

ラオス人民民主共和国  
ラオス国立大学  
IT サービス産業人材育成プロジェクト  
中間レビュー調査報告書

平成 24 年 12 月  
(2012 年)

独立行政法人国際協力機構  
ラオス事務所

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## 序 文

近年、周辺国が情報技術の活用による経済発展の加速化を図っている一方、ラオス人民民主共和国（以下、「ラオス」と記す）では情報技術分野の導入と開発が遅れており、同分野を活用した経済振興において、他国との格差が一層拡大することが懸念されております。2001年3月、ラオス国第7回党大会において、IT教育の重要性と、その技術の活用により同国経済の活性化を図ることが明言されました。また、2003年1月に実施された全省庁の課長職以上対象の「ラオス国における工業化及び近代化実施政策」のセミナーにおいても、情報技術分野の教育の重要性と、通信分野のみならず、観光、交通、保健、環境分野などすべての分野でITを導入し、国全体の経済の活性化を図ることが述べられております。

ラオス国立大学は、短期間で効果的なIT技術者の育成を図るため、社会人の高等ディプロマ資格取得者以上を対象とした教育課程として、JICAによる技術協力「ラオス国立大学工学部情報化対応人材育成機能強化プロジェクト（2003年4月より5カ年：「ITブリッジ・プロジェクト）」を実施しました。

一方、IT産業界から、データベース、ネットワーク、アプリケーション分野のITスペシャリスト養成機関開設への強い要望があるものの、実際に産業界で勤務している人材は外国人か海外留学からの帰国者がほとんどであり、既存の教育機関では産業界が要望する人材育成に充分応えられていないという課題が残っております。このような背景の下、ラオス政府よりわが国に対し、持続的なIT人材育成の体制構築を目標とする技術協力プロジェクト実施の要請がなされました。

上述の公式要請を受けてJICAは、2008年7月に事前評価調査の実施を経て同年11月に協議議事録（R/D）を署名・交換し、5年間の予定で「ラオス国立大学ITサービス産業人材育成プロジェクト」を開始しました。

今般、本プロジェクトの中間レビューを行うことを目的として、2011年5月から6月にわたり中間レビュー調査団を派遣し、ラオス政府や関係機関との間でプロジェクトに関する協議を実施しました。本報告書は、調査・協議結果を取りまとめたものであり、プロジェクト後半の運営及び類似のプロジェクトに活用されることを願うものであります。

ここに、調査にご協力いただいた内外関係機関に対して改めて深い感謝の意を表するとともに、引き続き一層のご支援をお願いする次第です。

平成24年12月

独立行政法人国際協力機構

ラオス事務所長 戸川 正人

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地 図



首都ビエンチャン

# 写 真



ラオス国立大学（NUOL）工学部 IT 研究生コース（IT Specialist Course : ITSC）及び学科内会社（IT Business Unit : ITBU）短期講習が実施されている IT センター棟の外観



ITSC は、ソフトウェアやネットワーク技術を提供する、国際水準の教育機関であることが認証されている。



ITSC 及び ITBU 用事務室の様子



ITSC の学生によるグループワークの様子



合同調整委員会（JCC）での中間レビュー  
ミニッツ署名



## 略 語 表

略 語	欧 文	和 文
BCEL	Banque Pour Le Commerce Exterieur Lao	ラオス外国貿易銀行
CCNA	Cisco Certified Network Associate	Cisco Systems 社技術者認定資格
CE/IT	Computer Engineering/Information Technology	コンピュータ工学／IT
C/P	Counterpart	カウンターパート
ICT	Information and Communication Technology	情報通信技術
IT	Information Technology	情報技術
ITBU	IT Dept. Business Unit	IT 学科内会社
ITSC	IT Specialist Course	IT 研究生コース
ITSD	Human Resource Development in IT Service Industry at NUOL	ラオス国立大学 IT サービス産業人材育成
JCC	Joint Coordinating Committee	合同調整委員会
Lao PDR	Lao People's Democratic Republic	ラオス人民民主共和国
LICA	Lao ICT Commerce Association	ラオス情報通信技術商工会
LJI	Laos-Japan Human Resource Development Institute	ラオス日本センター
M/M	Minutes of Meeting	ミニッツ（協議議事録）
MOE	Ministry of Education	教育省
NAPT	National Authority for Post and Telecommunication	国家郵政通信機構
NAST	National Authority for Science and Technology	国家科学技術機構
NSEDP	National Socio-Economic Development Plan	国家社会経済開発計画
NUOL	National University of Laos	ラオス国立大学
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PO	Plan of Operations	活動計画表
R/D	Record of Discussions	討議議事録
SMEPDO	Small Medium Enterprise Promotion Development Office	（ラオス商工省）中小企業促進開発事務所

## 評価調査結果要約表

1. 案件の概要	
国名：ラオス人民民主共和国	案件名：「ラオス国立大学 IT サービス産業人材育成プロジェクト」
分野：情報通信技術	援助形態：技術協力プロジェクト
所管部署：ラオス事務所	協力金額：約 3 億 8,000 万円（事前評価額）
協力期間	2008 年 12 月～ 2013 年 11 月
	先方関係機関：ラオス国立大学（NUOL）
	日本側協力機関：なし
他の関連協力：ラオス国立大学工学部情報化対応人材育成機能強化プロジェクト（2003～2008年）	
<p>1-1 協力の背景と概要</p> <p>近年、周辺国が情報技術の活用による経済発展の加速化を図っている一方、ラオス人民民主共和国（以下、「ラオス」と記す）では情報技術分野の導入と開発が遅れており、同分野を活用した経済振興において、他国との格差が一層拡大することが懸念されている。</p> <p>そのためラオス国立大学（NUOL）は、短期間で効果的な IT 技術者の育成を図ることを目的として、社会人の高等ディプロマ資格取得者以上を対象とした教育課程を JICA 技術協力「ラオス国立大学工学部情報化対応人材育成機能強化プロジェクト(2003～2008年)」を通して実施し、結果 IT 分野の人材育成が同大学の重要な責務と位置づけられるようになった。</p> <p>一方で、ラオス国内の産業界からは国際標準を満たすレベルのデータベース、ネットワーク、アプリケーション分野の IT スペシャリスト養成機関開設への強い要望があるものの、実際に産業界で勤務している人材は外国人か海外留学からの帰国者がほとんどであり、既存の教育機関では産業界が要望する人材育成に充分応えられていない現状にある。</p> <p>このような背景の下、ラオス政府よりわが国に対し、持続的な IT 人材育成の体制構築を目標とする技術協力プロジェクト実施の要請がなされた。わが国は 2008 年 7 月の事前調査実施を経て、2008 年 11 月に JICA ラオス事務所長と NUOL 学長との間で実施協議の討議議事録（R/D）が署名・交換された。</p> <p>プロジェクトは NUOL 工学部をカウンターパート（C/P）機関として、2008 年 12 月より 5 年間の予定で実施されている。これまで長期専門家 3 名（チーフアドバイザー 1 名、業務調整 2 名）及び複数の短期専門家の派遣を通して、IT 人材育成のためのコース運営指導及び人材・組織強化の支援を行っている。</p>	
<p>1-2 協力内容（プロジェクト開始時）</p> <p>(1) 上位目標</p> <p style="padding-left: 20px;">ラオス国において IT サービス産業が発展する。</p> <p>(2) プロジェクト目標</p> <p style="padding-left: 20px;">ラオス国立大学（NUOL）工学部 IT 学科による Postgraduate コースを通じて、IT サービス市場に応じた人材が育成される。</p>	

### (3) 成果

- 成果1：NUOL 工学部 IT 学科において Postgraduate コースが適切に運営される。  
成果2：NUOL 工学部 IT 学科において IT 学科内会社（ITBU）が適切に運営される。  
成果3：Postgraduate コース担当教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される。  
成果4：実践的なソフトウェアエンジニアリング・スキルおよびビジネス・スキルを習得するための Postgraduate コースが整備・実施される。  
成果5：産学官の連携が強化される。

### (4) 投入（評価時点）

#### 【日本側】

#### ① 専門家派遣（日本人専門家）

（長期）

- ・「チーフアドバイザー」、「業務調整」

（短期）

- ・「データベース設計・管理、ソフトウェア応用」、「ソフトウェア開発技術、マルチメディア技術」、「プロジェクトマネジメント、業務改善」

#### ② 施設・機材供与

- ・ IT センター棟
- ・ コンピュータ、IT センター棟に係る事務機器等

#### 【ラオス側】

#### ① C/P 及びその他スタッフの配置

- ・ プロジェクト・ディレクター、プロジェクト・マネジャー
- ・ C/P（教員）
- ・ 秘書

#### ② 土地、建物、プロジェクト・オフィス、その他追加的な施設や機材（コンピュータ、家具等）

#### ③ プロジェクト活動に必要な経費

## 2. 評価調査団の概要

調査者	米山 芳春	総括/団長	JICA ラオス事務所 次長
	戸谷 幸一	協力企画	JICA ラオス事務所 所員
	十津川 淳	評価分析	佐野総合企画株式会社 主任研究員
調査期間	2011年5月19日～6月5日		評価種類：中間レビュー調査

## 3. 評価結果の概要

### 3-1 実績の確認

#### (1) 成果

成果1：「NUOL 工学部 IT 学科において Postgraduate コースが適切に運営される」

成果1については順調に進捗している。

コース運営に必要なさまざまなガイドラインも既に作成済みもしくは作成中であり、適切な運営を行ううえでのソフト面のインフラは順調に整備されてきている。今後は作成中

のガイドラインを完成させること、並びに不文律化している内容について、業務運営上の障害にならないような対策を講じることが求められる。

成果 2 : 「NUOL 工学部 IT 学科において IT 学科内会社 (ITBU) が適切に運営される」

成果 2 については進捗状況に遅延がみられる。

ITBU が担当する短期コース研修についてはこれまで順調に実施されてきたが、組織運営の観点からはマネジャーの 2 度にわたる交替やマネジャーポスト自体の空白といった組織運営上の問題をたびたび経験してきた。そのため、成果 2 の示す「ITBU の適切な運営」を実現するためには今後取り組むべき課題も多い。

成果 3 : 「Postgraduate コース担当教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される」

成果 3 についてはおおむね順調に進捗している。

ネットワーク分野の教員については、これまでのプロジェクト活動の成果によって教員は皆が世界標準となる資格を有するに至っている〔CCNA (Cisco Certified Network Associate) インストラクター資格〕。一方でプログラミング分野の教員の能力向上がやや遅延しており、今後の課題として挙げられる。他方で、IT 研究生コース (ITSC) の学生からの教員評価はおおむね高い傾向がみられる。今後は教授法の面などにおいても技術力を向上させていくことが望まれる。

