Ex-post Evaluation Report

On

The Capacity Building on the Development of

Information Technology for Education (ITEd) Project

in Thailand

February 2008

JAPAN INTERNATIONAL COOPERATION AGENCY

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Interview at school in Chiang Mai

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Interview at NFEC, Nakorn Ratchasrima
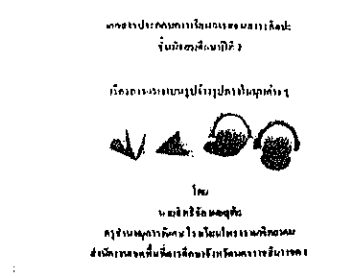
Sample of trained teacher's teaching Material produced after the project completion

Computers provided by the project
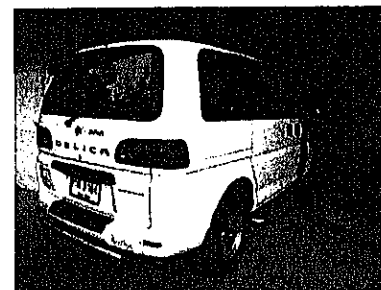
Training van provided by the Project

Abbreviations

BTTL	Bureau of Technology for Teaching and Learning
CEO	Chief Executive Officer
ESA	Educational Service Area
GMS	Greater Mekong Sub-region
ICT	Information and Communication Technology
IPST	Institute for the Promotion of Teaching Science and Technology
IT	Information Technology
ITEd	Information Technology for Education
JICA	Japan International Cooperation Agency
LMS	Learning Management System
MOE	Ministry of Education
NECTEC	National Electronics and Computer Technology Center
NFEC	Non-Formal Education Center
OBEC	Office of the Basic Education Commission
OPES	Office of the Permanent Secretary
ONFE	Office of the Non-Formal Education
WBT	Web-Based Training

Summary of Ex-post Evaluation Study

Evaluation conducted by: JICA Thailand Office

1. OUTLINE OF THE PROJECT	
Country: Kingdom of Thailand	Project title: Capacity Building on the Development of Information Technology for Education (ITEd)
Issue/Sector: Information and Communication Technology	Cooperation scheme: Technical Cooperation
Division in charge: Social Dev. Dep't, Group 2, ICT Team	Total cost: appr. 511 million Yen
Supporting Organization in Japan: Ministry of Education, Culture, Sports, Science and Technology, Ministry of Economy, Trade, and Industry, Naruto University of Education, Kyoto University of Education	Partner Country's Implementing Organization: Ministry of Education (MoE) National Electronics and Computer Technology Center (NECTEC)
Period of Cooperation: 1 March, 2002 - 28 February, 2005	Related Cooperation: -

1-1. Background of the Project

Thailand has set up the National Information Technology Committee in 1992 to promote Information and Communication Technology (ICT) policy as well as to introduce education reform programs with an emphasis on capacity building in ICT. The government of Thailand recognized the necessity to develop effective curriculum and materials to enhance the skill of teachers for capacity building in ICT for education. Accordingly, in 2001, the Government of Thailand requested the Government of Japan to implement a technical cooperation project to promote the ICT applications in primary and secondary school. Based on the request, 'Capacity Building on the Development of Information Technology for Education (ITEd) Project' was launched in March 2002 for the project period of 3 years. Project activities were implemented as planned at Bangkok Center and 5 Non-Formal Education Centers (NFECs). All centers worked together to facilitate ITEd training courses under the certification system. ICT applications in primary and secondary school were diffused in the target area by the project through training, Web-Based Training (WBT) development, and publicity activities.

1-2. Project Overview

（1）**Overall Goal**

Implementation of the courses under certification system and promotion activities of new education approaches advocated by the project are expanded for the achievement of the Ministry of Education's ICT Master Plan.

（2）**Project Purpose**

The ICT applications in primary and secondary school promoted by the ITEd through training, WBT development and publicity activities are diffused in the model areas.

（3）**Outputs**

1. Development of established ITEd model certification system and WBT use in education

2. Development of Bangkok Center as planning, coordination and supportive unit for operations of certification

3. Development of updated Practical and effective standardized training courses

4. Implementation of established ITEd courses by the 5 NFECs

5. Production of WBT materials by Bangkok Center and NECTEC

（4）**Inputs**

Japanese side (Total cost: appr. 511 million Yen):

Long-term Expert: 4 persons	Equipment: 301 million Yen
Short-term Expert: 30 persons	Consultant Cost: 45 million Yen
C/P Training in Japan: 36 persons	Activities Cost: 42 million Yen
Japan Overseas Cooperation Volunteer: 4 persons	

Thai side:

Counterpart: 53 persons	Local Cost: 80,350,660 THB
Land, building, facilities	

2.   EVALUATION TEAM

Evaluation Team	Evaluation Analysis:	Thanomporn Laohajaratsang (Ms.) (Chiang Mai Univ.)
	Support for Evaluation Analysis:	Takehiro Iwaki (Mr.) (IC Net Asia Co., Ltd.)
	Assistant Researcher:	Praweenya Suwannathachote (Ms.) (Chulalongkorn Univ.)
	Assistant Researcher:	Dusita Krawanchid (Ms.) (IC Net Asia Co., Ltd)

Period of Evaluation: 24 October 2007- 29 February 2008	Type of Evaluation: Ex-post Evaluation

3.PROJECT PERFORMANCE

3-1. Performance of Project Purpose

Outputs of the ITEd Project have been remained as key components in capacity development of primary and secondary teachers and educational personnel in ICT for education. The methods promoted by the project have been widely utilized. During 2005-2007, 11,876 teachers participated in the training courses developed by the project. Four WBT materials developed during the project are still being used. Mobile training courses have been conducted by using curriculum and teaching materials of Course A by 2 NFECs after the termination of the project. All the trainees contacted during the ex-post evaluation study recognized the improvement of their skills to use computer programs in their teaching.

3-2. Achievement related to Overall Goal

The model certification courses are conducted regularly and WBT advocated by the project have been utilized in the school. The project has laid the groundwork for the capacity development of concerned personnel in ICT for education. The impact of the project conforms to the strategy of the ICT for Education Master Plan of the MoE.

3-3. Follow-up of the Recommendations by Terminal Evaluation Study

Following 6 recommendations were made by the Terminal Evaluation Study

1.   Recommendation for trainers to;

1) encourage participants to use examples which contain real situation and environmental surroundings

2) motivate participants to improve teaching skills and to organize seminar course in their schools

3) try to integrate education programs that participants have in their daily education activities

4) try to let participants consider the real situation and environment surrounding them

5) inviting experienced participants to the training to act as sub-instructors

2. Teaching materials should be utilized by the instructors keeping the localization in each site in mind.

3. Knowledge and skills of training participants should be levelled for effective and efficient implementation of the training course

4. Certification should be issued with certain conditions

5. Appropriate media for WBT should be selected based on the development of the infrastructure

6. After the approval of the Action Plan developed by the MoE, the training course should be expanded to key personnel from Educational Service Areas (ESA) and schools utilizing the teachers trained in the project. It is also necessary to clarify the role and organizational structure of the Bangkok Center and 5 NFECs.

All the recommendations except Recommendation 6 have been practiced. Although some of training courses have been expanded to key personnel from ESAs and schools as recommended, the role and organization structure of the Bangkok Center and 5 NFECs have not been clearly defined yet. The role and responsibilities regarding the project activities are spread to 3 separate units of the MoE, namely Office of Permanent Secretary (OPES), NFECs, and Bureau of Technology for Teaching and Learning (BTTL), due to the organizational restructuring in the MoE.

4. RESULTS OF EVALUATION

4-1. Summary of Evaluation Results

(1) Impact

<Achievement of Overall Goal>

Although there is no presetting of measurable indicators to evaluate the achievement of project overall goal, from the evaluation result, it is fair to say that the overall goal of the project has been achieved. The ITEd model certification system keeps expanding ICT utilization in teaching and learning in Thailand. Major findings are summarised below.

- The direction of the project on human capacity development in ICT for education is remained as one of the major goals in the draft of MoE's new ICT for Education Master Plan (2007-2011).

- In the Action Plan for the Utilization of Information Technology for Teaching and Learning (2006-2007), 2,400 and 240 core teachers were to be trained on Course B and Course C, respectively.

- The current Action Plan of the Office of Basic Education Commission (OBEC) (2007-2008) reflects the impact of the project by including training curriculum and materials of Course B and C as a major component for the capacity building of primary and secondary teachers and educational personnel.

- Four WBT materials developed during the project are still being used in education. Regarding the production of material, the development approach has been extended from co-producing with NECTEC to give budgetary support for WBT materials development through; a) outsourcing software houses to produce the materials, and b) training teachers to produce the materials themselves.

- Factors, such as policy and regulation set by the MoE, status of ICT readiness in schools, and increasing awareness of ICT utilization in teaching and learning are considered as major external factors for the achievement of the overall goal.

<Other impacts>

- There has been a positive impact on the role of 5 NFECs which have now become training centers not only in their provinces but also other provinces in the region to provide ICT training services for teachers, educational personnel and staff of NFECs.

- The ex-counterparts have been applying the systematic way of thinking, which they learned through systematic project management during the project, to their work and training.

- The study team did not identify any negative impacts of the project.

(2) Sustainability

As an implementing agency of the project, MoE has been utilizing the knowledge and skills gained from the project to promote the ICT for education. Major findings are summarised below.

<Organizational and human recourse aspects>

- Majority of ex-counterparts remain working at NFECs and concerned organizations in Bangkok. Bangkok Center has been organizationally closed due to the policy of the MoE to allocate the budget for concerned activities to the OBEC and Office of Non-Formal Education (ONFE) separately based on the proposed action plans.

<Technical aspects>

- The ITEd 3 courses were revised and adapted to meet needs of trainees.

- The utilization of equipment procured by the project has been optimized in general. However, utilization of some equipment has been limited due to the unavailability and high price of certain spare parts.

<Financial aspects>

- As the needs for human capacity development on ICT for NFE teachers have been increased, the government has been increasing the allocation of the budget for 5 NFECs. It can be said that the project activities and services have been maintained efficiently by 5 NFECs with the increasing course numbers and positive evaluation by the trainees. However, the budget allocation for training courses has been still insufficient to respond to the increasing demand for teacher training in ICT for teaching and learning.

4-2. Factors that have promoted project

(1) Impact

- The policy of the former government on ICT for education supported the implementation of the project activities well. Recent policy of the MoE has also made teachers and educational personnel aware of the importance of ICT use.

- Development of ICT infrastructure in schools has been contributing to the expansion of ICT for education. The computer use for education and administration in Thailand is on the rise. Internet connection has been completed in every school under the OBEC.

- The widespread use of ICT in the "IT Age" has enhanced the needs for teachers to update their skills and knowledge on ICT. The advance of technology also has made teachers realize the importance of ICT for education.

(2) Sustainability

- Factors that have promoted project impact are also considered as factors that have promoted project sustainability.

4-3. Factors that have inhibited project

(1) Impact

- Two-thirds of the teachers under the OBEC are still left untrained for the use of ICT. The demands for training teachers in ICT for teaching and learning are over the supplies with the increasing awareness of teachers on the importance of ICT. Despite the rising number of trained teachers and the provision of increasing training budget, the budget allocation for ITEd training courses has been still insufficient.

- Political instability may partially be viewed as a disturbing factor for the pursuance of ICT for education policy. Several projects of the former government related to ICT for education have been postponed, changed or terminated by the change of the government.

(2) Sustainability

- Factors that have inhibited project impact are also considered as factors that have disturbed project sustainability.

4-4. Conclusions

ITEd Project has been contributing to the expansion of ICT applications in primary and secondary schools and, eventually, achievement of MoE's ICT for Education Master Plan by the established ITEd model certification system with training Course A, B, and C. By utilizing equipment, skills and knowledge acquired during the project, 5 NFECs have been implementing training courses efficiently. The trainees of the ITEd courses appreciate the skills and knowledge gained from the training and continue to use them in their teaching. It is expected that the training by ex-counterparts at 5 NFECs will be maintained.

4-5. Recommendations

There are following recommendations to MoE.

- Training budget and maintenance costs for the equipment procured by the project should be supported by the MoE to enhance the sustainability of the project. Although the project activities have been embedded into government policy and have received increasing budget allocation, there are needs for further increase of the budget.

- It is recommended to strengthen the partnership between ESAs and NFECs. As the ESAs have become the main units responsible for training teachers throughout Thailand, stronger partnership will help maintain training services of the 5 NFECs and for other MoE's human capacity development activities in the future.

