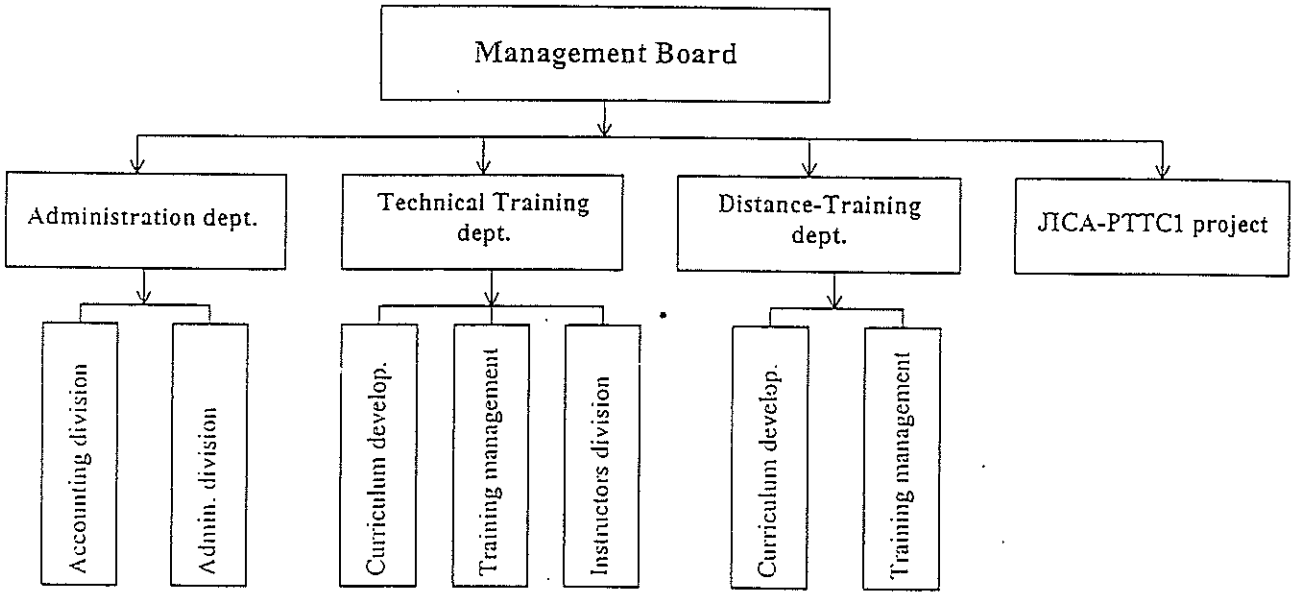
付属資料 3.　プロジェクト組織図

PROJECT ORGANIZATION



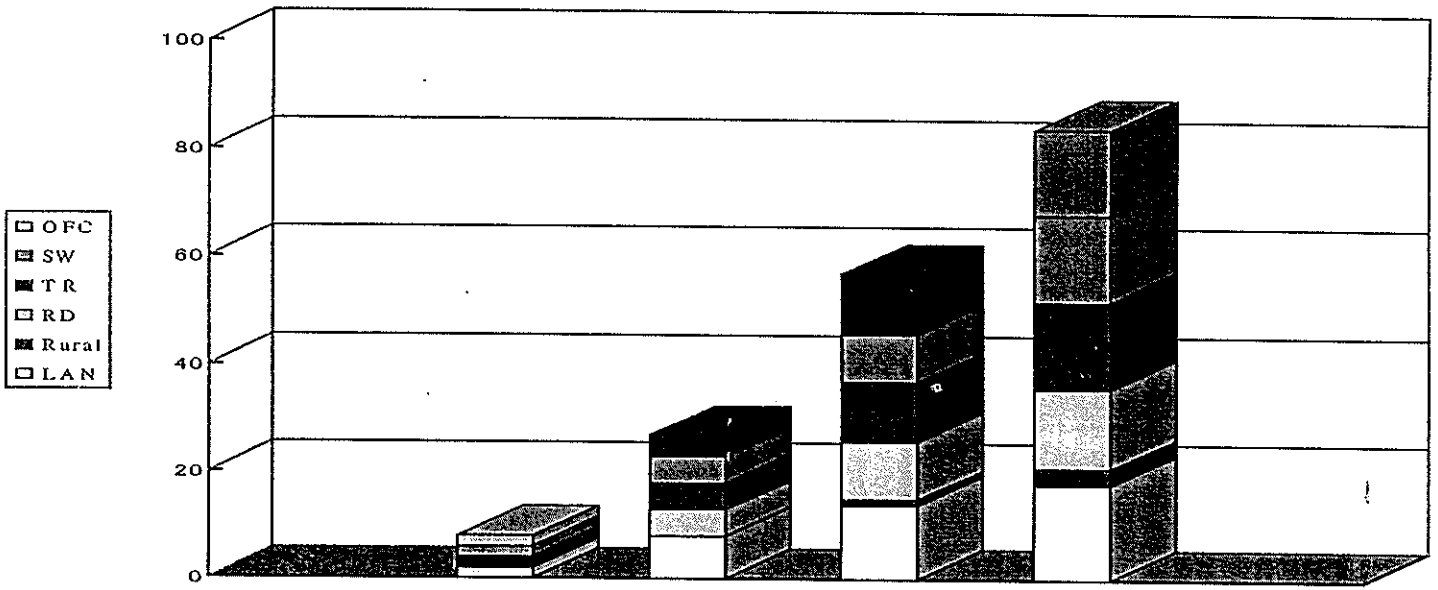
付属資料 4.　第一郵電訓練センター組織図

Organization Chart of Posts and Telecommunications Training Center No. 1



付属資料 5.　訓練コース実施状況

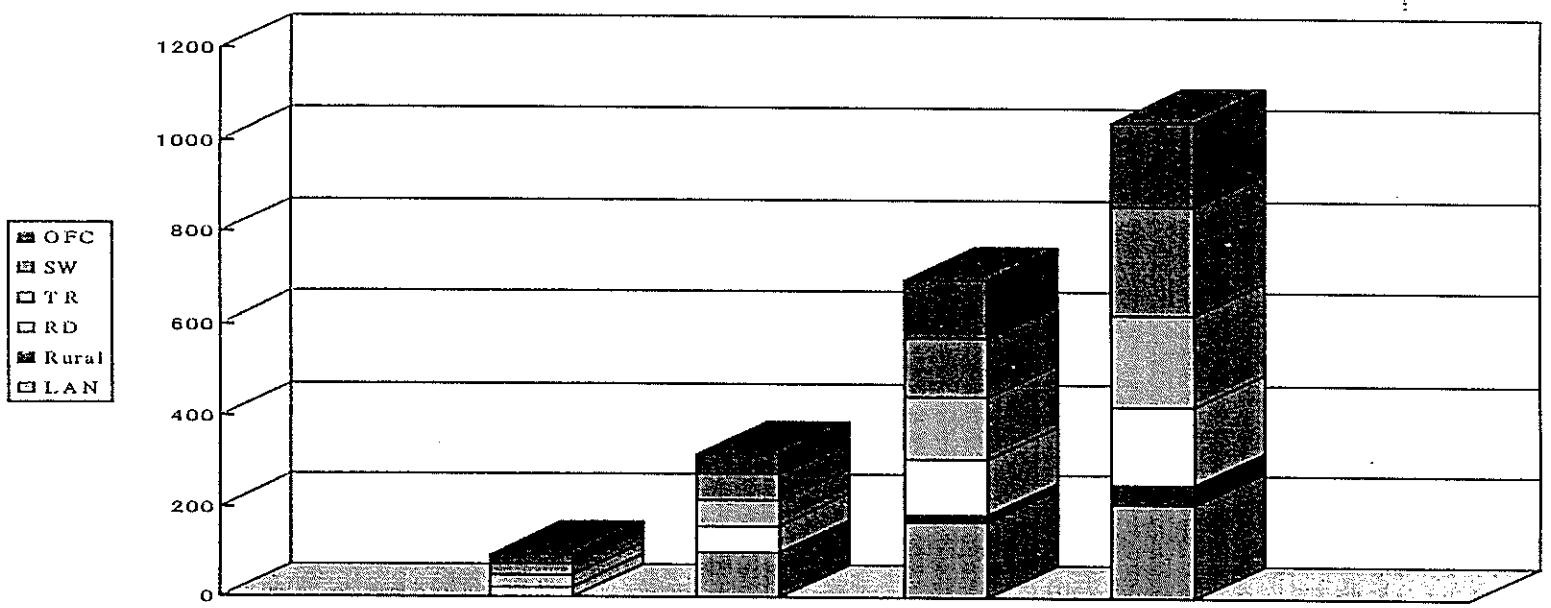
Course		1999	2000	2001	2002	2003	Total
Basic	OFC	-	2	1	-	-	3
	SW	-	2	1	-	-	3
	TR	-	2	1	-	-	3
	RD	-	2	1	-	-	3
Maintenance	OFC	-	-	1	2	-	3
	SW	-	-	2	1	-	3
	TR	-	-	2	1	-	3
	RD	-	-	2	1	-	3
	Rural	-	-	-	1	2	3
Combined	OFC	-	-	-	4	2	6
	SW	-	-	-	2	4	6
	TR	-	-	-	4	2	6
	RD	-	-	-	4	2	6
Advanced	OFC	-	-	-	1	3	4
	SW	-	-	-	1	3	4
	TR	-	-	-	1	3	4
	RD	-	-	-	1	2	3
LAN	Basic	-	-	4	3	2	9
	Advanced	-	-	4	3	2	9
total		-	8	19	30	27	84