成果 4 : 「実践的なソフトウェアエンジニアリング・スキルおよびビジネス・スキルを習得するための Postgraduate コースが整備・実施される」

成果 4 については順調に進捗している。

本成果が期待する、市場ニーズに即したカリキュラムの策定は成果 5 に関連する産学官連携による効果を活用しながら、適正に作成、実施されてきた。

成果 5 : 「産学官の連携が強化される」

成果 5 については順調に進捗している。

プロジェクトの働きかけによって産学官の関係者による会議が行われており、これまでほぼ皆無に近かった民間企業と政府との情報交換がなされるようになっている。

## (2) プロジェクト目標

「ラオス国立大学 (NUOL) 工学部 IT 学科による Postgraduate コースを通じて、IT サービス市場に応じた人材が育成される」

本プロジェクトは目標の達成に向けて、おおむね順調に進捗している。

プロジェクト目標の対象となる Postgraduate コース (=ITSC) は、教員の能力強化やコース運営に関する組織体制の整備期間を経て、2010 年 11 月に開講した。コースは一定レベルの知識・技術力を兼ね備えた教員の下で実施されている。また同時に、市場ニーズに即応できる人材を目標とすることから、学生の成績評点はラオス一般の基準に比して厳格化する体制を取っている。以上のようなコース運営の体制等から判断するにあたり、プロジェクトは目標である「IT サービス市場に応じた人材が育成される」の達成に向けておおむね順調に進んでいると判断できる。

### 3-2 評価結果の要約

#### (1) 妥当性

##### 1) ラオス政府の政策との整合性

「第7次国家社会経済開発計画（NSEDP：2011～2015年）」では、セクター別開発目標において、「通信・ITセクターにおける国際標準を満たす人材育成を行なう」ことがうたわれている。また、「国家ICT政策」が2009年に公布されており、同政策はITセクターの人材育成を重視する姿勢をみせている。以上の点から、本プロジェクトの内容及び目的は、国家の基本政策並びにセクター別政策の両観点において整合している。

##### 2) 国別援助計画との整合性

本プロジェクトの内容は、対ラオス国別援助計画（2006年9月）が重点支援項目として示す「民間セクター強化に向けた制度構築及び人材育成」に該当するものである。同計画ではラオス国立大学等を拠点として、経済成長を担う人材育成の拡大をめざした協力を進めていくことがうたわれている。したがって、本プロジェクトの方向性は本援助計画の内容と整合している。

##### 3) ターゲットグループ／C/Pの選定

###### ① ニーズとの整合性（NUOL）

NUOLは、近年のITセクターの進展並びに産業界からのニーズを背景に、国際レベルに準ずるIT人材の育成に高い関心を示していた。しかしながら、そのような実務的な人材育成を担うコース運営の経験はなかったため、カリキュラムの策定から個々の教員の能力強化に至るまで外部からの支援が必要であった。以上の背景から、本プロジェクトは同大学のニーズに整合している。

###### ② ニーズとの整合性（地元産業界）

現在に至るまでラオス国内には国際レベルに準じたシステム開発を担えるITサービス企業は存在せず、各企業は海外に発注せざるを得ない状況が続いている。そのため、企業は割高なコスト負担を強いられる状況が続いている。以上の背景から、本プロジェクトが担うITサービスの技術者育成について、国内企業の関心と期待は非常に高い。

###### ③ C/Pの適切性（NUOL）

IT人材の育成に携わっている組織はNUOL以外にもみられるが、その施設や教員をはじめとした陣容の点において同大学を凌駕する組織はラオス国内にはみられない。「ラオス国内においてIT産業人材の育成を図る」ことを目標としていることにかんがみると、同大学は最適なC/P組織と判断できる。

##### 4) 日本国技術の優位性

日本はIT技術者の技術レベル（経済産業省ITスキルスタンダード）について詳細な設定を行っており、かつこれらスキルスタンダードを共通の指標としてIT技術者の育成を行ってきた。このようなIT技術者育成の取り組みは、本プロジェクトにおいても有効に利活用されており、日本の技術的優位性が発揮されているものと判断できる。

#### (2) 有効性

##### 1) プロジェクト目標及び成果の達成度

上述のとおり、本プロジェクトの目標については順調に進捗している。5つの成果についてもおおむね順調に進捗しているが、唯一成果2のITBUに係る組織体制整備・強化が遅延しており、今後重点的に取り組む課題として指摘される。

## 2) 外部条件の充足

現在、ITSCの教員は四年制大学の教員不足を補うために、四年制の授業も負担せざるを得ない状況にある。現状では教員の努力（残業等）によってプロジェクト活動の大きな阻害要因にまでは至っていないが、本課題が更に深刻化するようであれば、本プロジェクトの活動（時間配分等）にも影響を及ぼす可能性がある。

## 3) プロジェクト目標・成果達成に係る貢献要因

プロジェクトでは日本側及びラオス側双方がプロジェクト内外からの人材投入を有効に行っており、技術移転を効率的に実施してきた（効率性にて詳細記述）。

## 4) プロジェクト目標・成果達成に係る阻害要因

ITSC 入学者のうち、入学時に有しているべき基礎的な学力が不足している学生が一部みられる。そのため「国際標準に準じた IT サービス人材」の育成を目標とするにあたっては、卒業までに想定以上の時間を要する、もしくは習得技術レベルが想定よりも幾らか低下することが懸念される。

### (3) 効率性

#### 1) 人的投入（日本側）

日本人専門家については、プロジェクト全体の進捗を適宜管理、助言支援するアドバイザーと業務調整の人員構成によって円滑にプロジェクト運営がなされてきた。また、個別の指導分野については、短期専門家によって対応がなされており、日本側のこれまでの人員投入は妥当と考えられる。

#### 2) 人的投入（ラオス側）

NUOL は学科内の教員数が非常に限定的なかにおいて、ITSC の運営については人員の質・量ともに優先的な人材配置を行ってきた。

他方、ITBU については、マネジャーポストの交替や空白などに直面してきた事実からも、妥当な人員投入が行われてきたとはいえない。また、コーディネーター等においても、留学に起因した離職が予定されており、人員投入に課題がみられる。

#### 3) 人的投入（その他）

プロジェクトは下記のとおり、外部から効果的な人員投入を行っている。

##### ① 第三国専門家（組織）

トレーニング資格を有する技術教育カレッジ（シンガポール）の専門家を投入し、ネットワーク研修〔CCNA（Cisco Certified Network Associate）インストラクター研修〕を実施した。結果的に 10 名が CCNA インストラクター資格を獲得するに至った。

##### ② ローカルコンサルタント

NUOL 内部の教員等では対応できない「開発手法」や「起業家支援に係る市場調査」については、ローカルコンサルタント（パートタイム教員）を有効に活用している。

##### ③ 外部客員講師（パートタイム教員）

プロジェクトでトレーニングを受け、かつ一定レベルの技術を習得した外部人材が、ITSC 及び ITBU の短期コース研修において講師として活躍している。技術力に加えて、ビジネスの現場経験を提示できる人材による各種指導は、本プロジェクトの有効な投入であり、成果達成への貢献要因ともなっている。

#### 4) 物的投入

本プロジェクトの活動を支えるに適正な施設（IT センター棟）とコンピュータをはじめとする必要な資機材が投入されており、プロジェクト活動において有効に利用されて

いる。

#### 5) 予 算

本プロジェクトでは、予算額及び予算支出のタイミングに起因する問題は生じていない。

#### 6) 第三国研修

インキュベータや産学連携の仕組みについて、副学部長や一部の教員がタイを2010年8月に見学視察した。今後のインキュベーションに係る活動の方向性を関係者が共有する契機となり、効果の高い視察であったと判断できる。

### (4) インパクト

#### 1) 上位目標達成の見込み

本上位目標の示す内容は非常に遠大であり、本プロジェクトの成果だけで達成を担保できる類の目標内容ではない。ただし過去数年間継続して、ITサービス産業が占める経済への重要性は高まっており、今後も上位目標の示す方向に向かっていく可能性は高いと考えられる。

#### 2) その他インパクトの発現

##### ① プラス・インパクト

##### ・技術・組織面

ITSC 教員のうち四年制大学のコースを受けもつ教員も多数いることから、教員の能力が向上してきた事実は、同時に四年制大学の教育の質向上にもつながっているものと推察できる。

また、本プロジェクトで利用し始めた学生による教員評価手法が四年制大学にも適用され始めた。このことも授業の質を高めることにつながるフィードバック効果が期待できる。

##### ・社会経済面

ITSC の卒業生がまだ誕生していない現段階においては、各企業における具体的なインパクトは今後期待されるものである。しかしながら、既に発現している例として、ラオス最大手銀行での職員の能力向上の例が挙げられる（プロジェクトによる研修を受講した職員の能力向上によって、これまで隣国からの IT 専門家招聘によって対処していたトラブル処理を、同職員が対応できるようになり、時間的・コスト的に大いなる削減に寄与した例が報告されている）。

##### ② マイナス・インパクト

特筆すべきマイナスのインパクトは生じていない。

### (5) 自立発展性

#### 1) 政策面

「第7次国家社会経済開発計画」並びに「国家 ICT 政策」が IT 人材育成の重要性についてうたっていることから、政策面においては一定程度の自立発展性があるものと判断できる。

#### 2) 組織面

ITSC については、これまでの取り組みを通じて効率的なコース運営を担える体制づくりが進んでおり、一定レベルの自立発展性を有していると判断できる。

他方、ITBU については今後新マネジャーの下で体制づくりが改めて開始される段階に

ある。インキュベーター担当職員の確保・強化、短期コース研修コーディネーターの確保など、プロジェクト終了時までに取り組むべき組織強化への課題は山積している状況にある。

さらに、ITセクターに顕著な課題である教員の離職については、本プロジェクトは離職を防止するインセンティブを逐次整備してきた。これまでのところ、この仕組みは奏功しているが、今後のITエンジニア市場動向に左右される不確定な側面は残っている。

### 3) 技術面

IT技術面における自立発展性は比較的高い。プロジェクト終了後も世界標準を構成するシスコやオラクル等による最新教材が入手可能であるため、教員の能力を維持、向上させていくことは仕組みとしては十分に可能である。他方、ITBUについては現状の組織体制を再構築する段階にあるため、自立発展性の予測はできない。