- With its institutional capacity, technical expertise, and experience in practice, it is fair to say that some of NFECs, with the coordination of the OBEC, are capable of conducting training programs on ICT for teaching and learning for the countries in the Greater Mekong Sub-region. It is expected that the implementation of the training programs will also enhance the motivation of staff to develop NFECs as training centers in the region.

4-6. Lessons Learned

- To ensure the sustainability of the project, the long term project plan, particularly in terms of roles and responsibilities of counterpart organizations, as also recommended by the Terminal Evaluation Study, should be clarified.

- Local vendors who can support hardware and software as well as offer after-sales services for the project should

be identified. Acquiring decent local vendors and products will help sustain the project effect through equipment utilization and reduction of maintenance costs.

- In this ex-post evaluation study, the team found lack of understanding among Thai ex-counterparts on the project overall goal and evaluation methods. Making the overall goal of the project known by project counterparts may help encourage the counterparts to sustain the project activities and consequently to better achieve the overall goal of the project.

- The project design should be made carefully to come up with the details of master plans in the related fields at the beginning of the project.

- Clear and measurable indicators for the project overall goal should be specified in the project design. With clear and measurable indicators, the result of the project impacts can be evaluated objectively.

4-7.   Follow-up Situation

Follow-up programs have not been carried out by the Japanese side since the project completion in 2005

事後評価調査結果要約表

<div align="right">評価実施部署：タイ事務所</div>

1．案件の概要

国名：　タイ王国	案件名：　教育用情報技術開発能力向上プロジェクト
分野：　情報通信技術	協力形態：　技術協力プロジェクト
所轄部署：社会開発部第2グループICTチーム	協力金額：　約5.11億円
協力期間　2002年3月1日～2005年2月28日	先方関係機関：教育省、国立電子・コンピューター技術センター(NECTEC)
	日本側協力機関：文部科学省、経済産業省、鳴門教育大学、京都教育大学
	他の関連協力：－

1-1　協力の背景と概要

タイ国では、首相を委員長とする国家情報技術委員会が1992年から組織され、情報通信技術（ICT）政策を推進するとともに、教育改革を実施し、人材育成に注力している。情報技術利用能力（ITリテラシー）を有する人材を量と質の面から拡充するためには、必要なカリキュラムや教材を整備し、タイ語コンテンツの拡充を図るとともに、教員のITリテラシーを高めてITを使用した新たな教育手法の効果的な普及を図ることが必要とされていた。こうした状況の下、タイ政府はわが国に対し、教育情報技術にかかる人材育成の技術協力プロジェクトを要請した。要請に基づき、2002年3月から3年間のプロジェクト期間で「教育用情報技術開発能力向上プロジェクト（ITEdプロジェクト）」が実施された。プロジェクト活動はバンコクセンターと5ヶ所の生涯教育センター（NFEC）を拠点として行われ、各センターが協力しながら認定システムに基づく教育訓練コースを実施した。教育訓練コースの実施、webを活用した教育訓練(WBT)の開発、広報活動を通じて、プロジェクト対象地の初等・中等学校で情報通信技術適応法が普及した。

1-2　協力内容

（1）上位目標

プロジェクトによって提唱された認定制度による教育訓練コースの実施と新しいアプローチによる教育活動の促進が教育省の情報通信技術マスタープラン達成に向けて拡大する

（2）プロジェクト目標

プロジェクトが教育訓練コース、WBT開発、広報活動を通じて促進する主として初等・中等学校での情報通信技術適用法がモデル地域で普及する

（3）アウトプット（成果）

1. ITEdプロジェクトによるターゲットグループを対象としたモデル認定制度および教育におけるWBT利用方法が確立／明確化され広報される
2. バンコクセンターが認定制度運営の計画、調整、支援組織として機能する
3. 実務的かつ効果的な標準化された教育訓練コースが整備され更新される
4. 5ヶ所のNFECが確立された実務的かつ効果的認定訓練コースを実施する
5. バンコクセンターがNECTECと共同でWBT教材を作成する能力を有する

<div align="right">1</div>

（4）投入

日本側：(総額　約 5.11 億円)

長期専門家派遣	4 名	機材供与	3.01 億円
短期専門家派	30 名	コンサルタント費用	0.45 億円
研修員受入	36 名	現地活動費	0.42 億円
JOCV 隊員派遣	4 名		

相手国側：

カウンターパート配置	53 名	ローカルコスト負担	80,350,660 バーツ
土地・施設提供			

２．評価調査団の概要

調査者	評価・分析	タノムポーン・ラオハジャラッサン(チェンマイ大学)
	評価・分析支援	岩城　岳央（アイ・シー・ネット・アジア株式会社）
	アシスタント調査員	プラウィーンヤ・スワンナタチョート（チュラローンコーン大学）
	アシスタント調査員	ドゥシータ・グラワンチッド（アイ・シー・ネット・アジア株式会社）

調査期間　2007 年 10 月 24 日　〜　2008 年 2 月 29 日	評価種類：事後評価

３．実績の確認

３−１　プロジェクト目標の状況

プロジェクト成果は、タイにおける初等・中等教育学校教師と教育関係者の教育用情報通信技術向上に必要な内容として認識され、プロジェクトが促進した情報通信技術適用法が活用されている。2005 年から 2007 年の間に 11,876 人の教師がプロジェクトが開発した教育訓練コースに参加している。また、プロジェクト期間中に開発された 4 つの WBT 教材はプロジェクト終了後も活用され、移動式教育訓練コースは 2 ヶ所の NFEC でコース A カリキュラムを活用して継続されている。本事後評価調査でコンタクトした教育訓練コース参加者の全員が、教育現場でのコンピュータプログラム活用技術の向上を認識している。

３−２　上位目標の達成状況

プロジェクトが開発した認定制度による教育訓練コースは定期的に実施され、WBT 教材は教育現場で引き続き活用されている。プロジェクト成果はタイにおける教育用情報通信技術向上の下地になっており、プロジェクトの方向性は教育省の教育用情報通信技術マスタープランとも一致している。

３−３　終了時評価での提言の活用状況

終了時評価では以下の 6 つの提言が挙げられた。

1.教育訓練コースの講師 A、B、C 担当者への提言

　　　1）参加者が日常生活に関わる事例を利用するように奨励すること

　　　2）参加者が指導技術を向上させ、各々の学校で同様のコースを開催するように動機付けること

　　　3）参加者が日常の教育活動で抱えている教育問題の統合化を試みること

　　　4）参加者が日常生活の中で実際にある状況や取り巻く環境に配慮するように図ること

　　　5）経験豊富な元受講者にインストラクター補助として教育訓練コースに参加してもらうこと

2.インストラクターが教育訓練コース教材を各地域の実情に合わせて活用すること

3.教育訓練コースの効果的、効率的実施の観点から、同水準の知識、技術を持つ参加者を選定すること

4.教育訓練コース修了証は一定の条件をつけて発行すること

5.通信インフラの整備状況に応じて適切な WBT 教材を選定すること

6.タイ教育省が作成している行動計画案の承認後、教育訓練コース B、C の対象者を教育サービス区（ESA）や学校から選ばれる関係者を含むように拡大し、その際に本プロジェクトの教育訓練コース受講生を活用するべきである。また、バンコクセンターと各 NFEC の役割と組織体制を明確にするべきである。

プロジェクト終了後、提言 6 以外の提言は実践されているといえる。提言 6 については、提言に基づいて ESA や学校関係者を対象にした教育訓練コースが実施されている。バンコクセンターと各 NFEC の役割と組織体制は明確化されているとはいえない。これは教育省の組織改編により、プロジェクトに関する業務が事務次官室（OPES）、NFECs、教育技術部（BTTL）の教育省内の 3 部署に分けられていることに起因している。

4．評価結果の概要

4-1　評価結果の要約

（1）インパクト

＜上位目標の達成＞

具体的な上位目標の指標が設定されていないが、以下の評価結果から、プロジェクト上位目標は達成されているといえる。認定制度の基づいた教育訓練制度は、タイでの教育用情報通信技術の普及に大きく寄与している。

・プロジェクトの教育用情報通信技術向上へのアプローチは、教育省が起案した教育用情報通信技術マスタープラン（2007-10 年）に主要目的のひとつとして取り入れられている。

・教育省初等教育局の「教育における情報技術活用に係る活動計画（2006-7 年）」では、2400 人がプロジェクトが開発した教育訓練コース B を、240 人がコース C をそれぞれ受講することになっている。

・教育省初等教育局の 2007-8 年の活動計画では、教育訓練コース B、C のカリキュラム・教材開発などが教育関係者の能力向上活動に含まれており、プロジェクト効果が政策に反映されている。

・プロジェクトが開発した 4 つの WBT 教材はプロジェクト終了後も活用されている。教材制作のアプローチは、NECTEC との共同制作から、a) ソフトウエア制作会社への外注、b) 教師への教材作成研修、への予算面での支援に拡大している。

・教育省の政策や規制、学校での情報通信技術インフラの整備状況、教育用情報通信技術の活用に対する意識の向上などが、上位目標達成の主な外部要因として挙げられる。

＜その他のインパクト＞

・NFEC の中にはプロジェクト活動を通じて強化された組織能力、技術、実践経験により、県内だけでなく他県を含む地域の訓練センターとして機能しているところがある。

・プロジェクトのカウンターパートとはプロジェクトを通じて習得したプロジェクトマネジメント手法の論理的な思考を業務や研修実施に活かしている。

・プロジェクトの負のインパクトは認識されなかった。

（2）自立発展性

プロジェクトの実施機関として、教育省は以下に挙げられるようにプロジェクトから得た知識と技術を活

用して教育用情報技術の活用を推進している。

＜組織、人材面＞

・プロジェクトカウンターパートの多くが引き続きプロジェクトの対象 NFEC とバンコクでの関係機
　関・部署に配属されている。バンコクセンターは、教育省が関連する活動予算を初等教育局と生涯教育
　局を通じて配分することとしたため、組織上の位置づけがなくなっている。

＜技術面＞

・プロジェクトが開発した教育訓練コース A、B、C は、現場のニーズに基づいて改訂されながら実用さ
　れている。

・プロジェクト機材は概して有効に活用されているといえる。しかし、機材の中には、交換部品が入手で
　きないことや部品が高価であることから、利用が制限されているものがある。

＜財務面＞

・生涯教育教師の教育用情報通信技術に対するニーズの高まりにより、NFEC の訓練コース実施予算が増
　加している。教育訓練コースの増加や参加者からの高い評価から、プロジェクトが開発した教育訓練コ
　ースは、NFEC により効率的に実施されているといえる。一方で、教育訓練コース実施のための予算配
　分は、高まる訓練ニーズに応えるには、まだ十分であるとはいえない。

4-2　プロジェクトの促進要因

（1）インパクト発現を促進した要因

・過去の政権の教育用情報通信技術向上政策がプロジェクト活動の継続を推進し、インパクトの発現に貢
　献している。また現在の教育省の政策が、教師や教育関係者の情報通信技術活用に対する意識の向上に
　寄与している。

・各学校での情報通信環境の改善が、教育用情報通信技術の普及を促進していると考えられる。教育や学
　校運営でのコンピュータの活用は増しており、また、初等教育局管轄化のすべての学校でインターネッ
　トへの接続が可能になっている。

・IT 時代の到来により情報通信技術が普及し、教師の知識・技術に対するニーズが高まっている。また、
　高いレベルの技術の普及により、教師が新しい技術の重要性をさらに強く認識するようになっている。

（2）自立発展性強化を促進した要因

・インパクト発現の促進要因が自立発展性強化の促進要因にもなっていると考えられる。

4-3　プロジェクトの阻害要因

（1）インパクト発現を阻害した要因

・　2/3 の教師がまだ教育用情報技術の訓練コースを受けていない。こうした教師の情報通信技術の重要性
　に対する認識の高まりもあり、ニーズに対して十分な訓練を提供するための十分な予算が配分されてい
　るとはいえない。

・　2006 年の政権交代後に実施が延期・中止されている教育情報通信技術関連のプロジェクトがあり、政治
　的不安定が教育情報通信技術政策推進上の制約になっているといえる。

（2）自立発展性強化を阻害した要因

・インパクト発現の阻害要因が自立発展性強化の阻害要因にもなっていると考えられる。

4-4　結論

プロジェクトは、認定制度のもとでの教育訓練コース実施モデル構築を通じて、初等・中等教育での情報通信技術の普及と教育用情報通信技術マスタープランの推進に貢献している。プロジェクト機材やプロジェクトを通じて習得した知識や技術の活用により、各 NFEC は教育訓練コースを効率的に実施しているといえる。教育訓練コースの参加者は習得した知識・技術を高く評価しており、教育の現場で活用している。NFEC による教育訓練コースは、今後もプロジェクトのカウンターパートを中心に実施されていくことが期待できる。