Group	1999	2000	2001	2002	2003	Total
Optical fiber	-	2	4(2)	11(7)	16(5)	16
Switching	-	2	5(3)	9(4)	16(7)	16
Transmission	-	2	5(3)	11(6)	16(5)	16
Radio	-	2	5(3)	11(6)	15(4)	15
Rural	-	-	-	1	3(2)	3
LAN	-	-	8	14(6)	18(4)	18
Total	-	8	27(19)	57(30)	84(27)	84
Plan	-	4	18(14)	43(25)	75(32)	75

付属資料 6.　訓練生受講状況

Course		1999	2000	2001	2002	2003	Total
Basic	OFC		12+11=23	11			34
	SW		12+12=24	12			36
	TR		13+12=25	11			36
	RD		11+12=23	12			35
Maintenance	OFC			11	10+10=20		31
	SW			11+10=21	12		33
	TR			11+10=21	11		32
	RD			12+12=24	9		33
	Rural				16	19+9=28	44
Combined	OFC				(15+9)*2=48	12*2=24	72
	SW				13*2=26	(14+34)*2=96	122
	TR				(14+15)*2=58	13*2=26	84
	RD				(11+11)*2=44	10*2=20	64
Advanced	OFC				12	9+12+16=37	49
	SW				12	13+6+13=32	44
	TR				11	11+13+12=36	47
	RD				10	10+18=28	38
LAN	Basic			13+10+12+15=50	11+14+10=35	11+9=20	105
	Advanced			13+10+12+15=50	11+14+10=35	11+9=20	105
Total			95	223	359	367	1,044



Group	1999	2000	2001	2002	2003	Total
Optical fiber	-	23	45(22)	125(80)	186(61)	186
Switching	-	24	57(33)	127(50)	235(128)	235
Transmission	-	25	57(32)	137(80)	199(62)	199
Radio	-	23	59(36)	122(63)	170(48)	170
Rural	-	-	-	16(16)	44(28)	44
LAN	-	-	100(100)	170(70)	210(40)	210
Total	-	95	318(223)	677(359)	1,044(367)	1,044
Plan	-	48	168	300	384	900