### 4) 財政面

第1年度の実績によると、ITSCについてはコンピュータの減価償却コストを除いた限りにおいては、事業運営を可能とする財務状況が維持された。今後は学費収入に加えて商用テストセンターの利用や外部からの受託開発等によって収入向上を更に図り、減価償却コスト負担についても賄っていくことが求められる。ただし、コンピュータの減価償却まで賄うだけの利益を計上していくことには困難も予想される。

## 3-3 結論

本プロジェクトは「市場のニーズに対応できるIT人材の育成」という目標の達成に向けて、これまでのところ順調に進捗している。各成果に係る活動もおおむね順調であるが、唯一ITBUの運営、組織体制の整備・強化（成果2）が、マネジャーの交代や空席といった問題等を主因として遅延している点が、今後の課題として挙げられる。

本プロジェクトの根本的な柱であるITSCについては、内部/外部試験の合格者だけが教員として認められる体制を維持しており、教育の質を担保する仕組みが厳正に採用されている。また、適宜外部の人材を活用するなど、コース運営に対する有効な体制が整備され始めている。

今後はITBUの新規建て直しに注力しながら、インキュベーション支援や大学が計画する修士コースとの調整など、新しい活動にも取り組むことが求められている。

## 4. 提言

本中間レビューでは以下の3項目において提言を行った。

### (1) ITSCと修士コースの整合性の担保及び修士コースの方向性

NUOLは2013年を目標年として、IT学科に修士コースの設立を計画している。今後修士コースの方向性、内容の詳細が決定されていくが、本プロジェクトが支援してきたITSCとの整合性及び一体化を視野に入れながら、慎重に準備を進めていく必要がある。以上の背景から、中間レビューにおいて、特に下記の点について提言を行った。

#### 1) 修士コースのコンセプト

- ・修士コースはITSCと同様に実務的な技術と知識の指導を重視する。

#### 2) 教育の質の担保

- ・教員の選抜は実務的な技術と知識を基準とする。
- ・産業界等とのコミュニケーションを通して、カリキュラムの質を担保する。
- ・卒業生のパフォーマンスを評価調査する。



3) 追加教員の配置

- ・修士コースの設立にあたり、教員を補充する。

4) コース設定

- ・修士コースは ITSC を基礎として設立する（別個のコースとして独立した運営をしない）。
- ・その他～昼間時間帯に実施すること、妥当なレベルの学費を設定すること、コースは1年半を想定すること等。

(2) ITBU の強化

ITBU は早急にマネジャーを配置し、そのうえで事業計画を作成することが必要である。また計画の作成と同時に、組織体制の強化にも取り組むことが求められる。

(3) インキュベーター支援活動の開始

インキュベーター支援に係る活動を開始するにあたり、専任の職員を早急に確保、配置する必要がある。

(その他)

- ・修士コースの設置が予定されていること、及び現行 PDM 指標に不明瞭な点があったこと等を主たる理由として、本中間レビューにおいて PDM の一部改訂を行った。

## 第1章 中間レビュー調査の概要

### 1-1 調査団派遣の経緯と目的

技術協力プロジェクト「ラオス国立大学 IT サービス産業人材育成 (Human Resource Development in IT Service Industry at NUOL : ITSD) プロジェクト」は2008年12月1日に開始され、2013年11月30日に終了する予定である。2011年度はプロジェクト中間年にあたるため、ラオス人民民主共和国（以下、「ラオス」と記す）政府関係者とこれまでの実績を確認して評価5項目の観点からレビューを行い、プロジェクトの残り期間の課題及び今後の方向性について確認し、合同レビュー報告書に取りまとめ、合意することを目的に本調査団は派遣された。

### 1-2 調査団の構成

担当業務	氏名	所属
総括／団長	米山 芳春	JICA ラオス事務所 次長
協力企画	戸谷 幸一	JICA ラオス事務所 所員
評価分析	十津川 淳	佐野総合企画株式会社 主任研究員

### 1-3 調査日程

現地調査期間 平成23年5月19日（木）～6月5日（日）18日間

日付	スケジュール
5/19 木	成田→バンコク→ビエンチャン（十津川団員）
5/20 金	AM JICA 専門家 インタビュー PM ラオス国立大学 (National University of Laos : NUOL) 工学部コンピュータ工学／IT (Computer Engineering/ Information Technology : CE/IT) 学科 表敬訪問
5/21 土	資料整理
5/22 日	資料整理
5/23 月	09:00 NUOL 副学長 表敬訪問 10:30 団内打ち合わせ 14:00 教育省 (Ministry of Education : MOE) 計画協力局長 表敬訪問 16:00 NUOL 工学部 CE/IT 学科カウンターパート (Counterpart : C/P) インタビュー
5/24 火	09:00 JICA ラオス事務所所長 表敬訪問 10:30 NUOL ラオス日本センター (Laos-Japan Human Resource Development Institute : LJI) 訪問 PM NUOL 工学部 CE/IT 学科 C/P インタビュー
5/25 水	09:00 国家郵政通信機構 (National Authority for Post and Telecommunication : NAPT) 訪問 10:30 ラオス商工省 中小企業促進開発事務所 (Small Medium Enterprise Promotion Development Office : SMEPDO) 訪問 13:30 ラオス 情報通信技術商工会事務所 (Lao ICT Commerce Association : LICA) 訪問

5/26	木	09:00 ラオス外国貿易銀行 (Banque Pour Le Commerce Exterieur Lao : BCEL) 訪問 10:30 Digital Divide Data (DDD) 訪問 13:30 団内協議 (JICA ラオス事務所)
5/27	金	09:00 団内協議 (JICA ラオス事務所) 14:00 プロジェクト専門家、NUOL 工学部 CE/IT 学科 C/P との協議
5/28	土	資料整理
5/29	日	資料整理
5/30	月	終日 ミニッツ (Minutes of Meeting : M/M) 作成
5/31	火	AM M/M 作成 13:30 M/M 協議 (NUOL 工学部)
6/1	水	終日 資料整理、M/M 修正 (祝日)
6/2	木	09:00 M/M 最終確認 10:00 M/M 署名式 13:30 合同調整委員会 (Joint Coordinating Committee : JCC)
6/3	金	09:00 JICA ラオス事務所 報告 10:00 日本大使館 報告 PM 資料整理及び報告書作成
6/4	土	AM 資料整理及び報告書作成 (十津川団員) PM ビエンチャン→バンコク (十津川団員)
6/5	日	→成田 (十津川団員)

#### 1-4 主要面談者

##### 【ラオス側】

(NUOL)

- ・ Mr. Saykhong XAYNASIN 副学長
- ・ Ms. Bounheng SIHARATH 計画協力室 副室長
- ・ Mr. Boualinh SOYSOUVANH 工学部長
- ・ Mr. Khamphoui SOUTHISOMBATH 副工学部長
- ・ Mr. Somphone KANTHAVONG 工学部 CE/IT 学科 学科長
- ・ Mr. Khampheth BOUNNADY 工学部 CE/IT 学科 ITSD プログラミングコース長
- ・ Mr. Senglathasamy CHANTHAMINAVONG 工学部 CE/IT 学科 ITSD ネットワークコース長

(MOE)

- ・ Mr. Sengsomphone VIRAVOUTH 計画協力局長

(NAPT)

- ・ Mr. Khamphoui Outhaiphone インターネットセンター インターネット部 副部長

(商工省)

- ・ Mr. Bountheung DOUANGSAVANH SMEPDO 中小企業促進開発事務所 副所長

(LICA 加盟団体)

- ・ Mr. Thanousone Phonamat Planet Online 社長
- ・ Mr. Anousa Cyberia 共同設立者兼技術部門長

(BCEL)

- ・ Mr. Sonexay SITPHAXAY 最高経営責任者
- ・ Mr. Phansana KHOUNNOUVONG 副部門長
- ・ Mr. Sisaath NEUMASA IT センター長

【日本側】

(日本大使館)

- ・ 田中 智大 日本大使館 二等書記官

(JICA 専門家)

- ・ 井出 博之 ITSD プロジェクト 専門家 (チーフアドバイザー)
- ・ 川口 雄嗣 ITSD プロジェクト 専門家 (業務調整/組織強化 前任)
- ・ 平藤 常夫 ITSD プロジェクト 専門家 (業務調整/組織強化 後任)
- ・ 木下 俊夫 ラオス日本センター (LJI) ・ ビジネス人材育成プロジェクト 専門家 (チーフアドバイザー)
- ・ 三好 明 ラオス日本センター (LJI) ・ ビジネス人材育成プロジェクト 専門家 (業務調整)

## 第2章 プロジェクトの概要

### 2-1 背景

近年、周辺国が情報技術の活用による経済発展の加速化を図っている一方、ラオスでは情報技術分野の導入と開発が遅れており、同分野を活用した経済振興において、他国との格差が一層拡大することが懸念されている。そのため NUOL は、短期間で効果的な IT 技術者の育成を図ることを目的として、社会人の高等ディプロマ資格取得者以上を対象とした教育課程を JICA 技術協力「ラオス国立大学工学部情報化対応人材育成機能強化プロジェクト（2003～2008年）」を通して実施し、結果 IT 分野の人材育成が同大学の重要な責務と位置づけられるようになった。

一方で、ラオス国内の産業界からは国際標準を満たすレベルのデータベース、ネットワーク、アプリケーション分野の IT スペシャリスト養成機関開設への強い要望があるものの、実際に産業界で勤務している人材は外国人か海外留学からの帰国者がほとんどであり、既存の教育機関では産業界が要望する人材育成に充分応えられていない現状にある。

このような背景の下、ラオス政府よりわが国に対し、持続的な IT 人材育成の体制構築を目標とする技術協力プロジェクト実施の要請がなされた。わが国は 2008 年 7 月の事前調査実施を経て、2008 年 11 月に JICA ラオス事務所長と NUOL 学長との間で実施協議の討議議事録（Record of Discussions : R/D）が署名・交換された。プロジェクトは NUOL 工学部を C/P 機関として、2008 年 12 月より 5 年間の予定で実施されている。これまで長期専門家 3 名（チーフアドバイザー 1 名、業務調整 2 名）及び複数の短期専門家の派遣を通して、IT 人材育成のためのコース運営指導及び人材・組織強化の支援を行っている。