4-5　提言（当該プロジェクトに関する具体的な措置、提案、助言）

調査結果から教育省に対する以下の提言が挙げられる。

- プロジェクトの自立発展性強化のために、十分な教育訓練コース実施予算とプロジェクト機材の維持管理費の配分が必要である。プロジェクト成果は教育政策に反映され、関連予算は増加傾向にあるが、現場の教師・教育関係者のニーズに応えていくには十分であるとはいえない。
- プロジェクト効果を維持・拡大していくために、引き続き ESA と NFEC の連携を強化していくことが肝要である。ESA は教員訓練において重要な役割を担うようになっており、連携の強化により、NFEC からのサービスがより効果的に提供されると期待できる。
- NFEC の中にはメコン川流域各国からの参加者を対象にした教育用情報通信技術研修を行う十分な組織能力、技術、経験を備えているセンターがあると考えられる。こうした研修を実施することにより、NFEC スタッフがセンターを地域の研修センターとして発展させていくモチベーションの向上にもつながると期待できる。

4-6　教訓（当該プロジェクトから導き出された類似プロジェクトの発掘・形成、実施、運営管理に参考となる事柄）

- プロジェクトの自立発展性を強化するため、プロジェクトの長期計画を作成することが重要だと考えられる。特に、終了時評価で提言として挙げられたように、各関係機関の役割や責務について明確にすることが大切である。
- プロジェクトデザインは、関連分野でのマスタープランなどとの関係を十分に検討した上で策定されるべきである。
- プロジェクト機材購入は、良質な機材、ソフトウエア、アフターケアサービスを提供できる現地業者を通じて行うことがのぞまれる。現地業者を通じて適切に機材調達・維持管理を行うことにより、プロジェクトの自立発展性が強化されると考えられる。
- 当該プロジェクトでは、タイ側カウンターパートの上位目標と上位目標の計測についての理解が十分であったとはいえない。カウンターパートが上位目標について十分に理解することが、カウンターパートによるプロジェクト活動の維持と上位目標の達成につながると考えられる。
- プロジェクト上位目標の達成を計るための明確な数値指標が設定されるべきである。明確な指標がない場合、プロジェクト上位目標達成の評価が評価者の主観的判断に委ねられる可能性がある。

4-7　フォローアップ状況

プロジェクト終了後に日本側により行われたフォローアップ・プログラムはない。

1. The Outline of the Ex-post Evaluation Study

1.1 Background and Purpose of the Study

The Japan International Cooperation Agency (hereinafter referred to as "JICA") Thailand Office has determined to conduct an ex-post evaluation study (hereinafter referred to as "the Study") on the "Capacity Building on the Development of Information Technology for Education Project in Thailand (ITEd Project)" which was initiated in March 2002 and terminated over two years ago in February 2005. The major purposes of the Study were as follows:

1. To evaluate and confirm the impact and sustainability of the ITEd project after a certain period had passed after the termination of the project.
2. To derive lessons and recommendations for the improvement of JICA country Programs and for the planning and implementation of more effective and efficient projects.
3. To ensure accountability to tax payers through production of reports in both electronic and printed forms

1.2 Evaluation Team and the Study Period

1.2.1 Evaluation Team

The Study was conducted by the following members:

Table 1-1: Member List of Study Team

No.	Responsibility	Name	Organization
1	Evaluation Analysis	Ms. Thanomporn LAOHAJARATSANG	Department of Educational Technology, Chiangmai University
2	Support for evaluation analysis	Mr. Takehiro IWAKI	IC Net Asia Co., Ltd.
3	Assistant Researcher	Ms. Praweenya SUWANNATHACHOTE	Department of Curriculum and Instruction and Educational Technology, Chulalongkorn University
4	Assistant Researcher	Ms. Dusita KRAWANCHID	IC Net Asia Co., Ltd.

1.2.2 Study Period

The Study was conducted from 24 October 2007 to 29 February 2008 as detailed below.

Table 1-2: Study period

Date	Activity	Output
24 Oct., 2007	• Kick-off Meeting with JICA Thailand Office	
till 12 Nov., 2007	• Collection of information/ data • Document review • Development of Evaluation Grid and Questionnaires	• Evaluation Grid • Questionnaires
till 17 Dec., 2007	• Collection of information/data • Field visit • Development of Draft Evaluation Report	• Draft Evaluation Report
till 14 Jan., 2008	• Conducting supplemental study • Development of Draft Final Report and Draft Summary Sheets	• Draft Final Report • Draft Summary Sheets
till 29 Feb., 2008	• Conducting supplemental study • Development of Final Report and Summary Sheets	• Final Report • Summary Sheets

1.3 Outline of the Project

The outline of the Project is summarized in the table as follows:

Table 1-3: Outline of the Project

Country	The Kingdom of Thailand
Project Title	Capacity Building on the Development of Information Technology for Education (ITEd) Project in Thailand
Type of Cooperation	Technical Cooperation
Project Overall Goal	Implementation of the courses under certification system and promotion of activities of new education approaches advocated by the project are expanded for the achievement of the Ministry of Education's ICT Master Plan.
Project Purpose	The ICT applications in primary and secondary school promoted by the ITEd through training, WBT development and publicity activities are diffused in the model areas.
Project Outputs	1. Development of established ITEd model certification system and WBT use in education 2. Development of BKK Center as planning, coordination and supportive unit for operations of certification 3. Development of updated Practical and effective standardized training courses 4. Implementation of established ITEd courses by the 5 Non Formal Education Centers 5. Production of WBT materials by BKK Center and NECTEC
Issue/ Sector	Information and Communication Technology

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Country	The Kingdom of Thailand
Period of Cooperation	1 March, 2002 ~ 28 February, 2005
Implementing Organization in Thailand	Ministry of Education (MOE) National Electronics and Computer Technology Center (NECTEC)

2. Study Methods

2.1 Stakeholders and information/data collected

The Study was designed to collect necessary information/ data to evaluate the project mainly in terms of impact and sustainability of project effects as well as contributing/ disturbing factors based on the evaluation questions listed in the evaluation grid for the study (see Attachment 1, 'Evaluation Grid'). The following stakeholders were identified as targets for the collection of information/ data (see the Attachment 2 'Study Methods and Targets).

1) Policy Makers

2) Ex-counterparts of ITEd Project

3) Trainees

2.2 Study Methods

Following methods were used for the Study.

1) Interviews

2) Phone Interviews

3) Questionnaires

4) Site Visits

5) Related Document Reviews

First, the study was started by collecting and reviewing materials related to the Project. Second, the Project's overall goal and purposes were identified. Third, the Study team used reviewed material to design the evaluation grid and questionnaires. Fourth, data were collected by interviews, field surveys, questionnaires, related document reviews and phone interviews.

The Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) set the following five criteria to evaluate the achievement of development projects; 1) Relevance, 2) Effectiveness, 3) Efficiency, 4)

Impact and 5) Sustainability. Among five criteria, 'Impact' and 'Sustainability' were focused for this ex-post evaluation study. 'Impact' is the project outcomes expected to appear at a certain period of time after the end of the project; and 'Sustainability' is to assess the project effects were continually produced after the termination of the project. All the success and failure factors were also sought.

The study team analyzed all the collected data. Finally, the report was written with the emphasis on the impact, sustainability, recommendations and lessons learned in order to contribute to JICA's efforts on international cooperation projects in the future.

3. Study Results

3.1 Impact of the Project

3.1.1 Achievement of the Project Overall Goal

Although there is no presetting of measurable indicators to evaluate the achievement of project overall goal, from the evaluation result as summarized below, it is fair to say that the overall goal of the project has been achieved. The ITEd model certification system keeps expanding ICT utilization in teaching and learning in Thailand. The ITEd project has laid the groundwork for teacher development in ICT. The impact of the ITEd Project conforms to the strategy of the ICT for Education Master Plan 2004-2006 of the MOE.

a) The MOE has already developed a draft of the ICT for Education Master Plan (2007-2011). Although it is difficult to pinpoint the contribution of the project on the development of the Master Plan, the direction of the project on human capacity development in ICT for education is remained as one of the major goals of the draft Master Plan. According to the draft Master Plan, at least 80% of the teachers and educational personnel in Thailand must have standard ICT competency by the end of this plan in 2011.

The draft Master Plan has not been approved nor implemented yet because the Thai government is still in the process of revising its 2nd National IT Master Plan (IT2010), which will oversee the development of information technology in the country comprehensively. However, delay in the approval of the MOE's ICT for Education Master Plan (2007-2011) may not directly affect the activities of Non-Formal Education Centers (NFECs) as the previous ICT Master Plan for Education (2004-2006) is still being used.

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b) The Draft Action Plan for Teacher Development in ICT, which was one of the outputs of the ITEd project, was revised and approved by the MOE in 2005. The interviews with policy makers and ex-counterparts in Bangkok revealed that the Bureau of Technology for Teaching and Learning (BTTL), under the Office of the Basic Education Commission (OBEC), has been assigned to review the Action Plan and the main organization responsible for delivering the Action Plan for the Utilization of Information Technology for Teaching and Learning (2006-2007), conforming to the 2nd strategy of the ICT Master Plan for Education (2004-2006). In the Action Plan of BTTL, the main target of human capacity development in ICT for education falls on basic education for teachers. According to the plan, 2,400 core teachers were to be trained on Course B within 2 years, while 240 core teachers were to be trained on Course C within the same period.

c) In the Action Plan of BTTL, there are following 4 main projects; 1) ICT for teaching and learning (computer literacy and applications), 2) Integrating ICT into curriculum, 3) Information Delivering for Education, and 4) Information System Management. Among 4 projects, at least 3) and 4) can be considered as the direct impact of the ITEd Project. It is also noted that capacity building on the development of Information Technology for Education has become one of the four main components (Four C's components[1]) in the OBEC's development plan. The Action Plan of BTTL also specified the use of the established ITEd certification system, particularly Course B (courseware development) and Course C (information system management) implementation methods for training school teachers. The major projects, namely Information Delivering for Education and Information System Management, together with the main component of the OBEC Action Plan and the implementation methods are all the direct impact of the ITEd project.

d) The current Action Plan of OBEC (2007-2008) also reflected the ITEd Project impact. In the plan, the outputs of the ITEd Projects, including training curriculum, teaching materials of Course B, C and training by NFECs, compose a major component for the capacity building of Thai primary and secondary teachers and educational personnel in ICT for teaching and learning.

e) Based on the data review, it can be said that the model of ICT training system with certification, which was developed by the project, still pushes the expansion of ICT for

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[1] The Four C's components are Connectivity, Content, Capacity Building and Culture.

teaching and learning in Thailand. The number of trainees having been trained by established ITEd model certification systems after the project termination provides evidence of this expansion (see Table 3-1 below).

Table 3-1: Number of trainees by ITEd Project's courses

	NFEC	Course	2005	2006	2007	Total
1	Chonburi	A	37	-	123	160
		B	76	-	-	76
		C	24	49	57	130
		Total	137	49	180	366
2	Ratchaburi	A	57	-	178	235
		B	76	-	-	76
		C	-	42	178	220
		Total	133	42	356	531
3	Songkla	A	95	492	382	969
		B	73	1,758	55	1,886
		C	83	44	138	265
		Total	251	2,294	575	3,120
4	Nakorn Ratchasrima	A	71	-	300	371
		B	80	-	-	80
		C	41	51	300	392
		Total	192	51	600	843
5	Chiang Mai	A	200	204	172	576
		B	60	24	213	297
		C	39	39	385	463
		Total	299	267	770	1,336
6	Bangkok	A	-	-	-	-
		B	2,500	-	-	2,500
		C	2,400	-	780	3,180
		Total	4,900	0	780	5,680
	Grand Total		5,912	2,703	3,261	11,876

Source: Office of the Permanent Secretary, data as of November 2007

Based on the interviews with the policy makers, ex-counterparts and trainees, all of them stated that ITEd Project has been an "igniter" for human capacity building on the development of Information Technology for Education in Thailand through established courses introduced by the project. The total number of trainees who participated in training courses A, B, and C after the project completion was 11,876 as of November 2007.

f) When the project ended in February 2005, the production of Web-Based Training (WBT) materials with Leaning Management System (LMS) by BANGKOK Center and NECTEC was terminated. Four WBT materials developed during the project period are still being used in education now. The LMS developed by NECTEC remains used by a limited number of schools (20) and NFECs (30) (information is available at www.elearning.nectec.or.th). This is because the MOE has implemented a new central LMS

for the schools under OBEC named "LMS-MOE" (available at http://203.146.15.109/). Regarding material production, the development approach has been extended from co-producing with NECTEC to give budgetary support for WBT materials development through; a) outsourcing software houses to produce the materials and b) training teachers to produce the materials themselves.