### 2-2 基本計画

本プロジェクトの基本計画は、表 2-1 に示すとおりである。

表 2-1 プロジェクト基本計画（プロジェクト開始時）

プロジェクト名	ラオス国立大学 IT サービス産業人材育成（ITSD）プロジェクト
協力期間	2008 年 12 月～2013 年 11 月
ラオス実施機関	ラオス国立大学（NUOL）
上位目標	ラオス国において IT サービス産業が発展する。
プロジェクト目標	ラオス国立大学（NUOL）工学部 IT 学科による Postgraduate コースを通じて、IT サービス市場に応じた人材が育成される。
成果	成果 1：NUOL 工学部 IT 学科において Postgraduate コースが適切に運営される。 成果 2：NUOL 工学部 IT 学科において IT 学科内会社が適切に運営される。 成果 3：Postgraduate コース担当教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される。 成果 4：実践的なソフトウェアエンジニアリング・スキルおよびビジネススキルを習得するための Postgraduate コースが整備・実施される。 成果 5：産学官の連携が強化される。

### 2-3 プロジェクト・デザイン・マトリックス (PDM)

JICAではプロジェクト・サイクル・マネジメント手法を用いてプロジェクトの運営管理を行っており、事業管理及び評価のツールとしてプロジェクト計画概要表であるプロジェクト・デザイン・マトリックス (Project Design Matrix : PDM) を活用している。PDMの概要は表2-2のとおりである。

表2-2 PDMの概要

項目	定義
上位目標	「プロジェクト目標」が達成された結果として、達成が期待できる開発効果
プロジェクト目標	プロジェクトの終了時まで達成されることが期待される目標であり、ターゲットグループへの具体的な便益やインパクト
成果	「プロジェクト目標」を達成するためにプロジェクトが実現しなくてはならない事項
活動	「成果」を実現するために、「投入」を効果的に用いてプロジェクトが実施する具体的な行為
投入	プロジェクトの実施に必要な人員、施設、機材、資金など
指標	プロジェクトの「成果」、「目標」、「上位目標」の達成度を測る目標値を示すもの
指標データ入手方法	「指標」のデータを検証するための情報源
外部条件	「成果」、「プロジェクト目標」を達成するために満たされていなければならない外部要件であるが不確定要素を含むもの
前提条件	プロジェクトを開始する前に満たされているべき条件

本プロジェクトは、事前調査でのプロジェクト計画に関するラオス側との協議に基づき、2008年11月の実施協議 (R/D 署名) において PDM に双方合意した (付属資料1)。

## 第3章 中間レビューの方法

本中間レビュー調査の目的は、①投入・活動実績及び計画達成度の確認、②評価5項目の観点からのレビュー、③今後の活動に対する提言及び方向性の確認、の3点であり、この目的に即し以下の要領で実施された。

### 3-1 評価グリッドの作成

本調査では、PDMと活動計画表（Plan of Operations：PO）に基づき、プロジェクトの当初計画、日本及びラオスの投入実績、活動実績、プロジェクト実施の効果、運営管理体制等につきレビュー調査を行い、計画達成度、実施プロセス、評価5項目（妥当性、有効性、効率性、インパクト、自立発展性）を検証するために、評価グリッドを作成し各項目に関して評価を行った（評価グリッドの詳細については付属資料2を参照）。本プロジェクトの評価に適用される評価5項目の各項目の定義は表3-1のとおりである。

表3-1 評価5項目

項目	定義
妥当性	プロジェクトのめざしている効果（プロジェクト目標や上位目標）が、受益者のニーズに合致しているか、相手国と日本側の政策との整合性はあるか、プロジェクトの戦略・アプローチは妥当か、といった「援助プロジェクトの正当性・必要性」を問う視点。
有効性	プロジェクトの実施により、本当に受益者もしくは社会への便益がもたらされているのか（あるいはもたらされるのか）を問う視点。
効率性	主にプロジェクトのコストと効果の関係に着目し、資源が有効に活用されているかを問う視点。
インパクト	プロジェクト実施によりもたらされる、より長期的、間接的効果や波及効果をみる視点。予期していなかった正・負の効果・影響を含む。
自立発展性	援助が終了しても、プロジェクトで発現した効果が持続していく見込みはあるかを問う視点。

### 3-2 評価実施方法

本調査の実施方法は以下のとおりである。

- (1) レビューチームの現地訪問前に、プロジェクトにて事前資料を作成する。
- (2) レビューチームは事前資料を検討のうえ、評価グリッドを作成し、適宜プロジェクトから補足情報を得てあらかじめ調査できる部分について確認を行う。
- (3) レビューチームによる専門家及びC/Pへの聞き取り・協議、現地視察調査等を通じ、評価5項目に従ってレビューを行い、レビュー報告書に取りまとめる。また、報告書には、プロ

ジェクトの後半期間における活動実施上の留意点や提言等も含めることとする。

(4) 調査結果を両国政府及び関係機関に報告・提言する。

### 3-3 情報・データ収集方法

本調査において必要な情報・データは以下の方法によって収集された。

(1) 報告書・その他プロジェクト関連資料のレビュー

- ・プロジェクト事業進捗報告書
- ・プロジェクト月例レポート
- ・IT サービス市場調査レポート
- ・プロジェクト専門家による自己評価  
(プロジェクト目標及び成果について指標の達成度)
- ・活動実績表  
(PDMに記載されている活動項目ごとの活動実績)
- ・第7次国家社会経済開発計画 (NSED P : 2011 ~ 2015 年)

(2) 関係者との面談・協議

- ・プロジェクト長期専門家
- ・NUOL 工学部 (プロジェクトディレクター、C/P)
- ・IT 研究生コース (ITSC) 在学生に奨学金を提供している企業 (BCEL)
- ・ラオス日本センター (LJI) ・ビジネス人材育成プロジェクト 長期専門家
- ・ラオス情報通信事業商工会 (LICA) 加盟企業
- ・情報通信関係非営利団体 (NPO)
- ・商工省
- ・教育省 (MOE)
- ・国家郵政通信機構 (NAPT)



## 第4章 計画達成度

PDMに基づき確認された本プロジェクトの計画達成度を以下に記す。

### 4-1 投入実績

本プロジェクトに関する投入実績は、M/MのANNEXに明記しているとおりでである。

#### 【日本側投入】

プロジェクト開始以降、中間レビュー調査までの主な日本側投入実績は以下のとおりである。

#### 1. 専門家派遣（日本人専門家）

（長期）

- ・「チーフアドバイザー」、「業務調整」

（短期）

- ・「データベース設計・管理、ソフトウェア応用」、「ソフトウェア開発技術、マルチメディア技術」、「プロジェクトマネジメント、業務改善」

#### 2. 施設・機材供与

- ・ITセンター棟
- ・コンピュータ、ITセンター棟に係る事務機器等

#### 【ラオス側投入】

プロジェクト開始以降、中間レビュー調査までの主なラオス側投入実績は以下のとおりである。

#### 1. C/P及びその他スタッフの配置

- ・プロジェクト・ディレクター、プロジェクト・マネジャー
- ・C/P（教員）
- ・秘書

#### 2. 土地、建物、プロジェクト・オフィス、その他追加的な施設や機材（コンピュータ、家具等）

#### 3. プロジェクト活動に必要な経費

### 4-2 成果の達成状況

本プロジェクトの成果は、PDMに記載のとおり5つある。

成果2については、進捗状況に若干の遅延がみられるものの、おおむね順調に成果が発現している。

（1）成果1：「NUOL工学部IT学科においてPostgraduateコースが適切に運営される」

成 果	NUOL工学部IT学科においてPostgraduateコースが適切に運営される。
指 標	1-1 受講生の募集、選抜、成績評価および卒業認定が適切に行われる。 1-2 IT学科内会社（ITBU）での教員の実績が、高い評価を受けるようになる。

成果1については、全体的には順調に進捗している。

コース運営に必要なさまざまなガイドラインも既に作成済みもしくは作成中であり、プロジェクト終了までに必要なすべてのガイドラインの完成が見込まれるため、適切な運営を行ううえでのソフト面のインフラは順調に整備されてきていると予想される。

指標に関しては、1-1で規定されている、受講生の募集、選抜は、NUOLに所属する複数の関係者が実施しており、透明性も保たれている。学生の成績評価については、NUOLのガイドラインに沿って実施されている。

IT 研究生コース (IT Specialist Course : ITSC) 1 期生に対して実施された募集から選抜、合格者確定までの過程については、以下のとおりである。

表 4 - 1 2010 年度 ITSC 準備工程

活動内容	時期/回数	備考
応募要項配布	7月21日～	
応募勧奨回数	11回	新聞社3社、TV1社
奨学金に関する説明	7月26日～	
応募締め切り	8月31日	応募者：88名
入学試験	9月7日	受験者：75名
結果通知	9月13日	合格者：50名
最終入学者	10月20日	入学者：39名
始業日	11月1日	

また、指標 1-2 に関しては、成果 1 の内容とは合致していない。新しい内容の指標“短期コースガイドライン、教員評価ガイドライン、受託開発ガイドライン、図書利用ガイドライン及び ITSC、IT 学科内会社 (IT Dept. Business Unit : ITBU) の運営に必要とされるガイドラインが作成され、学部長によって承認される”という内容に変更することが望ましい。

(2) 成果 2 : 「NUOL 工学部 IT 学科において IT 学科内会社 (ITBU) が適切に運営される」

成 果	NUOL 工学部 IT 学科において IT 学科内会社 (ITBU) が適切に運営される。
指 標	2-1 IT 学科内会社 (ITBU) の事業計画に沿って、事業が適切に運営管理される。 2-2 IT 学科内会社 (ITBU) は、産・官からシステム開発に関する業務を有償で受注できるようになる。

成果 2 については進捗状況に遅延がみられる。

ITBU が担当する短期コース研修についてはこれまで順調に実施されてきたが、組織運営の観点からはマネジャーの 2 度にわたる交替やマネジャーポスト自体の空白といった組織運営上の問題をたびたび経験してきた。そのため、成果 2 の示す「ITBU の適切な運営」を実現するためには今後取り組むべき課題も多い。

指標に関しては、2-1 で規定されている「ITBU の事業計画」が、ITBU のマネジャーが空席であるため策定できていない。2011 年 7 月あるいは 8 月に上記マネジャーが配置された際には、上記事業計画の策定が最優先課題として取り組まれるべきである。

指標 2-2 に関しては、「産・官からシステム開発に関する業務の受注」が、実際のビジネスとして開始されていない。ITSC のフィールドワークの一環として実施され、更に実績が積み重なることによる評判が、ビジネスチャンスを生み出すものと期待される。

(3) 成果 3 : 「Postgraduate コース担当教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される」

成 果	Postgraduate コース担当教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される。
指 標	3-1 受講生による教員への満足度（評価）が向上する。 3-2 IT 学科内会社（ITBU）で行うシステム開発の成功数が向上する。