Based on the data from the Office of Permanent Secretary (OPES), MOE, around 80 WBT materials were produced by OBEC in 2006 and localized in 2007. Based on the interviews with BTTL staff, there have been some collaborative projects on WBT materials development similar to ITEd Project since 2005. For example, the Digital Curriculum Resource Initiative-Thailand Project has been launched by MOE in cooperation with the Institute for the Promotion of Teaching Science and Technology (IPST), Ministry of Science and Technology and the government of Australia to develop 15 WBT materials in the form of learning objects for Science and Mathematics during 2005-2007 (please refer to http://learningobject.ipst.ac.th).

Table 3-2 : Number of WBT Materials Developed During 2005-2007

WBT	2005	2006	2007	Total
Materials	4	80	80*	164

* Localizing imported WBT materials from aboard

Source: Office of the Permanent Secretary, data as of November 2007

g) Mobile training courses have been conducted by using curriculum and teaching materials of Course A by 2 NFECs (18 times in Songkla and 2 times in Chiang Mai) after the termination of the project. The ICT mobile training approach introduced by the ITEd Project has been applied by offices of several Educational Service Areas (ESAs) under OBEC throughout Thailand in order to train the primary teachers and secondary teachers in the rural areas. This expansion of application was initiated by the former Minister of Education of Thailand (during 2003-2005), Mr. Adisai Potharamik, who visited NFEC at Songkla. He was impressed by an innovative ITEd mobile ICT training method and had some ESA offices adopt the approach to serve teachers in certain rural areas.

h) As can be seen from the result of the questionnaire survey conducted during the study in table 3-3 below, majority of the teachers strongly or quite agreed that they are able to design learning with ICT and their skills to use computers in their teaching improved after being trained. Also, 90 % agreed that they were capable of producing educational media after

being trained using the ITEd courses (see the detail of the survey in Attachment 3 'Questionnaire' and Attachment 4 'Summary of questionnaire results').

Table 3-3: Levels of computer literacy and skills after attending the ITEd training courses

	Strongly Agree		Quite Agree		Agree		Less Agree		Least Agree	
	No	(%)	No	(%)	No	(%)	No	(%)	No	(%)
Having better skills to use computer programs for their teaching	6	30%	9	45%	5	25%	0	0%	0	0%
Having skills to create educational media	5	25%	7	35%	6	30%	2	10%	0	0%
Able to design learning with ICT	3	15%	10	50%	4	20%	3	15%	0	0%

Based on the interviews, two principals who participated in the Course C training have regularly apply their ICT knowledge and the skills obtained from the training courses in both administrative and academic work. All the interviewed teachers who participated in the ITEd training courses still highly appreciate the skills acquired from the training and continue to use them in their teaching. Furthermore, according to the interviewees, there have been positive impacts on upon the students' learning achievements from the training of the ITEd Project. Most interviewed teachers viewed that the training of the ITEd courses has enabled them to deliver the knowledge to their students more effectively. It is also noted that teachers with a computer background, who participated in the project, have reported the transfer of their knowledge and skills to other teachers at their schools.

Summary

In summary, it is fair to say the overall goal of the ITEd Project has been achieved. The impact of the ITEd Project conforms to the strategy of the ICT for Education Master Plan (2004-2006) of the MOE. After the termination of the project, outputs of the ITEd Project, including training curriculum, teaching materials of Course B, C and establishment of the 5 NFECs, have remained as key components in capacity building projects for Thai primary and secondary teachers and educational personnel on ICT for teaching and learning. The ITEd model certification system keeps expanding ICT utilization in teaching and learning in Thailand. Training courses have been localized and constantly updated. The utilization of equipment procured by the project was optimized, and the number of WBT materials is increasing. It is also emphasized that technology transfer from training of counterpart at 5 NFECs to the target group still remains.

3.1.2 Impact not Anticipated at Project Completion

a) Unexpected Positive Impact

There has been a positive impact on the role of 5 NFECs which have now become training centers not only in their provinces but also other provinces in the region to provide ICT training services for teachers, educational personnel and staff of NFECs.

Another unexpected impact is in terms of the transfer of logical thinking. All the interviewed ex-counterparts appreciated the embedded knowledge in a systematic project management (planning, designing, implementation, monitoring, and evaluation) learned from the Japanese experts. The ex-counterparts reported their application of the systematic way of thinking to their work and training.

b) Unexpected Negative Impact

The study team did not find any unexpected negative impacts of the ITEd Project.

3.2 Sustainability

3.2.1 Current Situation of the Counterpart Personnel

For the current status of the 5 NFECs, 11 out of 16 ex-technical counterparts remain working at the 5 centers. 10 out of 12 ex-counterparts from the MOE and the NECTEC remain working for the ITEd Project activities in Bangkok (see the detail in the Attachment 5 'List of ex-counterparts from NFEC and Bangkok Center)'. Based on the interviews, it was found that the most of ex-counterparts at the MOE and the NECTEC have resumed their former positions after the completion of the project. Among the 10 ex-counterparts in Bangkok, few key ex-counterparts under the OPES still work as coordinators and supporters of 5 NFECs for organizing workshops on curriculum development, giving advice, and other activities. The present role of trainers, coordinators and supporters in Bangkok is limited due to MOE's policy to allocate the budget for ITED project activities directly to the OBEC and Office of Non-Formal Education (ONFE).

3.2.2 Organizational Aspects

Based on the interviews with the OPES policy makers and staff, it was found that the Bangkok Center has been organizationally closed. This was partially due to policy of the MOE to allocate the budget for capacity building for primary and secondary teachers to the OBEC and ONFE separately based on the proposed action plans. In other words, 5 NFECs have been assigned a new role to make plans for ICT training and other activities. Meanwhile, the ex-counterparts under the MOE and the NECTEC have a limited role in training, coordinating and supporting 5 NFECs.

There are two organizations under the MOE which account for the human capacity development in ICT for teaching and learning, namely BTTL under the OBEC and the ONFE.

1) As mentioned earlier, the BTTL has developed the Action Plan for the human capacity building for the development of ICT for education. The Action Plan indicated the use of ITEd model certification system particularly Course B (courseware development) and Course C (information system management) as its main implementation approach.

2) Regarding the human capacity building for the development of ICT for education by the ONFE, all 5 NFECs have been continuing to provide 3 ITEd courses using budget from the ONFE.

3.2.3 Technical Aspects

The ITEd 3 courses were revised and adapted to meet with the trainees' needs. For example, a workshop on curriculum development for Course C was organized at NFEC Nakorn Ratchasrima during September 7-11, 2005 by the team of staff from Bangkok Center and all NFECs in order to improve the curriculum. The major change fell on a split of Course C into two courses according to the software program being trained, which are Linux9.0 and Windows 2003. Teachers who participated in the modified Course C could choose the course according to the course availability and the teachers' needs. In addition, the ITEd Course B has been modified by NFEC at Chiang Mai to meet the local needs by replacing MovieMaker program for Adobe Premiere program. NFEC at Nakorn Ratchasrima has also updated course A and used it to train staff and teachers from other districts at the Center.

It is fair to say that 5 NFECs have been enhancing their institutional capacity to conduct training as can be seen from the increase in the number of trainees presented in Table 3-1 at page 6. All 5 NFECs confirmed that the technical knowledge and skills they have gained from the ITEd Project have helped them to maintain the project activities. Furthermore, ex-counterparts from NFEC Chiang Mai and Nakhon Ratchasrima reported that their centers have become the training centers at the regional level for teachers, educational personnel and staff of NFEC not only in their provinces but also other provinces in the region with their institutional capacity, technical expertise, and practical experience.

The utilization of equipment procured by the project has been optimized in general. However, utilization of some equipment has been limited due to the unavailability and high price of certain spare parts

3.2.4 Financial Aspects

All the ex-counterparts from the 5 NFECs continue the project activities, mainly Courses A, B and C. 5 NFECs reported that their budgets come from several resources such as the MOE and/or the Chief Executive Officer (CEO) Budget of the provincial governor, Ministry of Interior. The following table presents the ICT training budget of NFECs from 2004 until 2007. As can be seen from the table below, the budget for computer training NFECs has been increasing significantly.

Table 3-4: Budget for ICT training

	Center	Budget Year 2005[*1]	Budget Year 2006	Budget Year 2007	Total
1	NFEC Chonburi	70,000	387,000	475,860	932,860
2	NFEC Ratchaburi	70,000	474,000	1,088,710	1,632,710
3	NFEC Songkhla	82,500	426,000[*2]	1,351,860	1,860,360
4	NFEC Nakhon Ratchasrima	82,500	570,000	1,897,660	2,550,160
5	NFEC Chiangmai	82,500	463,000[*2]	1,211,260	1,756,760

Remark

*1. In 2005, budgets for 5 NFECs came from 2 sources: the MOE and CEO Budget of the provincial governor

*2. In 2006, budget of 2 NFECs (Chiang Mai and Songkhla) providing Courses A and B came from the CEO Budget of the provincial governor.

Source: Office of the Permanent Secretary, data as of November 2007

As the needs for human capacity development on ICT for NFE teachers have been increased, the government has been increasing the allocation of the budget for 5 NFECs. It can be said that project activities and services, i.e., Course A, B, and C, and mobile training, have been maintained efficiently by 5 NFECs with the increasing course numbers and positive evaluation by the trainees. However, the budget allocation for training courses has been still insufficient to respond to the increasing demand for teacher training in ICT for teaching and learning

3.3 Analysis of Impact and Sustainability Factors

3.3.1 Factors that have promoted the Project

a) Contribution of the ITEd Project
The ITEd Project has been appreciated by all ex-counterparts and trainees contacted during this evaluation study. The contribution of the ITEd Project is clearly revealed in the Action Plan of BTTL 2007 on Teacher Capacity Building Project on ICT for teaching and learning. The project conforms to the ICT for Education Master Plan of the MOE 2004-2006. The main factor accounting for the contribution is the implementation of the ITEd courses under certification system and its positive outcomes supported by the project's technical cooperation, equipment, experts, and expenditure for the project activities.

b) Policy and Regulation by the MOE
One of the factors that contributed to the achievement of the project overall goal is the policy of the former government of Thailand on ICT for education which also supports the implementation of the ITEd Project well. In addition, recent policy made by the MOE, including requesting schools to utilize the e-Office system to communicate with the ministry online, has made all teachers and educational personnel aware of the importance of ICT use and their needs in ICT skills and knowledge.

c) Status of ICT readiness in Thai Schools
Further development of ICT infrastructure in schools under OBEC accounts for the project impact. According to the survey conducted by OBEC in 2006, the ratio of the number of computers to the number of students in schools under OBEC is 1:59. When compared to the ratio of 1:62 in 2004, it can be said that the computer use for education and administration in Thailand is on the rise. One-third of the teachers has already been trained in the use of ICT.

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Table 3-5: Data on the status of ICT Readiness/Usage of Schools under the OBEC

Status of ICT Readiness/Usage	2006
1. Number of Schools under OBEC	32,741
2. Number of Students under OBEC	8,830,000
3. Number of Computers	148,556
4. Internet Connection Status	32,741
5. Number of Computers: School	5 : 1
6. Number of Computer: Students	1 : 59
7. Internet Connection: School	1 : 1
8. Total Number of Teachers	499,697
- Have been trained on ICT skills	108,624
- No training on ICT skills	391,073

Source: Office of the Basic Education Commission, 2006

Internet connection has been completed in every school under OBEC (100%) as can be seen in the table above. The availability of more computers and internet connection in every school resulted in more positive attitudes from the teachers toward ICT for teaching and learning.

d) Increasing awareness of ICT utilization in teaching and learning

The widespread use of ICT in the "IT Age" not only for business but also for personal matters affect the needs for teachers to update their skills and knowledge on ICT. In addition, the advance of technology, including online communication and interactive content development/ presentation, has made teachers realize the importance of ICT for education and their needs of ICT skills and knowledge for teaching and learning.

3.3.2 Factors that have inhibited the project

a) Budget Constraints

Currently, there are around 500,000 teachers in Thailand as presented in the Table 3-5 above. Although one-third of the teachers have already been trained for the use of ICT, two-thirds are left untrained. In other words, there remain a large number of teachers who need ICT training. The interview results with ex-counterparts at the OBEC and NFECs also confirm that the demands for teacher training in ICT for teaching and learning are over the supplies with the increasing awareness of teachers on the importance of ICT skill. Despite the rising number of trained teachers by the ITEd courses and the provision of increasing training budget, as presented in the Table 3-4 at page 11, the budget allocation for ITEd training courses has been still insufficient.

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Although the OBEC has been increasing the training budget on ICT for education for teachers to meet the ever-increasing needs, there is a limitation in the budget allocation to satisfy the needs with other prioritized issues related to the education, such as education program for drop-out students, morality promotion, and gifted children. Schools, teachers and ESAs themselves have to seek other financial sources in the community and private sectors to fulfill their training needs. It is also found that there is insufficient budget especially for hardware maintenance at NFEC Chiangmai and Nakhonrachasima where the study team visited. In addition, based on the interviews with NFEC staff, the van procured by the project has not been utilized optimally due to the rising price of the gasoline. Also, further capacity development for the trained personnel has rarely occurred after the project completion due to the limited budget.

b) Political Aspect

Political instability may partially be viewed as a disturbing factor for the pursuance of ICT for education policy. Several projects related to ICT for education, including the 'Project for the Provision of 250,000 Computers to Schools' and 'One Laptop Per Child (OLPC) Project' of the former government, have been postponed, changed or terminated during the change of the government.

3.4 Issues/ Problems

a) Digital Media, Hardware and Equipment

The ratio of computers to the number of students in schools under OBEC is 1:59 as of 2006. The ratio of computers to the number of students working in the computer labs is 1: 3 to 5. Although the figure is on the rise, there is a need for further improvement. Regarding the e-content, there are still a very limited number of digital media devices in the schools, especially courseware and e-Books.

b) The revision of the 2nd National ICT Plan (2000-2010) and the Action Plan of the BTTL, OBEC (2007-2008)

Thailand is now in the process of revising the 2nd National ICT Plan for the Period of 2000-2010 to come up with the ICT for Education Master Plan (2007-2010). However, the delay of this revision has been suspending the approval and utilization of draft of the ICT for Education Master Plan of the MOE (2007-2011). Although short delay in the approval of the MOE's ICT for Education Master Plan (2007-2011) may not affect the activities of

NFECs severely as the previous ICT Master Plan for Education (2004-2006) can be used, there is a concern that, with late planning, the practitioners may not have enough time to come up with detailed operational plans for completing the activities in time.

Although detailed plans for the teachers' capacity development in ICT for teaching and learning has been specified with specific target figures in the Action Plan by the BTTL, no details were found in terms of target descriptions and recruitment methods.

c) Availability and Price of Certain Equipment and Parts

Unavailability and high price of the certain parts for certain equipment procured by the project, such as color printers, copy machines, and others, were claimed by some NFECs personnel as a factor of the limited used of equipment. The ink cartridges for the color printers are not available in the market while the spare parts for the copy machines are expensive.

3.5 Follow-up Situation

Follow-up programs have not been carried out by the Japanese side since the project completion in 2005.

3.6 Conclusions

The study concludes that the ITEd Project has contributed to the MOE 's ICT for Education Master Plan and an expansion of ICT applications in primary and secondary schools by the established ITEd model certification system with training Course A, B, and C. By utilizing equipment, skills and knowledge acquired during the project, each of 5 NFEC has been implementing training courses efficiently. The trainees of the ITEd courses appreciate the skills and knowledge gained from the training and continue to use them in their teaching. It is expected that the training by ex-counterparts at 5 NFECs will be maintained as long as budgets are allocated. Budget constraints were reported by 5 NFECs particularly in terms of hardware maintenance, spare equipment and machines for Course C and further capacity development for the trained personnel.

4. Recommendations and Lessons Learned

4.1 Recommendations

a) Budget Planning and Allocation

Both the future training budget and maintenance costs for equipment procured by the project should be supported by the MOE to enhance the sustainability of the project. Although the project activities have been embedded into the government policy and have received increasing budget allocation, there are needs for further increase of the budget as explained in the section 3.3.2 at page 13.

b) Stronger Partnership between ESAs and NFECs

It is necessary to strengthen the partnership between ESAs, which are the units under the OBEC, and NFECs. As the ESAs have now become the main units responsible for training teachers throughout Thailand, stronger partnership will help maintain training services of 5 NFECs and for other MOE's human capacity development activities in the future.

c) Training Center on ICT Education for Greater Mekong Sub-region (GMS)

With its institutional capacity, technical expertise, and experience in practice, it is fair to say that some of NFECs, with the coordination of the OBEC, are capable of conducting training programs on ICT for teaching and learning for the countries in the Greater Mekong Sub-region (GMS). It is expected that the implementation of the training programs will also enhance the motivation of staff to develop NFECs as training centers in the GMS.

4.2 Lessons Learned

a) Strategies and Long-term Planning

To ensure the sustainability of the project, the long term project plan, particularly in terms of roles and responsibilities of Thai ex-counterparts, should be made. This includes a thorough analysis of the project in order to clearly define the roles and the organizational structure of each involved organization and the assigned tasks for all personnel at all units, especially after the project termination. It is also crucial to ensure that the assigned tasks under the project are parts of the personnel's job description. Also, relevant strategies should be developed to institutionalize the project effects. Budget planning including future training and maintenance cost for equipment after the project has ended should also be considered at the start of the project.

b) Considering Local Vendor as an Alternative for Equipment Support

From the experience of the ITEd Project, it is important to consider the availability of spare parts from the local vendors. Local vendors who can support hardware and software as well as offer after-sales services for the project should be identified. Acquiring decent local vendors and products will help sustain the project effect through equipment utilization and reduction of maintenance costs.

c) Importance of the Understanding of the Overall Goal

In this ex-post evaluation study, the team found that there was still a lack of understanding among Thai ex-counterparts on the project overall goal and evaluation methods of project overall goal. Making the overall goal of the project known by project counterparts may help encourage the counterparts to sustain the project activities and consequently to better achieve the overall goal of the project.

d) Project Planning and Formal Evaluation

The project design, including the activities of the project, dispatch of short-term experts, specifications of equipment and acquisition of spare machines, should be made carefully to come up with the details of master plans in the related fields at the beginning of the project.

e) Measurable and Objectively Verifiable Indicators

Measurable and objectively verifiable indicators for the project overall goal should be specified in the project design. With clear indicators, the result of the project impacts can be evaluated objectively.

Attachment 1

Evaluation Grid

Evaluation Grid for Ex-Post Evaluation Study on
"The Project of the Capacity Building on the Development of Information Technology for Education (ITEd)"

IMPACT

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
a) How far has the overall goal been achieved since the terminal evaluation?	1) Are objectively verified indicators achieved?				
	1.1 Are the model certification system for the ICT training and WBT use in education further implemented by the related organizations and persons after the project ended?	Comparison of information/data with past information (2004 VS 2007)	• No. of training courses • No. of trainees • No. of WBT materials	• Policy Maker • Counterparts • Joint Evaluation Report on ITEd	• Interview • Document review • Questionnaire /Phone Interview
	1.2 Does the Bangkok Center remain functioning as a coordination and supportive unit for operations of certification system after the project ended?	Analysis of views and information provided by counterparts and trainee (trained teachers)	• Vision/plan on ICT training program	• Policy Maker • Counterparts • Joint Evaluation Report on ITEd	• Interview • Document review
	1.3 Are practical and effective standardized training courses still being further revised and updated after the project ended?	Comparison of information/data with past information (2004 VS 2006,7)	• Training materials	• Policy Makers • Counterparts • Joint Evaluation Report on ITEd	• Site Visit • Interview • Document review
	1.4 Are the 5 Non-Formal Education Centers (NFECs) still conducting the practical certificated courses after the project ended?	Comparison of information/data with past information (2004 VS 2007)	• No. of training courses • No. of trainees • No. of WBT materials	• Policy Maker • Counterparts • Joint Evaluation Report on ITEd	• Interview • Document review • Questionnaire/ Phone Interview
	1.5 Are there more WBT materials been further developed after the project ended?	Analysis of views and information provided by counterparts and trainee (trained teachers)	• Activities based on the strategy	• Policy Maker • Counterparts • Joint Evaluation Report on ITEd • Website	• Interview • Document review • Questionnaire/ Phone Interview

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
	2) What are major contributing/ disturbing factors for achieving the overall goal?	Analysis of views and information provided by policy makers, counterparts and trainee (trained teachers)	• Contributing/distur bing factors	• Policy Maker • Counterparts • Trainee (teachers) • Joint Evaluation Report on ITEd	• Interview • Document review • Questionnaire/ Phone Interview
	3) How does the achievement of the project purpose contribute to the achievement of the overall goal?	Analysis of views and information	• Data on linkage between project purpose and overall goal	• Policy Makers • ICT Master Plan/ Action Plan • Joint Evaluation Report on ITEd • Draft of the Action Development Plan for in ICT by OBEC	• Interview • Document Review
b) Are there unintended positive and negative effects observed?	1) Are there unintended effects in terms of policy, political, socio-economic development, technical, and other aspects?	Analysis of views and information provided by policy makers	• Unintended policy, policy, political, socio-economic development, technical impacts	• Policy Makers • Counterparts • Press Announcement	• Interview • Document review
	2) Are there particular impacts to specific groups?	Analysis of views and information provided by policy makers counterparts/trainees	• Positive / Negative impacts on specific groups	• Policy Makers • Counterparts • Trainees	• Interview/ Focus Group • Questionnaire/ Phone Interview
c) What factors contributed to positive and negative impacts?	1) How does the important assumption affect the positive and negative impact?	Analysis of views and information provided by policy makers counterparts/trainees	• Positive / Negative impacts	• Policy Makers, Counterparts, Trainees • Joint Evaluation Report on ITEd	• Interview/ Focus Group • Questionnaire/ Phone Interview • Document Review
	2) Are there any other external factors affected the positive and negative impacts?	Analysis of views and information provided by policy makers counterparts/trainees	• External Positive / Negative factors	• Policy Makers, Counterparts, Trainees • Joint Evaluation Report on ITEd	• Document Review • Interview/ Focus Group • Questionnaire/ Phone Interview

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
d) What is the current status of the usage of ICT applications in Thailand's education system from the time of project completion?	1) How does the usage of ICT application in Thailand's education system change from the time of project completion?	Analysis of information obtained	• Overall picture of the usage of ICT application in Thailand's education system	• Policy makers • Counterparts • Joint Evaluation Report on ITEd • Research Report on the usage of ICT application in Thai Schools	• Document Review • Interview
	2) How does the change in the situation affect the impact of the project?	Analysis of information obtained	• Linkage of the change of the situation with the project impact	• Policy makers • Counterparts • Joint Evaluation Report on ITEd • Research Report on the usage of ICT application in Thai Schools	• Document Review • Interview • Questionnaire/ Phone Interview
	3) How does the achievement of the project purpose affect the current situation?	Analysis of information obtained	• Linkage of the achievement of the project with the current situation	• Policy makers • Counterparts • Joint Evaluation Report on ITEd • Research Report on the usage of ICT application in Thai Schools	• Document Review • Interview • Questionnaire/ Phone Interview
e) Has Action Plan for Teacher Development in ICT in Thailand already approved and introduced? If yes, to what extent the promotion of ICT applications and WBT has been expanded to Thailand as a new education approaches?	1) When was the Action Plan for Teacher Development in ICT in Thailand approved and introduced?	Analysis of information	• Action Plan for Teacher Development in ICT in Thailand	• Policy makers	• Interview • Document Review
	2) If the Action Plan for Teacher Development in ICT in Thailand has not been approved and introduced, what are the constraints?	Policy on Teacher Development in ICT in Thailand Analysis of views and information provided	• Action Plan for Teacher Development in ICT in Thailand	• Policy makers	• Interview • Document Review
	3) How have ICT applications and WBT been applied in Thailand?	Analysis of views and information provided	• Action Plan for Teacher Development in ICT in Thailand • Related Activities based on Action Plan	• Policy makers	• Interview • Document Review