成果 3 についてはおおむね順調に進捗している。

ネットワーク分野の教員については、これまでのプロジェクト活動の成果によって教員は皆が世界標準となる資格を有するに至っている（CCNA インストラクター資格）。一方でプログラミング分野の教員の能力向上がやや遅延しており、今後の課題として挙げられる。他方で、ITSC の学生からの教員評価はおおむね高い傾向がみられる。今後は教授法の面などにおいても技術力を向上させていくことが望まれる。

指標に関しては、3-1 で規定されている正規講師陣に対する評価は以下のとおりである。評価の対象となっている講師は 11 名であり、6 名から 12 名程度在学している各コースの学生が、評価を行った。以下の数字は、回答数の合計である。

表 4-2 ITSC に所属する正規講師陣に対する評価結果

質問分類	回 答	回答者数	%
時間厳守	はい	106	98
	いいえ	2	2
課題の取扱範囲（適切性）	はい	104	96
	いいえ	4	4
説明（有無）	はい、いつも	52	48
	はい、ときどき	54	50
	いいえ	2	2
指導内容の適切度	はい、いつも	59	55
	はい、ときどき	47	44
	いいえ	2	2

質問に対する回答の正確度	はい、いつも	68	63
	はい、ときどき	39	36
	いいえ	1	1
技術レベルの達成度 (学生による自己評価)	はい	71	66
	普通	36	33
	いいえ	1	1

なお、指標 3-2 については、指標 2-2 とほぼ同じ内容であるために、削除することとする。

(4) 成果 4 : 「実践的なソフトウェアエンジニアリング・スキルおよびビジネス・スキルを習得するための Postgraduate コースが整備・実施される」

成 果	実践的なソフトウェアエンジニアリング・スキルおよびビジネススキルを習得するための Postgraduate コースが整備・実施される。
指 標	4-1 Postgraduate コース全般に対する受講生の満足度が高くなる。 4-2 カリキュラム、シラバス、教材が定期的に更新される。 4-3 外部有識者（産・官）が参加するカリキュラム・ボードが毎年開催される。

成果 4 については順調に進捗している。

本成果が期待する、市場ニーズに即したカリキュラムの策定は成果 5 に関連する産学官連携による効果を活用しながら、適正に作成、実施されてきた。

指標に関しては、4-1 については第 1 期生が卒業する際に、そのコース内容全般に関する評価が実施できる。1 年目の卒業生による評価結果は、プロジェクト期間の終了までの基準になることが想定される。評価のための質問票については、プロジェクトによって作成される予定である（質問票の内容は、指標 3-1 との違いを明確にするため、講師陣に対する評価についての内容が除外される）。

また、指標 4-2 については、カリキュラム、シラバス、教材がこれまでに JICA 専門家や講師陣によって整備されてきた。他方、これら内容の更新については、その必要性が生じていない。

指標 4-3 については、カリキュラム・ボードが 2010 年 4 月に初めて開催され、第 2 回目が 2011 年 6 月または 7 月に実施される予定である。

(5) 成果 5 : 「産学官の連携が強化される」

成 果	産学官の連携が強化される。
指 標	5-1 産・学・官との合同セミナーが毎年開催される。 5-2 産・官の客員講師による講義が一定の割合で実施される。

成果 5 については順調に進捗している。

プロジェクトの働きかけによって産学官の関係者による会議が行われており、これまでほぼ皆

無に近かった民間企業と政府との情報交換がなされるようになっている。

指標 5-1 に関しては、産学官の関係者による合同セミナーの実施のみならず、LICA が実施している。IT サービス市場調査の一環として、さまざまなイベントが実施されている。以下の表は、産学官連携によるイベントの内容を示したものである。

表 4-3 産学官による合同イベント

タイトル	時期	内容
合同研究セミナー	2010 年 11 月	“Bar Camp” というイベントを開催し、国内の IT 分野の学生、民間企業や政府機関の技術者や管理者に加えて、タイなど海外からの参加者を合わせた総勢 200 人超が、IT に関するさまざまなトピックをテーマに議論を行った。
	2011 年 3 月	“IT FESTA” というイベントを開催し、イベントの中で 25 回の講演会を実施し、会計やホテル予約に関するソフトウェアの開発について、また官民による取り組み等を紹介した。
産学官共同による講義	2011 年 3 月	同上

指標 5-2 に関しては、IT 産業に従事している技術者が講師として ITSC や短期コースの教育プログラムに協力しており、産業界と教育界の架け橋になるような役割に貢献している。

#### 4-3 プロジェクト目標の達成状況

以下の指標から、プロジェクト目標の達成度を照らし出してみた場合、本プロジェクトは目標の達成に向けて、おおむね順調に進捗している。

プロジェクト目標	ラオス国立大学 (NUOL) 工学部 IT 学科による Postgraduate コースを通じて、IT サービス市場に応じた人材が育成される。
指標	<ol style="list-style-type: none"> <li>1. 国内 IT サービス企業、政府組織、IT ユーザー企業で従事する卒業生および受講生の評価が高くなる。</li> <li>2. IT 学科 Postgraduate コースの人材育成に関する評価が高くなる。</li> <li>3. ラオス国内において、Postgraduate コース（長期コース）の卒業生数が XX 名以上に達する。</li> <li>4. ラオス国内において、Postgraduate コース（短期コース）の受講生数が増える。</li> </ol>

プロジェクト目標の対象となる Postgraduate コース (= ITSC) は、教員の能力強化やコース運営に関する組織体制の整備期間を経て、2010 年 11 月に開講した。コースは一定レベルの知識・技術力を兼ね備えた教員の下で実施されている。また同時に、市場ニーズに即応できる IT 技術を有した人材が輩出することを目標とすることから、学生の成績評点はラオス一般の基準に比し

て厳格化する体制を取っている。

他方、ITBUについては、上記成果2で記載のとおり、組織運営上の課題が残っており、適切な運営に向けて努力を続けている現状にあるものの、全体的には、プロジェクトは目標である「ITサービス市場に応じた人材が育成される」の達成に向けておおむね順調に進んでいると判断できる。

なお、指標1から4と照らし出し判断された課題及び現状については、以下のとおりである。

- ・指標1：中間レビュー実施時において、ITSC第1期生は卒業していないため、評価を行うことは不可能である。また、指標2に関しては、現状の指標については、“卒業生を評価する”方法が規定されておらず、今後プロジェクトは、卒業生の評価を行うための質問票のフォーマットを確立する必要がある。また、ITSC第1期生の評判は、プロジェクト期間終了時までの評価基準となるであろう。
- ・指標2：本質的には指標1と同じ内容であるため、指標1に統合する。
- ・指標3：卒業生の数については、ITSCの施設の収容能力により限定されるため、プロジェクト目標の達成には影響を及ぼさず、指標3も削除する。
- ・指標4：指標4に関しては、厳格なコース評価基準の下、着実に実施されていることが確認された。

表4-4 短期コースの実施数

	短期コース実施数	受講者数		
		合格者	不合格者	合計
2009年	1	10	2	12
2010年	15	93	58	146
2011年	6	49	11	60

#### 4-4 プロジェクト実施プロセスの状況について

##### (1) 関係組織及び個人間の意思の疎通について

- ・専門家やC/Pとの間の意思の疎通に関しては、毎週実施しているミーティングを通じて、十分調整されている。参加者は、前週の活動結果と次週の活動計画について共有することとなっている。
- ・また、すべての講師が前週の活動結果と次週の活動計画を記した週報を作成している。
- ・上述のようなレポート及び週報を活用するシステムは、すべての参加者に情報を共有するといったことに貢献する。

##### (2) モニタリングシステム

###### 1) プロジェクトマネジメントの観点からのプロジェクトの進捗監視について

- ・C/Pや講師陣が毎週作成する各種レポートを基に実施される毎週実施される会議によって、プロジェクト活動の進捗が適切に監視されている。

###### 2) フィードバックを行う観点からの活動結果の進捗監視について

- ・他方、活動ごとの結果や結果に対するコメントによるフィードバックを行うといった内

容のモニタリングについては、十分実施されていない。例えば、コース内容に関する参加者からの質問票の回答を回収したにもかかわらず、現時点において、回答結果を分類もしないで置き去りにされている。プロジェクト活動に対するフィードバックを実施するために、収集した情報を整理することが求められる。

3) より効果的なプロジェクト活動を実施するための

- ・プロジェクトは、プロジェクトを実施するために、必要な情報を集める目的で、ローカルコンサルタントを活用する。(以下、第5章「5-1-3 効率性」を参照)
- ・ラオス側は、テストセンターへのパソコンの配置や、ITセンターへの家具／機材の設置等、プロジェクト活動の円滑な実施のための物質的な投入を支援してきた。

## 第5章 中間レビュー結果

### 5-1 評価5項目による評価

#### 5-1-1 妥当性

##### (1) ラオス政府の政策との整合性

「第7次国家社会経済開発計画（NSEDP：2011～2015年）」では、「NSEDPの具体的な方向性」のひとつとして、郵便・通信セクターの重要性が指摘されている。NSEDPではさらに、ラオス政府は、“必要なインフラ整備と先端技術を通じた通信・郵政事業者／起業家のための好ましい環境づくりを行う” また、“通信・ITセクターにおける国際標準を満たす人材育成を行う” ことがうたわれている。

また、「ICT国家政策」が2009年に公布されており、同政策はITセクター産業市場の発展に合致したITセクターの人材育成を重視する姿勢をみせている。

以上の点から、本プロジェクトの内容及び目的は、国家の基本政策並びにセクター別政策の両観点において整合している。

##### (2) 国別援助計画との整合性

対ラオス国別援助計画（2006年9月）が6つの重点支援項目の1つとして示す「民間セクター強化に向けた制度構築および人材育成」に該当するものである。

同計画ではNUOL等を拠点として、経済成長を担う人材育成の拡大をめざした協力を進めていくことがうたわれている。

したがって、本プロジェクトの方向性は本援助計画の内容と整合している。

##### (3) ニーズとの整合性（NUOL）

NUOLは、近年のITセクターの進展並びに産業界からのニーズを背景に、国際レベルに準ずるIT人材の育成に高い関心を示していた。しかしながら、そのような実務的な人材育成を担うコース運営の経験はなかったため、カリキュラムの策定から個々の教員の能力強化に至るまで外部からの支援が必要であった。

本プロジェクトの事前形成段階において、NUOLは、大学独自のICTマスタープランも策定し、ラオスにおけるIT人材育成を実施するために貢献するための大学の使命を設定した。