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
f) What is the current situation of WBT system in term of approach and actual usage in school?	1) How WBT is being conducted in school?	Analysis of views and information provided	• Current situation on how WBT is being implemented (Linkage with Project Impact)	• Counterparts • Trainees	• Interview/ Focus Group • Questionnaire/ Phone Interview
	2) Are there any constraints to use WBT in school?	Analysis of views and information provided	• Constraints of WBT usage in school (Linkage with Project Impact)	• Counterparts • Trainees	• Interview/ Focus Group • Questionnaire/ Phone Interview

SUSTAINABILITY

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
a) How has the counterpart agency been maintaining the project activities and services provided by the project? (Including the policy, Institution's capacity, financial, and technical aspects)	1) Does the counterpart agency maintain the project activities and services provided by the project?	No. of activities and services	• Current activities and services based on the project	• Counterparts • Related Document	• Interview at Site Visit • Questionnaire/ Phone Interview • Document Review
	2) Does the counterpart agency have appropriate policy, institutional capacity, and financial source to maintain the project effect?	Analysis of views and information provided by the counterparts and NFECs	• Institutional Policy, action plans with focus on financial aspects	• Policy makers (ONFE) • Counterparts	• Interview • Questionnaire/ Phone Interview • Document Review
	3) Does the counterpart agency staff have technical knowledge and skill to maintain the project effect?	Analysis of views and information provided by the counterparts and NFECs	• Institutional Policy, action plans with focus on financial aspects	• Policy makers (ONFE) • Counterparts	• Interview • Questionnaire/ Phone Interview • Document Review
b) What factors are contributing to or inhibiting the project effects or sustainability?	1) Does the counterpart agency have appropriate policy support, and allocation of manpower and budget from responsible organizations?	Analysis of views and information from NFECs	• Action plans of the Bureau of Non-Formal Education focusing on the support to the counterpart agency	• Policy Makers • Counterparts	• Interview • Questionnaire/ Phone Interview • Document Review
	2) Is the knowledge and skill transferred during the project still valid?	Analysis of views and information provided by the counterparts and NFECs	• Institutional Policy, action plans with focus on financial aspects	• Counterparts • NFECs	• Interview • Questionnaire/ Phone Interview • Document Review
	3) Are there any other factors to contribute to or inhibit the project effects or sustainability?	Analysis of views and information provided by the counterparts and NFECs	• Contributing and Inhibiting factors of project's sustainability	• Policy Makers • Counterparts	• Interview • Questionnaire/ Phone Interview • Document Review

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
c) Based on the "Recommendation" of final evaluation team, how do the instructors conduct the training course A, B and C currently?	1) Do the instructors reflect the recommendation: (1) utilization of case studies which contain real situation of daily life, (2) enhance the motivation of participants, (3) integrate the common education problems, and (4) utilize the experienced ex-trainee assistant, in the training course?	Analysis of views and information provided by trainers	• Recommendation of final evaluation team being reflected through current conducting of the instructors A, B, and C	• Trainees • Training Materials • Counterparts	• Interview • Questionnaire/ Phone Interview • Document Review
d) How is the present situation of accomplishment of training course C in terms of curriculum, contents and capability of instructors and development of remaining 3 kinds of WBT materials?	1) Has the training course C, including remaining 3 kinds of WBT material, been developed and being conducted?	Analysis of information	• Training Course C manual • 3 kinds of WBT material	• Counterparts • Related Document	• Interview • Document Review
	2) Is there the assessment of training C curriculum, contents, and capability of instructors by implementing agency and course participants? If yes, what is the assessment?	Analysis of information	• Revised curriculum Training Course C manual • 3 kinds of WBT material	• Counterparts • Related Document	• Interview • Document Review
e) Are there any new training courses or any new activities developed and introduced by the Bangkok center and NECTEC after the	1) Are there any new training courses or any new activates developed and introduced by the Bangkok Center and NECTEC after the termination of the project?	Analysis of information	• New training courses or any new activates developed and introduced by the Bangkok Center and NECTEC after the termination of the project	• Counterparts • Related Document	• Interview • Document Review

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
termination of the project?	2) How have the effects of the project contributed to the development of new training course and activities?	Analysis of views and information	• Effects of the project to current activities and services for teacher development resulted from the project	• Counterparts	• Interview • Document review • Questionnaire/ Phone Interview
	3) If there are no new training courses and activities, what are the major reasons?	Analysis of views and information	• Rationale for no development of new training courses and activities	• Counterparts	• Interview • Document review • Questionnaire/ Phone Interview
f) Has there been any network established between the 5 model Non-Formal Education Centers to share knowledge and techniques to other Centers in neighboring area?	1) Do 5 model NFECs share the knowledge and techniques? If yes, how do they share the knowledge and techniques?	Analysis of views and information	• Activities which share the knowledge and techniques among 5 model NFECs	• Counterparts	• Interview • Questionnaire/ Phone Interview • Document review (if any)
	2) Are NFECs satisfied with the current network with other centers to share knowledge and techniques?	Analysis of views and information	• Satisfaction level of the network with other centers to share knowledge and techniques	• Counterparts	• Interview • Questionnaire/ Phone Interview • Document review (if any)

Attachment 2

Study Method and Targets

Study Methods and Targets

Mode Dimension	MQ	SQ	OPES	ONFE	BTTL / OBEC	Director	Staff	ChiangMai	Nakhonratchasrima	Note
I	A	1								DR
		1.1	I	I	Q/PI	I (3) Q/PI (3)	-	-	-	
		1.2	I	I	I	I (BKK center)	-	-	-	
		1.3	-	I	I	I (3) SV (3)	I (3) Q/PI (3)	-	-	
		1.4	-	I	I	I (3) Q/PI (3)	-			
		1.5	-	I	I	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	
		2	I	I	I	I (3) Q/PI (3)	-	-	-	DR
		3	I	I	I	.	-	.	.	DR
	B	1	I	I	I	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
		2	I	I	I	I (3) Q/PI (3)	I (3) Q/PI (3)	I or FG (8)	I or FG (9)	DR
	C	1	I	I	I	I (3) Q/PI (3)	-	I or FG (8)	I or FG (9)	DR
		2	I	I	I	I (3) Q/PI (3)	-	I or FG (8)	I or FG (9)	DR
	D	1	I	I	I	I (3) Q/PI (3)	-	-	-	DR
		2	I	I	I	I (3) Q/PI (3)	-	-	-	DR
		3	I	I	I	I (3) Q/PI (3)	-	-	-	DR
	E	1	I	I	I	.	-	-	-	DR
		2	I	I	I	.	-	-	-	DR
		3	I	I	I	.	-	.	.	DR
	F	1	-	-	-	I (3) Q/PI (3)	I (3) Q/PI (3)	I or FG (8)	I or FG (9)	DR
		2	-	-	-	I (3) Q/PI (3)	I (3) Q/PI (3)	I or FG (8)	I or FG (9)	DR
S	A	1	-	I	-	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
		2	-	I	-	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
		3	-	I	-	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
	B	1	I	I	I	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
		2	-	-	-	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
		3	I	I	I	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
	C	1	-	-	-	-	I (3) Q/PI (3)	I or FG (8)	I or FG (9)	DR
	D	1	-	-	-	I (BKK center)	-	-	-	DR
		2	-	-	-	I (BKK center)	-	-	-	DR
	E	1	-	-	-	I (BKK center)	-	-	-	DR
		2	-	-	-	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
		3	-	-	-	I (3) Q/PI (3)	I (3) Q/PI (3)	-	-	DR
	F	1	-	-	-	I (3) Q/PI (3)	-	-	-	DR (if any)
		2	-	-	-	I (3) Q/PI (3)	-	-	-	DR (if any)

Abbreviation

	Data collection methods	Office
I: Impact evaluation mode S: Sustainability evaluation mode MQ: Main Questions SQ: Sub Questions	I: Interview PI: Phone Interview Q: Questionnaire SV: Site Visit DR: Document Review	OPES = Office of the Permanent Secretary ONFE =Office of the Non-Formal Education BTTL/OBEC = Bureau of Technology for Teaching and Learning, Office of the Basic Education (OBEC)

Attachment 3

Questionnaire

Questionnaire for the Ex-post Evaluation on The Capacity Building on the Development of Information Technology for Education (ITEd) Project

Target: Trainees of the ITEd Courses

This questionnaire is prepared to collect necessary information for the Ex-post Evaluation Study on 'The Capacity Building on the Development of Information Technology for Education (ITEd) Project. The ITEd project is a 3-year Thai-Japanese technical cooperation project which was initiated in March 2002 and terminated over two years ago in February 2005.

Your answers/ comments are appreciated and would be used to evaluate the impacts and sustainability of the project. Your identity will be kept confidential. Please answer or give your opinions to all the questions for the beneficiary of the study. Finally, after filling-in the questionnaire, please use the attached envelope (with paid stamps and printed researcher's name and address) and send it back to the researcher no later than 30th November, 2007. Should you have any inquiries or need more information, please feel free to contact the researcher:

Ms. Thanomporn LAOHAJARATSANG
Phone: 053-943801 email:thanompo@chiangmai.ac.th
MS. Praweenya SUWANNATHACHOTE
Phone: 02-2182644 email:praweenya@gmail.com

Thank you very much for your cooperation in advance.

1. GENERAL INFORMATION
(1) Name

(2) Position _____

(3) Organization _____

(4) Training Experience * _____

* Please specify the ITEd Course and Training Period _____
☐ Course A IT Literacy Year.

Training Period: ....

☐ Course B Computer-Based presentation and Multimedia Content.

Training Period: ....

☐ Course C Information System (Network).

Training Period: ....

Training Course A, B, and C under ITEd project

Course A: focusing on IT Literacy and promotion of teachers' self-learning skills
Course B: focusing on creating effective computer-based presentation and producing multimedia content to support instruction

Course C: focusing on designing and developing information system that will be needed in the schools in the future including network management to management of teaching materials

Please answer all the questions.

1. IMPACT OF THE PROJECT

1. Do you think organizing ITEd training courses has been successful? Why or Why not?

O Yes   O No   O Not sure

....
....
....
....

2. What do you think are the major factors which contribute to the success of the ITEd project i.e. policy, training courses, trainers?

....
....
....
....
....
....
....
....
....
....

3. Are there any positive/ negative unexpected impacts from being trained by the ITEd courses?

In terms of positive unexpected impacts:

O Yes   O No

If yes, please describe:

....
....

In terms of negative unexpected impacts:

O Yes   O No

If yes, please describe:

....
....

4. After being trained by the ITEd course, what is your opinion on your level of computer literacy and skills?

5	=	Strongly Agree
4	=	Quite Agree
3	=	Agree

		5	4	3	2	1
4.1	Having better skills to use computer programs for their teaching	☐	☐	☐	☐	☐
4.2	Having skills to create educational media	☐	☐	☐	☐	☐
4.3	Able to design learning with ICT	☐	☐	☐	☐	☐
4.4	Having skills to fix basic hardware problems	☐	☐	☐	☐	☐
4.5	Having skills to fix basic network problems	☐	☐	☐	☐	☐

Above the table:

2	=	Less Agree
1	=	Least Agree

5. The current status of WBT applications in terms of approach and actual usage in school?

5.1 How WBT is being used in school?

....
....
....
....
....
....
....
....
....
....
....

5.2 Has there been any constraints to use WBT in school? If yes, please specify.

....
....
....
....
....