以上の背景から、本プロジェクトは同大学のニーズに整合している。

##### (4) ITユーザーとITサービス産業界のニーズとの整合性

ITを活用した、日々の業務における効率性の追求は、ラオスの地元産業界のなかの共通した課題のひとつである。ITサービス産業に対するラオス国内の高い需要が存在するにもかかわらず、現在に至るまでラオス国内には国際レベルに準じたシステム開発を担えるITサービス企業は存在せず、各企業は海外に発注せざるを得ない状況が続いている。そのため、企業は割高なコスト負担を強いられる状況が続いている。以上の背景から、本プロジェクトが担うITサービスの技術者育成について、国内企業の関心と期待は非常に高い。



(5) C/P の適切性 (NUOL)

IT 人材の育成に携わっている組織は NUOL 以外にもみられるが、その施設や教員をはじめとした陣容の点において同大学を凌駕する組織はラオス国内にはみられない。

プロジェクト関係者の間では、組織的／技術的な能力強化の必要性が認識されているものの、「ラオス国内において IT 産業人材の育成を図る」ことを目標としていることにかんがみると、同大学は最適な C/P 組織と判断できる。

(6) 日本国技術の優位性

日本は IT 技術者の技術レベル（経済産業省 IT スキルスタンダード）について詳細な設定を行っており、かつこれらスキルスタンダードを共通の指標として IT 技術者の育成を行ってきた。このような IT 技術者育成の取り組みは、本プロジェクトにおいても有効に利活用されており、日本の技術的優位性が発揮されているものと判断できる。

5-1-2 有効性

(1) プロジェクト目標及び成果の達成度

上述のとおり、本プロジェクトの目標の達成に向けて、順調に進捗している。

5つの成果についてもおおむね順調に進捗しているが、人材配置を主な要因として、成果2の ITBU に係る組織体制整備・強化が遅延しており、今後重点的に取り組む課題として指摘される。

(2) プロジェクト目標・成果達成に係る貢献要因

プロジェクトでは日本側及びラオス側双方がプロジェクト内外からの人材投入を有効に行っており、技術移転を効率的に実施してきた（効率性にて詳細記述）。

(3) プロジェクト目標・成果達成に係る阻害要因

ITSC 入学生のうち、入学時に有しているべき基礎的な学力が不足している学生が一部みられる。そのため「国際標準に準じた IT サービス人材」の育成を目標とするにあたっては、卒業までに想定以上の時間を要する、もしくは習得技術レベルが想定よりも幾らか低下することが懸念される。

(4) 外部条件の充足

PDM における外部要件として、“教員が職務に専念できる環境が整備される”ことが記載されている。現在、ITSC の教員は四年制大学の教員不足を補うために、四年制の授業も負担せざるを得ない状況にある。現状では教員の努力（残業等）によってプロジェクト活動の大きな阻害要因にまでは至っていないが、本課題が更に深刻化するようであれば、本プロジェクトの活動（時間配分等）にも影響を及ぼす可能性がある。

### 5-1-3 効率性

#### (1) 人的投入

##### 1) 日本側

日本側の人的投入については、長期専門家（チーフアドバイザー、業務調整専門家）と、短期専門家で形成されている。日本人専門家については、プロジェクト全体の進捗を適宜管理、助言支援するアドバイザーと業務調整の人員構成によって円滑にプロジェクト運営がなされてきた。また、個別の指導分野については、短期専門家によって対応がなされている。このような業務分担は、これまでプロジェクトが期待されている成果の発現のために機能しており、日本側のこれまでの人員投入は妥当と考えられる。

##### 2) ラオス側

NUOL は学科内の教員数が非常に限定的ななかにおいて、ITSC の運営については人員の質・量ともに優先的な人材配置を行ってきた。プロジェクト側は、国際的な IT 技術の認証を受けた講師のみを配置する方針を採用している。この方針は、ITSC における指導の質を一定程度にまで保証するものであり、ラオス側の人的投入がプロジェクト成果の着実な進捗に貢献していることを示すものである。

他方、ITBU については、現在に至るまで、人的投入についてはさまざまな課題に直面してきた。マネジャーポストは 2 度交替し、一定の空白期間もあり、ITBU の活動に対してネガティブな影響ももたらした。さらに、ITBU のスタッフのなかには留学に起因した離職が今後予定されており、人員投入に課題がみられる。

##### 3) その他

プロジェクトは下記のとおり、NUOL やラオス国内で確保することが困難な人員を外部から効果的に雇用している。

##### ① 第三国からの専門家（あるいは団体）

シンガポールから、Institute of Technical Education College West (ITE CW)<sup>1</sup> が、Cisco Systems 社技術者認定資格 (Cisco Certified Network Associate : CCNA) インストラクター研修のトレーニング資格を有する専門家を派遣し、ネットワーク研修を実施した。結果的に 10 名が CCNA インストラクター資格を獲得するに至った。

##### ② ローカルコンサルタント

NUOL 内部の教員等では対応できないものの、プロジェクト活動の実施に必要な、「開発手法」や「起業家支援に係る市場調査」の実施について、ローカルコンサルタント（パートタイム教員）を有効に活用している。

##### ③ 外部客員講師（パートタイム教員）

プロジェクトでトレーニングを受け、かつ一定レベルの技術を習得した外部人材が、ITSC 及び ITBU の短期コース研修において講師として活躍している。これら外部人材は、ITSC や ITBU の限られた講師陣を効果的に補強する役割を有している。技術力に加えて、ビジネスの現場経験を提示できる人材による各種指導は、本プロジェク

<sup>1</sup> ITE とは、シンガポールの技能教育カレッジで、技術や技能を学ぶ国立の教育機関である。中学校を卒業した生徒たちの進学先の 1 つとなっており、Central、East、West の 3 つの学校 (College) がある。

トの有効な投入であり、成果達成への貢献要因ともなっている。

(2) 物的投入

本プロジェクトの活動を支えるのに適切な施設（ITセンター棟における教室や図書館、そして実習施設）とコンピュータをはじめとする必要な資機材が投入されており、プロジェクト活動において有効に利用されている。

(3) 第三国研修

インキュベーターや産学連携の仕組みについて、副学部長や一部の教員がタイを2010年8月に見学視察した。この視察は、参加者が、ITSCやITBUの活動の方向性について、関係者が共有する契機となり、効果の高い視察であったと判断できる。

なお、上記見学視察以外については、これまで実施されてきたすべての研修は、NUOLにて実施されている。

(4) 予 算

プロジェクト予算額は、プロジェクト活動を実施するうえで、妥当な金額である。予算支出のタイミングについても、妥当なタイミングである。

5-1-4 インパクト

(1) 上位目標達成の見込み

上位目標	ラオス国においてITサービス産業が発展する。
指 標	1. GDPに占めるITサービスの割合が増加する。 2. 就労人口に占めるITサービス従事者の割合が増加する。

ITサービス産業の基本的なトレンドについては、上位目標の達成への方向性に合致している。

上記指標1及び指標2についての状況は下記のとおりである。

表5-1 GDP and GDP of IT sector

	2008		2009		2010		2011 (予想)	
	USD (100万)	GDPに占める割合	USD (100万)	GDPに占める割合	USD (100万)	GDPに占める割合	USD (100万)	GDPに占める割合
国内総生産 (GDP)	5,187	-	5,598	-	6,341	-	6,946	-
ラオスにおけるITサービス売上高 (ハードウェア販売分も含む)	59	1.14%	72	1.29%	92	1.45%	116	1.67%
ラオスにおけるITサービス産業 (ハードウェア販売分を除く)	23.6	0.45%	28.8	0.51%	36.8	0.58%	46.4	0.67%

出典：IT market survey by LICA, IMF

表5-2 Population and IT service human resource

	2008		2009		2010		2011 (Forecast)
人 口	6,128,000	-	6,320,000	-	6,900,000	-	-
労働人口	2,100,000	-	2,100,000	-	3,690,000	-	-
IT 技術者 (IT ユーザー企業 も含む) の人数と割合	2,140	0.10%	2,884	0.14%	3,934	0.11%	4,767
IT 技術者 (IT ユーザー企業 は除く) の人数と割合	448	0.02%	631	0.03%	856	0.02%	1,040

出典：IT market survey by LICA, Ministry of Social and Welfare, CIA fact book

本上位目標の示す内容は非常に遠大であり、本プロジェクトの成果だけで達成を担保できる類の目標内容ではない。ただし過去数年間継続して、IT サービス産業が占める経済への重要性は高まっており、今後も上位目標の示す方向に向かっていく可能性は高いと考えられる。

## (2) その他インパクトの発現

### 1) プラス・インパクト

#### ① 政策面

LICA は、IT 市場調査の結果に関する発表と、研究会における参加者から提示された議論内容について政府関係者向けに発表会を実施する予定である。(政策面での) 実際の変化はみられていないものの、上述の活動により、今後期待される。

#### ② 技術面

ITSC 教員のうち四年制大学のコースを受けもつ教員も多数いることから、教員の能力が向上してきた事実は、同時に四年制大学の教育の質向上にもつながっているものと推察できる。

#### ③ 組織面

また、本プロジェクトで利用し始めた学生による教員評価手法が NUOL 工学部 CE/IT 学科にも適用され始めた。このことも授業の質を高めることにつながるフィードバック効果が期待できる。

#### ④ 社会経済面

ITSC の卒業生がまだ誕生していない現段階においては、各企業における具体的なインパクトは今後に期待されるものである。しかしながら、既に発現している例として、BCEL での職員の能力向上の例が挙げられる。具体的には、プロジェクトによる研修を受講した職員の能力向上によって、これまで隣国からの IT 専門家招聘によって対処していたトラブル処理を同職員が対応できるようになり、時間的・コスト的に大なる削減に寄与した例が報告されている。

### 2) マイナス・インパクト

特筆すべきマイナスのインパクトは生じていない。

## 5-1-5 自立発展性

### (1) 政策面

NSEDP 並びに国家 ICT 政策が IT 人材育成の重要性についてうたっていることから、政策面においては一定程度の自立発展性があるものと判断できる。

しかしながら、対処すべき課題が残っており、それは、IT セクターと人材開発を強化するためのより詳細な戦略やメカニズムの開発である。国家科学技術機構 (National Authority for Science and Technology : NAST) や NAPT は、政策に記載されたスローガンを超えた政策やメカニズムの策定に鍵となる役割を有していると考えられる。

### (2) 組織面

ITSC については、これまでの取り組みを通じて効率的なコース運営を担える体制づくりが進んでおり、これまでの状況や結果から判断して、一定レベルの自立発展性を有していると判断できる。