Sustainability

6. After being trained by the ITEd course, what is your opinion on the way trainers offered the courses?

5	=	Strongly Agree
4	=	Quite Agree
3	=	Agree
2	=	Less Agree
1	=	Least Agree

		5	4	3	2	1
6.1	Using real situations and environments surrounding in terms of daily life for production of teaching materials	☐	☐	☐	☐	☐
6.2	Motivate participants to improve their teaching skills and to organize similar courses in their own schools	☐	☐	☐	☐	☐
6.3	Integrate education problems that participants have in their daily education activities in terms of management and teaching situations	☐	☐	☐	☐	☐
6.4	Inviting experienced participants to act as sub-instructors	☐	☐	☐	☐	☐

7. What is your recommendation in order to improve the human capacity development on IT for education?

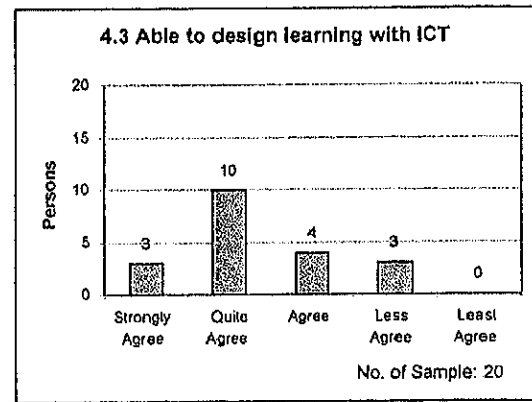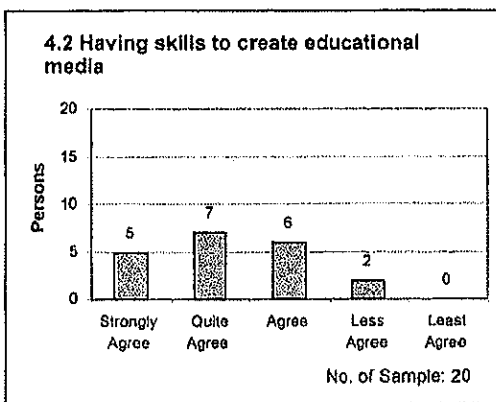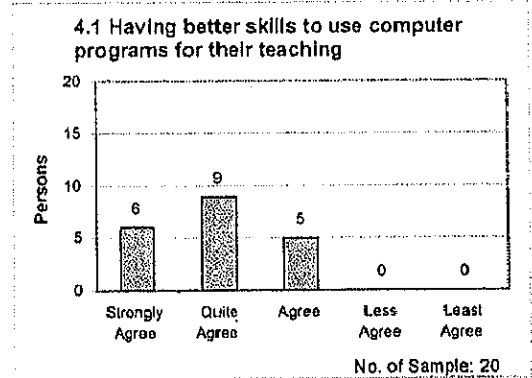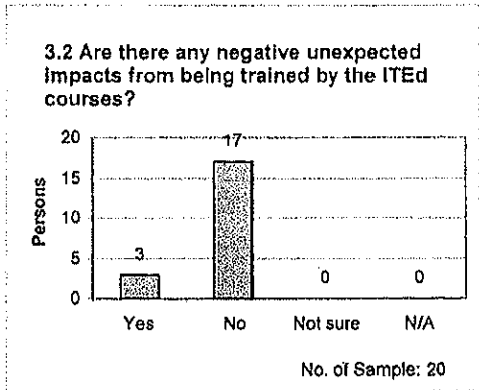..

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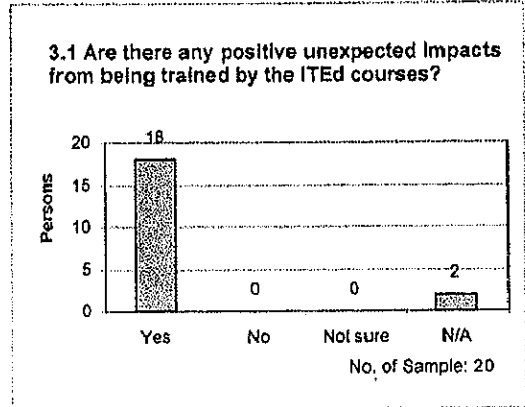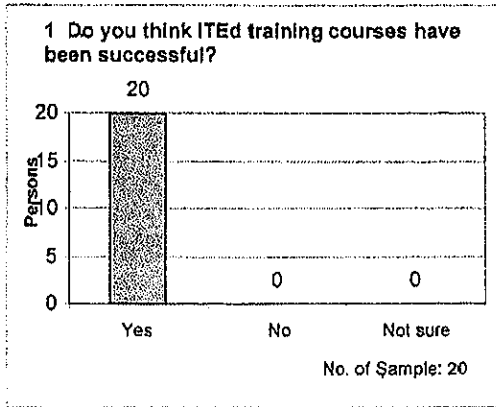...
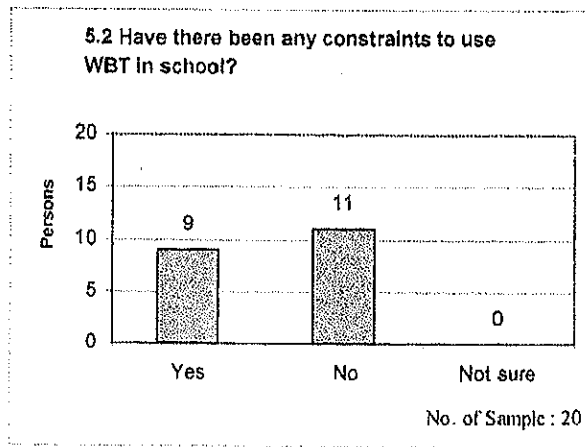
Thank you very much for your cooperation.

Attachment 4
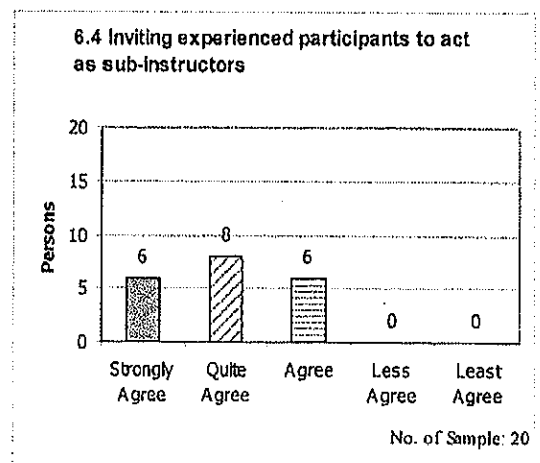

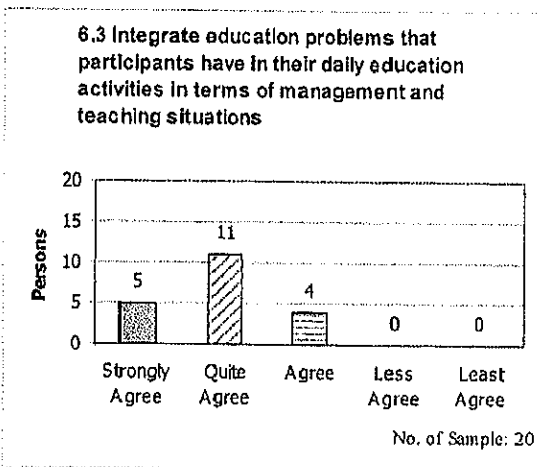Summary of questionnaire results

Summary of Questionnaire Results
Target: Trainees of the ITEd Courses

1 Do you think ITEd training courses have been successful?

No. of Sample: 20

3.1 Are there any positive unexpected impacts from being trained by the ITEd courses?

No. of Sample: 20

3.2 Are there any negative unexpected impacts from being trained by the ITEd courses?

No. of Sample: 20

4.1 Having better skills to use computer programs for their teaching

No. of Sample: 20

4.2 Having skills to create educational media

No. of Sample: 20

4.3 Able to design learning with ICT

No. of Sample: 20

5.2 Have there been any constraints to use WBT in school?

No. of Sample : 20

6. After being trained by the ITEd course, what is your opinion on the way trainers offered the courses?

6.1 Using real situations and environments surrounding in terms of daily life for production of teaching

No. of Sample: 20

6.2 Motivate participants to improve their teaching skills and to organize similar courses in their own schools

No. of Sample: 20

6.3 Integrate education problems that participants have in their daily education activities in terms of management and teaching situations

No. of Sample: 20

6.4 Inviting experienced participants to act as sub-instructors

No. of Sample: 20

Attachment 5

List of ex-counterparts from
NFEC and Bangkok Center

List of Ex-Counterparts from NFECs and Bangkok Center

Ex-counterpart personnel (Technical C/P) at NFECs

NFEC	Name of exC/P	Position during the project	Present position
NFEC Chonburi	Ms. Kaewta Boonthai	Course Implementator	NFE teacher
	Ms. Jaratsri Huajai	Course Implementator	NFE teacher
	Ms.Parat Nuanggate	Course Implementator	Resigned
NFEC Ratchaburi	Mr. Pairoj Kuntong	Course Implementator	NFE teacher
	Mr. Thiti Boonyos	Course Implementator	NFE teacher
	Mr. Wichoke Chutiwaracharoenchai	Course Implementator	Library Officer
NFEC Songkhla	Mr. Kasem Rujirek	Course Implementator	NFE teacher
	Mr. Nipan Sookkho	Course Implementator	Resigned
	Mr. Preedee Nuan pradit	Course Implementator	NFE teacher
NFEC Chiangmai	Mr. Wirat Kongdee	Course Implementator	NFE teacher
	Ms. Niramon Boonchee	Course Implementator	NFE teacher
	Ms. Rashanee Sombiin	Course Implementator	NFE teacher
NFEC Nakhonratchasrima	Mr. Nikorn Ketkomol	Course Implementator	NFE teacher
	Ms. Pimsuda Arayasompho	Course Implementator	Moved
	Mr. Wichai Singmai	Course Implementator	Resigned
	Mr. Sarachet Sarasuc	Course Implementator	Resigned

Ex-counterpart personnel (Technical C/P) at Bangkok Center

Name of exC/P	Position during the project	Present position
Mr. Sathian Ausaha	MOE Coordinator	Communication and Information Center (CIC), OPES
Mr. Bamrung Chiablam	Network	CIC, OPES
Mr. Aphichad Mankaedwit	Database	CIC, OPES
Ms. Sunantha Sridakul	Instructional Design	CIC, OPES
Mr. Rungsan Wiboon Uppathum	Coordinator of Bureau of ICT	Resigned
Ms. Jutamas Chewitsopon	Basic Education Coordinator	OBEC
Ms .Rungrat Naphakhanaphon	Instructional Design	NFED, MOE
Mr. Prad Sangangam	Course C Implementor	Resigned
Ms. Piyanuch Prangmanee	Instructional Design	Uninet, MOE
Mr. Rachabodin Suwannacunti	WBT System	NECTEC
Mr. Pornchai Tummaruttananont	WBT System	NECTEC
Mrs. Yaowalak Khonklong	Instructional Design	NECTEC

Attachment 6

Project Design Matrix (PDM)

Project Title: The Project of the Capacity Building on the Development of Information Technology for Education (ITEd Project)
Project Duration: 2002.03.1 to 2005.2.28   Target Places: Bangkok and Model Areas (Chiang Mai, Nakorn Ratchashima, Songkla, Ratchaburi and Chonburi)
Target Group: Mainly Primary and Secondary School Teachers in the Model Areas

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
OVERALL GOAL Implementation of the courses under certification system and promotion activities of new education approaches advocated by the Project are expanded for the achievement of the Ministry of Education's ICT Master Plan.	1. The model certification courses are conducted on regular basis organizations relating to the teacher capacity building. 2. WBT material advocated by the Project is utilized in schools.	1. Questionnaire and monitoring survey by the Monitoring/Evaluation Task Force. 2. – ditto –	
PROJECT PURPOSE The ICT applications in mainly primary and secondary school promoted by the ITEd through training, Web Based Training (WBT) development and publicity activities are diffused in the model areas.	1. The ICT acquired through the training courses are applied by more than 80% completed trainees in their schools with sufficient environments. 2. The courses and/or application methods conducted/ advocated by the 5 NFECs/ Project are appreciated by the schools	1. Questionnaire and monitoring survey 2. – ditto –	The Ministry of Education (MOE) decides to implement the nationwide program to educate the school teachers by the certification system. Same as the outputs level assumptions.
OUTPUTS 1. The model certification system under the ITEd Project for ICT training of the target group and WBT use in education are established/ defined and publicized.	1.1 The model certification system for the ICT training and WBT use in education are well recognized by the related organizations and persons.	1.1 Periodical monitoring and survey for joint evaluation.	Furnishing of required computer facilities and software in the schools in model areas progresses as expected by MOE.
2. Bangkok Center functions as planning, coordination and supportive unit for operations of certification system.	2.1 Related personnel are satisfied with Bangkok Center activities. 2.2 Library of the course documents, general teaching materials, and application cases is established.	2.1 Monitoring survey to the related personnel 2.2 Web access records.	Network provision to the schools in the areas achieved as expected by MOE.
3. Practical and effective standardized training courses are developed and updated.	3.1 Up-to-date standard curriculum, teaching methods, and teaching materials are utilized by the 5 NFECs. 3.2 The completed teachers and their schools appreciated the practicality of the training contents and teachings. 3.3 C/Ps are capable to develop targeted training courses.	3.1 Periodical monitoring survey and evaluation. 3.2 Questionnaire survey to the completed trainees.	Curricula using ICT are prepared as expected by MOE.
4. The 5 Non-Formal Education Centers (NFECs) conduct the established practical and effective certificated courses.	4.1 3,000 trainees who are basically teachers complete the courses conducted by the 5 NFECs. 4.2 The completed participants appreciated the course.	4.1 Periodical monitoring and survey for joint evaluation.	Curricula for ICT education are prepared as expected by MOE.
5. The Bangkok Center in cooperation with NECTEC has capability to produce WBT materials.	5.1 At least 4 WBT materials with Learning Management System (LMS) are developed. 5.2 C/Ps have capability of instructional design to Produce WBT materials.	5.1 Project Document and external verification. 5.2 Check list and external verification.	Teaching materials based on ICT are easily affordable.