また、もし修士コースが、2013 学校年度に設立された場合、修士課程の新しいカリキュラムに対応できるような教員の追加が求められる。

他方、ITBU については今後新マネジャーの下で体制づくりが改めて開始される段階にある。インキュベーター担当職員の確保・強化、短期コース研修コーディネーターの確保など、プロジェクト終了時までに取り組むべき組織強化への課題は山積している状況にある。

さらに、IT セクターに顕著な課題である教員の離職については、本プロジェクトは離職を防止するインセンティブを逐次整備してきた。これまでのところ、この仕組みは奏功しているが、今後の IT エンジニア市場動向に左右される不確定な側面は残っている。

### (3) 技術面

IT 技術面における自立発展性は比較的高い。プロジェクト終了後も世界標準を構成するシスコ社やオラクル社等による最新教材が入手可能であるため、教員の能力を維持、向上させていくことは仕組みとしては十分に可能である。他方、ITBU については現状の組織体制を再構築する段階にあるため、自立発展性の予測はできない。

### (4) 財政面

第1年度の実績によると、ITSC についてはコンピュータの減価償却コストを除いた限りにおいては、事業運営を可能とする財務状況が維持された。今後は学費収入に加えて商用テストセンターの利用や外部からの受託開発等によって収入向上を更に図り、減価償却コスト負担についても賄っていくことが求められるものの、今後4年から5年における懸案事項となると推測される。

### (5) 社会面

地元産業界からの IT 人材における急速な需要が確認されているため、社会的側面での自立発展性は高いと評価される。

## 第6章 PDM の変更

中間レビュー評価団は、PDM の改訂を提案した（下記参照）。また、PDM を修正するにあたって、“Postgraduate” という用語を、“IT Specialist Course (ITSC)” に変更する。理由としては、“Postgraduate” は、ラオスと日本との間において、意味に齟齬が生じるからである。

	現在の PDM	修正箇所 (下線及び修正線)	修正理由	備考 (フォローアップ が必要な事項等)
成果 3	Postgraduate コース担当教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される。	<u>ITSC 担当教員および将来に修士コースを担当する教員のソフトウェアエンジニアリングに関する実践的スキルおよび指導力が強化される。</u>	修士コースの設 立が予定されて いるため。	—
成果 4	実践的なソフトウェアエンジニアリング・スキルおよびビジネススキルを習得するための Postgraduate コースが整備・実施される。	実践的なソフトウェアエンジニアリング・スキルおよびビジネススキルを習得するための <u>ITSC および修士コース</u> が整備される。	<ul style="list-style-type: none"> <li>修士コースの 設 立 が 予 定 さ れ て い る た め。</li> <li>プロジェクト 期 間 は、2013 年 度 に 開 講 さ れ る 修 士 コ ー ス の 前 半 部 分 し か カ バ ー し な い た め、“実 施 さ れ る”と い う 表 現 を 修 正 し た。</li> </ul>	—
活動 2-4	卒業生の起業を奨励する（中間評価時に判断）。	<u>ITBU において起業を奨励する</u>	対象は、卒業生 に 限 定 し な い た め、卒業生と い う 単 語 は 除 去 し た。	インキュベーター 部 門 の 責 任 を 持 つ 職 員 の 能 力 開 発 が 必 要 で あ る。
活動 4-3	市場ニーズに応じた Postgraduate コースのカリキュラム、シラバス、教材を作成する。	市場ニーズに応じた <u>ITSC および修士コース</u> のカリキュラム、シラバス、教材を作成する。	修士コースの設 立 が 予 定 さ れ て い る た め。	—
活動 4-4	カリキュラム・ボードを通じて Postgraduate コースのカリキュラムを評価する。	カリキュラム・ボードを通じて <u>ITSC および修士コース</u> のカリキュラムを評価する。	修士コースの設 立 が 予 定 さ れ て い る た め。	—

プロジェクト 目標 指標 1	国内 IT サービス企業、 政府組織、IT ユーザー 企業で従事する卒業生 および受講生の評価が 高くなる。	国内 IT サービス企業、 政府組織、IT ユーザー 企業で従事する卒業生 および受講生の評価が 高くなる。 <u>* 第 1 期卒業生を基準 とする。質問票をプロ ジェクトが用意する。</u>	評価並びにその 手法については、 これまでの指標 では明確になっ ていなかったた め。	・評価に必要な質 問票はプロジェ クトによって準 備される。 ・次回の JCC にお いて、質問票が 提示される予定 である。
プロジェクト 目標 指標 2	IT 学科 Postgraduate コ ースの人材育成に関す る評価が高くなる。	削除	指標 1 と基本的 なコンセプトが 同じであるた め。	—
プロジェクト 目標 指標 3	ラオス国内において、 Postgraduate コース（長 期コース）の卒業生 数が XX 名以上に達す る。	<u>ITSC（長期コース）の 卒業生数の 80% 以上 が IT サービス市場に おいて就職する。</u>	学生数は、ITSC の施設のキャパ シティによって 決まる。さらに、 今後の受け入れ 人数は、これま でより少なくな る事が予想され る。したがって、 修正案で提示 した指標が好ま しい。	—
成果 1 指標 1-2	受講生の募集、選抜、 成績評価および卒業認 定が適切に行われる。	<u>短期コースガイドライ ン、教員評価ガイド ライン、受託開発ガイ ドラインおよび ITSC、 ITBU の運営に必要と されるガイドラインが 作成され、学部長に よって承認される。</u>	現在の指標は、 成果で示された 内容とリンクし ていない。有効 なガイドライン は、適切な事業 実施の上で必要 不可欠である。	指標の並び順が、 これまでの成果 1 の 1 番目の指標と 逆になっている。
成果 2 指標 2-1	IT 学科内会社（ITBU） の事業計画に沿って、 事業が適切に運営管理 される。	IT 学科内会社（ITBU） の事業計画に沿って、 事業が適切に運営管理 されていることが、 <u>学 部長に報告、承認され る。</u>	適切性が、大学 の高い地位にあ る人物によって 承認される必要 がある。	—
成果 2 指標 2-3	（なし）	（追加） <u>インキュベーション・ ブースのうち、3 箇所 以上が使用されてい る（支援対象者による利 用がある）。</u>	プロジェクト活 動の一環で、新 たにインキュベ ーター支援を開 始する。その成 果によく着目す る必要がある。	—

<p>成果 4 指標 4-1</p>	<p>Postgraduate コース 全般に対する受講生の満足度が高くなる。</p>	<p>ITSC 全般に対する受講生の満足度が高くなる。 * <u>第一期生を基準とする。また教員評価(3-1)で実施)</u> は除く。<u>質問票をプロジェクトが用意する。</u></p>	<p>評価とその手法が不明確であったため。</p>	<ul style="list-style-type: none"> <li>• 評価に必要な質問票はプロジェクトによって準備される。</li> <li>• 次回の JCC において、質問票が提示される予定である。</li> </ul>
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## 第7章 結 論

本プロジェクトに関連する文書のレビューや一連のインタビュー、関係者との議論を根拠として、本プロジェクトは、着実にプロジェクト目標の達成に向けて、これまでのところ順調に進捗している。さらに、改良された教材やシステム開発の経験を土台として、実践的な技術を結果として習得した ITSC の卒業生が、ラオスの IT サービス市場における需要を満たすことができると期待される。政策レベルにおいては、人材開発に貢献することを目的とする、ICT 国家政策や、NUOL の作成した ICT マスタープランは、本プロジェクトの目的に合致しているといえる。

ITSC の運営に関しては、評価ガイドラインへの承認や、一連の学生選抜における過程の妥当性が確認されている。教員の質に関しては、段階的に改善しているものの、プログラミング技術の強化については、まだ改善の余地が残っている状況である。

ITBU の活動に関しては 22 の短期コースが、厳格な評価制度に基づいてうまく運営されており、またラオスで初の試みとなる一般公開のウェブテストセンターも営業している。しかしながら、成果 2 で規定されている、“NUOL 工学部 IT 学科において IT 学科内会社 (ITBU) が適切に運営される” という項目については、ITBU の運営計画が策定された後に、強化されるべき項目である。

産学官連携に関しては、関係者間で最新の ICT 技術に関する情報交換や意見交換を行う各種セミナーが定期的に行われていることが確認された。

また、本プロジェクトは、事前調査の段階では、指標を具体的に設定することが困難な、新しいコンセプトを有する活動が含まれている。さらに、今後はインキュベーション機能の設置支援や大学が計画する修士コース設立支援など、新しい活動にも取り組むことが求められている。したがって、本評価チームは、PDM の修正を提言したい。

そして最後に、上述の項目を実行するための提言項目を下記のとおり提示したい。

- ・ NUOL 工学部 CE/IT 学科 修士コース設立に向けた支援のあり方について
- ・ ITBU の強化について
- ・ インキュベーターの機能について
- ・ プログラミングコースの講師陣の能力強化について
- ・ 他機関との連携について

## 第8章 提 言

### (1) NUOL 工学部 CE/IT 学科 修士コース設立に向けた支援のあり方について

2013年を目標年として、NUOLの全学部は、すべての学科に修士課程を設立することを目標としている。CE/IT学科も同様に、修士コースの設立を計画しているが、今回の評価を踏まえて、修士コースのコンセプトは、ITSCと同様に、学問的な知識よりも、実践的な技術の習得が主な目標であることが確認された。さらに、教育内容の質保証といった観点から、CE/IT学科修士コースは、ITSCを土台として発展したものとするのが望ましい。しかしながら、下記の条件が満たされたうえで、修士コースの設立が行われることが必要である。

#### 1) 修士コースのコンセプト

修士コースはITSCの主要なコンセプトである、理論に沿った実務的な技術と知識の指導を重視する、という基本的な哲学を維持することが必要である。この点から、NUOLは、新しく設立される修士コースを、“プロフェッショナルマスター”という名称を用いることを検討するべきである。

#### 2) 教育の質の担保

- ・教員の選抜は実務的な技術と知識を基準とするべきである。
- ・カリキュラム・ボードといった、産業界やIT関係団体からのメンバーで構成される組織とのコミュニケーションを通して、カリキュラムの質を担保するべきである。
- ・修士コースの内容へのフィードバックを行う目的で、定期的に産業界で活躍している卒業生のパフォーマンスを評価調査するべきである。

#### 3) 追加教員の配置

- ・修士コースの設立にあたり、教員の追加採用を実施するべきである。

#### 4) 修士コースの設計について

修士コースの設立にあたり、持続可能な方法で、能力のある学生を受け入れられるよう、妥当なコースの設定を行うべきである。この考え方に沿って、本評価チームは、下記のようなコースデザインを提言する。