Activities	Inputs	

0.1 Establishment of Bangkok Center and training facilities at 5 NFECs and the network (LAN & WAN).
0.2 Establishment of Project organization.
0.3 Maintenance and management of the training facilities and the network.
 	
1.1 Formulation of the institutional framework for the certification system.
1.2 Needs survey for the certification system including GIS survey and analyses.
1.3 Establishment of the certification system.
1.4 Defining WBT use in education.
1.5 Publicity and promotion of the certification system including holding of seminars and events.
1.6 Monitoring of the reputation of the certification system.
1.7 Improvement of the publicity and promotion activities.
 	
2.1 Identification of the Bangkok Center's required functions.
2.2 Capacity building of the C/Ps in the Bangkok Center for the identified functional activities.
2.3 Execution of central role of the activities for the Output 1 (the certification system establishment and promotion).
2.4 Planning and coordination/ implementation of the activities for Output 3 (standard course development and updating).
2.5 Support for the smooth operation of the activities for the Output 4.
2.6 Planning, coordination and implementation of Output 5.
2.7 Coordination of the JOCV members stationed in 5 NFECs to support the Project.
2.8 Management of the class facilities and network maintenance of the Bangkok Center and 5 NFECs.
2.9 Development and operation of the Web based library for the diffusion of the standardized courses and ICT application mainly in primary and secondary schools.
	(By Japan)
	1. Long-Term Experts:
	  1) Chief Advisor
	  2) Technical coordinator
	  3) Technical coordinator for education
	
	2. Short-Term Experts: 5 experts
	  1) For Curricula development/ methodology (Courses A/B/C)
	  2) For WBT material production as well as in the field of educational use of IT in schools.
	  (Total of 40 M/M at maximum for the project period)
	
	3. Equipment:
	  1) Equipment for curricular development (PC, Server and related software).
	  2) Equipment for training (PC, Server, network equipment and related software).
	  3) Vehicles and equipment for 4 Mobile classroom
	
	4. Counterpart training in Japan: 0-3 members per year
	
	5. JOCV members: 5 (1 x 5 places)
	
	(By Thailand)
	1. C/P personnel
	  1) C/P for administration: 13
	  2) Technological C/P for development (in Bangkok): 9
	  3) Technological C/P for training (in local model areas): 20 (4 x 5 places)
	
	2. Facilities
	  1) Training and development rooms, office of JICA expert team with proper furniture and supply. (Bangkok)
	  2) Training rooms (with server rooms and storage) in 5 Provincial Non-formal education centers and necessary training/ management equipment and software for Chonburi and Ratchaburi Provincial Centers (2 local model areas)
	
	3. Local cost
	  1) Operational/ recurrent and maintenance cost.
		Counterparts remain in their working fields.
		
		Communication and coordination is properly managed among such 2 implementing bodies as MOE and NECTEC.
		
		Responsibility sharing is properly managed between the center and 5 non-formal education centers in local areas.

3.1 Needs survey for the certificated courses. 3.2 Development of the course concepts for the ICT training. 3.3 C/P capacity building for course development. 3.4 Curriculum development for the courses. 3.5 Development of the course materials. 3.6 Monitoring of the course implementations for the course improvement. 3.7 Monitoring of the completed trainees. 3.8 Improvement of the courses and their materials. 4.1 Capacity building of C/Ps for preparation of the courses including the understanding of the subject disciplines, and the acquisition of the required ICT skills and knowledge. 4.2 Planning of the course schedules including mobile courses. 4.3 Recruitment of appropriate participants. 4.4 Execution of the training courses. 4.5 Minor improvement of the course implementation. 4.6 Feedback of the issues for the course improvement including implementation results and conditions, trainees' responses to the Bangkok Center. 4.7 Maintenance of the class facilities and network. 4.8 Follow up of the completed trainees including promotion activities of the application of ICT uses. 4.9 Feedback of the follow up activities to the training courses including reporting to the Bangkok Center. 5.1 Capacity building of the C/Ps for WBT material contents development. 5.2 Needs survey for the WBT material. 5.3 Identification of required technologies for the WBT material production. 5.4 Capacity building of the C/Ps for WBT material production technologies including LMS. 5.5 Production of the WBT materials and the WBT material with LMS. 5.6 Feedback to the certificated course.		

Attachment 7

Third Party Review by External Expert

Third Party Review by External Experts

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Ex-Post Evaluation on
Expost Evaluation Report on the Capacity Building on the Development of
Technology for Education Project in Thailand

* This Third Party Review by External Experts is to examine the end-product (an evaluation report and a summary sheet) of ex-post evaluation of the above-mentioned project in light of its structure, verification procedure and overall consistency. It is to be noted that the review is not to question the validity of the evaluation results per se.

* On the leftmost column of each item, choose the rating from A as 'excellent', B as 'good', C as 'acceptable' and D as 'unacceptable'.

* When you choose D for an item, specify the reason in comment fields.

* For more details of viewpoints for each item, refer to the corresponding page of 'JICA Project Evaluation Guideline' which is indicated on the rightmost column of each item.

1 Evaluation Framework

Reference page No. of 'JICA Project Evaluation Guideline'

A	(1) Time Frame of Evaluation Study	97
Viewpoint	An excellent work in a short period of time. Necessary field survey activities such as data collection and discussion with counterparts are appropriately set within the time frame of the evaluation study. Time frame also contains preparations such as distribution of questionnaires, and are appropriate in terms of timing, length and schedule of the evaluation study.	
B	(2) Study Team	107
Viewpoint	Team members are assigned on a impartial basis, and are with balanced specialty.	
Comment		

2 Date Collection and Analysis

B	(1) Evaluation Questions	51
Viewpoint	Evaluation grid and questions were excellent and well prepared. However, in term of impacts, the researchers defined impacts as "the project outcomes expected to appear at a certain period of time after the end of the project. According to this definition, it could possibly limit the extension of evaluation which should cover other dimensions and angles besides the outcomes of the project itself. For example, the results occurred with beneficiaries. For example, the ICT may be an extra workload for teachers who already have teaching responsibilities.. With this limitation, it could also make impacts a little different from sustainability.	
B	(2) Data Collection	72
Viewpoint	A variety of study methods was conducted. But a number of samples should be specified in the report besides a table mentioned in the attachment 2 which is complicated to understand. To make a report more well presented, more information about methodology is needed. For instance, a number of samples used for the survey which was drawn from a total number of trainees. How many people were interviewed? Who are these people? Data collection is conducted based on the evaluation grid, and is sufficient for obtaining answers for evaluation questions. Additional information are collected for unexpected and newly confronted questions during the process.	
B	(3) Measurement of Results	61
Viewpoint	Achievement level of overall goal is examined on the basis of appropriate indicators, being compared with targets.	
B	(4) Examination of Causal Relationship	62
Viewpoint	The causal relationships whether the effects for the beneficiaries resulted from the project is examined either in a qualitative or quantitative manner (i.e. Are the effects at the overall goal level caused by the project intervention?) The report mentioned about the project as an igniter for the national plan. However, if the researcher could identify how it has been i.e the process which made it an igniter, interaction between the project stakeholders and decision making such as the success of mobile unit and the effort of the former Minister.	
Comment		

3 Evaluation Results

B	(1) Impact	57, 85-86
Viewpoint	The results were well creditable with substantial information. However, as mentioned in the last section, since the impact was defined in a limited scope, the results would possibly not cover other dimensions of the project. Perspectives for evaluation of 'Impact' (e.g. achievement level of the overall goal, causal	

	relationships between the outcome of the project and overall goal, ripple effects) are substantially covered. Grounds for judgment are clearly stated in a convincing manner.	
B	(2) Sustainability	58, 85-86
Viewpoint	Perspective for evaluation of 'Sustainability' (e.g. probability of activities to be continued and outcomes to be produced in terms of 1)policies and systems, 2) organizational and financial aspects, 3) technical aspects, 4) Society, Culture and environment and) are substantially covered. Grounds for judgment are clearly stated in a convincing manner. The results are convincing but need more concrete data to support the researchers' analysis in the following issues. (1) As cited from the paper, the sentence in p.9 'few key ex-counterpart still work as coordinators and supporters' is unclear. The argument would be stronger and more precise, if the researchers could provide a table or data shown a number of people in each NFECs who were assigned to be responsible for the training courses? How many were the trainers? Whether these trainers and other key persons were the former counterpart? Could their present positions contribute to the project sustainability. (2) According to the new role of the NFECs to make plans for ICT training (p10), is there any consistency between this new role and the ITEd project activities. Do these 5 NFECs work for training planning separately or their any central agency act as a coordinating body among five of them?and (3) After the Bangkok center was closed, what duties of the center staff and counterpart were reassigned? Did the ex-counterpart and the project staff attempt to transfer knowledge and technology and how? Were these people transferred to other units still being in charge of ICT training? What central agency of the MOE is replaced for the Bangkok center in order to be in charge of coordinating for the certificated training system? Besides these questions, some practical questions about equipments were needed to follow such as how the equipments have been used after the project termination?	
B	(3) Factors Promoting Sustainability and Impact	85-86
Viewpoint	Promoting factors on 'Impact' and 'Sustainability' are analyzed properly based on the information obtained through evaluation process.	
B	(4) Factors Inhibiting Sustainability and Impact	85-86
Viewpoint	Inhibiting factors on 'Impact' and 'Sustainability' are analyzed properly based on the information obtained through evaluation process.	
B	(5) Recommendations	87-88
Viewpoint	Recommendations are made thoroughly based on the information obtained through the process of data analysis and interpretation. Recommendations are specific and useful for feedbacks and follow-ups, preferably being prioritized with a time frame. Recommendations are generally useful especially about the counterparts' understanding on the project logical framework.. New and creative ideas would make the report more insightful and	

	interesting such as the utilization of the NFECs. Perhaps, the NFECs should be an internal experts' house to strengthen teachers' capabilities. For instance to create Help desk for IT and curriculum. Or other recommendations about networking among the NFECs, revitalizing roles of the Bangkok Center, maintaining relationship between the Japanese experts and Thai counterpart, development of training course and its curriculum, enhancing roles of the ex-counterparts and etc.	
B	(6) Lessons Learned	87-88
Viewpoint	Lessons learned are derived thoroughly based on the information obtained through the process of data analysis and interpretation. Lessons learned are convincing and useful for feedbacks, being generalized for wider applicability.	
Comment		

4 Structure of Report

B	(1) Writing Manner	89,103
Viewpoint	Logical structure and major points are clearly described in an easily understandable manner.	
B	(2) Presentation of Primary Data and Utilization of Figures	89,103
Viewpoint	Sufficient primary data such as on the target, contents and results of interviews and questionnaires are presented properly in the report. Figures and tables are utilized effectively to present statistics and analysis results.	
Comment		

5 Overall Review based on 'Criteria for Good Evaluation'

B	(1) Usefulness	13-14
Viewpoint	In light of the effective feedback to the decision-making of the organization, clear and useful evaluation results are obtained.	
B	(2) Impartiality and Independence	13-14
Viewpoint	Evaluation is impartially conducted in a neutral setting	
B	(3) Credibility	13-14
Viewpoint	In light of the specialties of evaluators, transparency of the evaluation process and appropriateness of the criterion of judgment, evaluation information are credible.	
n/a	(4) Participation of Partner Countries	13-14
Viewpoint	The reviewers did not have any information mentioned in the report about participation of the stakeholders in the evaluation process besides, providing information. Partner countries' stakeholders participate actively in	

	the process of evaluation, not just provide information.
Comment	

5   Overall Comment

In overall picture, quality of the report is good with academic standard.   It is excellent especially the design of evaluation grid and questions. However, some important questions remain unanswered. Such as questions about current services and activities of the NFECs, the improvement in the training courses, capabilities of the instructors, the training assessment, networking among the 5 NEFCs. More evidence in some parts of the report is also needed. If there was more description for the answers in the evaluation results, it will be very helpful and more insightful.

Date
March 14 , 2008

Name of the Third Party
Dr. Kanokkan Anukansai

Designation Expert

Name of the Institution
Center for Philanthropy and Civil Society, National Institute of Development Administration