- ・修士コースはITSCを基礎として設立する。
- ・修士コースの履修期間は1年半とする。
- ・1年のみ履修する学生に対する学位も設定し、授与する。
- ・これまでITSCに応募してきた応募人数を考慮して、修士課程の開講時間帯は、終了時評価の実施時に決定する。
- ・講師の人数や現在の学部のキャパシティを考慮して、修士コースの学生受け入れ人数の上限は50人とする。
- ・授業料は、妥当なレベルの金額を設定し、能力を有する多くの受講者に（入学の）機会を提供できるようにする。

#### 5) プロジェクトの対象範囲

- ・本プロジェクトは、修士コースのコンセプトやその他の主要事項がプロジェクトの趣旨と合致している限りにおいて、既存の予定していた活動に加えて、修士コース設立に係る準備やコース内容の詳細設計の支援を行う。
- ・本プロジェクトは、教職員の高位学位取得支援は行わないこととする。

## (2) ITBU の強化について

ITBU の職員や JICA 専門家の協力により、短期コースは上手に運営されてきたものの、ITBU は、マネジャーの不在や離任といった配置にこれまで直面してきた。

適切な人員がマネジャーとしてできるだけ割り当てられることが必要である。新しいマネジャーの就任後、ITBU は実行計画の作成を開始することとなる。

ITBU の組織能力開発の観点から、経営システム（会計、明確な職務／役割をもつ職員の配置、短期コースの内容に関するフィードバックシステムの確立や、始まったばかりのインキュベーター機能への支援関連等）は強化される必要がある。

## (3) インキュベーターの機能について

本プロジェクトの開始時点では、プロジェクト活動 2-4 において、“卒業生の起業を奨励する（中間評価時に判断）”として、インキュベーター支援は中間評価時に決定されることとなっていた。

本評価チームは、ITSC 並びに ITBU の中心的な役割を果たす C/P が、タイのコンケン大学におけるインキュベーターマーケットの訪問を通じて、インキュベーターの基本的なコンセプトを理解したことを把握した。それに加えて、世界銀行が資金支援を行い、起業家を支援する、“ビジネスアイデアコンテスト”が、工学部に設置された、Lao-India センターにて実施された。したがって、本評価チームは、本プロジェクトが、インキュベーター支援を通じて“起業を促進する”ことに取り組むことに同意する。しかし、もしインキュベーター支援が公式に承認された場合、ITBU が市場調査や、会社経営、そしてビジネスマナーといった技術やノウハウについて、起業希望者にコンサルテーションを行う責任を有することとなる。インキュベーターに入居する若い起業希望者を満足させるサービスを提供し、ビジネススキルに関連した専門性を強化するために、NUOL のみならず、他機関からの職員も含めて、ITBU の人員拡大を行うことは不可欠である。

さらに、ITBU の人員拡大を行うにあたっては、ITBU に定着する人材の確保を行うといった観点からの採用が必要である。

## (4) プログラミングコースの講師の能力強化について

本評価チームは、ネットワークコースに従事する講師陣が、世界水準の資格とみなされる CCNA の証明書を有することを確認した。この状況と比較して、プログラミングコースの講師陣の指導能力には、改善の余地があると考えられる。したがって、プログラミングコースの講師陣の能力強化に必要な具体策が必要である。

## (5) 他機関との連携について

ビジネス人材育成を行っている他機関との連携は、この先重要であると認識される。例えば、LJI の実践型ビジネスコースに参加し、起業を考えている受講者が、IT 産業に関心を持っている場合、ITBU は、IT に関する基礎的な知識や、起業に必要な支援を行うことが可能である。また、ビジネス人材育成を行っている団体から、専門家を派遣してもらい、ITBU 職員のビジネスコンサルテーション能力強化に活躍してもらおうことも考えられる。本評価チームは、上記のようなビジネス人材育成を行っている団体と、IT プロジェクトが相互に連携し、

ITBU の活動活性化に役立てることを提言する。

## 付 属 資 料

1. PDM
2. 評価グリッド
3. プロジェクトへの投入
4. M/M

**ANNEX 1-1: PDM<sub>0</sub>(Tentative Version)**

Project Name : The Project on Human Resource Development in IT Service Industry at the National University of Laos (NUOL)  
 Target Group : Persons related to the postgraduate courses of IT Department of the Faculty of Engineering at the NUOL., people working for the domestic IT service industry in the working population is increased.

Project Period : December 1, 2008 – November 30, 2013 (Five years)  
 Date : July 24, 2008 Version : No. 0

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> IT service industry is well-developed in the Lao PDR.</p>	<ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol>	<ol style="list-style-type: none"> <li>Economic statistics report</li> <li>Economic statistics report</li> </ol>	
<p><b>Project Purpose</b> Human resources are developed according to the IT service market through the postgraduate courses by the IT Department of the Faculty of Engineering at the NUOL.</p>	<ol style="list-style-type: none"> <li>Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced.</li> <li>Evaluation of the postgraduate courses by the IT Department is enhanced from the perspectives of the human resource development.</li> <li>The number of graduates (attending the long-term course) of the postgraduate course attains to more than XX people in the Lao PDR.</li> <li>The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.</li> </ol>	<ol style="list-style-type: none"> <li>Questionnaire survey to the employers hiring the graduates and trainees</li> <li>Questionnaire survey to the industry groups being involved in the Project</li> <li>Achievement records of the long-term courses at NUOL</li> <li>Achievement records of the short-term courses at NUOL</li> </ol>	<ol style="list-style-type: none"> <li>The governmental organizations and the IT user corporations come to order the system development, etc. to the IT service companies.</li> <li>The improvement of communication infrastructures and the spread of IT devices are promoted.</li> <li>Policies and related mechanisms and regulations necessary for the IT service industrial development are established and implemented.</li> </ol>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>Postgraduate courses are properly operated at the IT Department of the Faculty of Engineering, the NUOL.</li> <li>The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.</li> <li>Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.</li> <li>Postgraduate courses for the practical software engineering and business skills are developed and implemented.</li> <li>Collaboration among the government, industry, and academia is reinforced.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</li> <li>1-2. The lecturers' achievements in the IT Department Business Unit (ITBU) come to be highly appreciated.</li> <li>2-1. The operational projects are appropriately managed according to the plan of the ITBU.</li> <li>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</li> <li>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</li> <li>3-2. The number of the success of the system development in the ITBU is increased.</li> <li>4-1. Satisfaction ratings (evaluation) of the overall postgraduate courses are enhanced by students and trainees.</li> <li>4-2. The curriculums, syllabi, and learning materials are regularly updated.</li> <li>4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</li> <li>5-1. Joint seminars among the government, industry, and academia are annually held.</li> <li>5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Implementation records along the various types of guidelines</li> <li>1-2. Lecturers' evaluation records in the ITBU</li> <li>2-1. Achievement records</li> <li>2-2. Records of accepting order</li> <li>3-1. Questionnaire survey to the students and trainees</li> <li>3-2. Evaluation sheets of the system development and records of accepting order</li> <li>4-1. Questionnaire survey to the students and trainees</li> <li>4-2. Curriculums, syllabi, and learning materials</li> <li>4-3. Records of the curriculum board meetings</li> <li>5-1. Records of the joint seminars</li> <li>5-2. Records of lectures by the visiting lecturers</li> </ol>	

<p><b>Activities</b></p> <p>1-1 Prepare various types of necessary guidelines and the format of the implementation records.</p> <p>1-2 Prepare the TOR of the counterparts.</p> <p>1-3 Establish the mechanism of the job matching between the graduates and employers.</p> <p>1-4 Operate IT-related equipment.</p> <p>1-5 Conduct the inventory of the equipment regularly.</p> <p>1-6 Monitor the actual activities along the guidelines.</p> <p>1-7 Reflect the lecturers' activities in the ITBU into the lecturers' evaluation.</p> <p>1-8 Monitor the career options of the graduates.</p> <p>2-1 Prepare the plans of the ITBU and the format of the achievement records.</p> <p>2-2 Conduct the activities, such as sales promotion, PR activities, etc., along the plans of the ITBU.</p> <p>2-3 Monitor the progress of the plans of the ITBU.</p> <p>2-4 Encourage the graduates to promote new businesses (judged by the time of the mid-term evaluation).</p> <p>3-1 Prepare the plan for the technical transfer to the lecturers.</p> <p>3-2 Prepare the curriculum and learning materials for the lecturers' trainings.</p> <p>3-3 Prepare the evaluation sheet of the system development for assessing the practical skills of lecturers.</p> <p>3-4 Conduct the lecturers' trainings.</p> <p>3-5 Monitor the practical skills and teaching capabilities of lecturers on regular basis.</p> <p>4-1 Study the market needs in the IT service industry.</p> <p>4-2 Set up the curriculum board.</p> <p>4-3 Develop the curriculums, syllabi, learning materials for the postgraduate courses according to the market needs.</p> <p>4-4 Evaluate the curriculums of the postgraduate courses through the curriculum board.</p> <p>4-5 Conduct the postgraduate courses.</p> <p>4-6 Revise the curriculums, syllabi, and learning materials on regular basis.</p> <p>4-7 Study the satisfaction ratings of the postgraduate courses.</p> <p>5-1 Set up the study sessions, such as the IT industrial development, cyber laws, new market exploration, etc., by the government, industry, and academia (including students &amp; alumni association).</p> <p>5-2 Conduct the symposiums, etc. by the study sessions.</p> <p>5-3 Hold the joint annual seminars.</p> <p>5-4 Deliver lectures by the visiting lecturers.</p>	<p><b>Inputs</b></p> <p>Japanese side</p> <ol style="list-style-type: none"> <li>Personnel <ul style="list-style-type: none"> <li>Experts from Japan</li> <li>Chief advisor</li> <li>Coordinator</li> <li>Network construction</li> <li>Database and programming</li> <li>Business unit operation</li> <li>Industry-academia-government collaboration</li> <li>Lectures for seminars</li> </ul> </li> <li>Training of counterpart personnel in Japan and the third countries</li> <li>Facility construction <ul style="list-style-type: none"> <li>Lecture rooms and IT laboratory</li> </ul> </li> <li>Provision of equipment <ul style="list-style-type: none"> <li>IT-related equipment</li> </ul> </li> <li>Operational expenses</li> </ol> <p>Lao side</p> <ol style="list-style-type: none"> <li>Personnel <ul style="list-style-type: none"> <li>Project Director</li> <li>Project Manager</li> <li>Manager of the ITBU</li> <li>Full-time lecturers</li> <li>Part-time lecturers</li> <li>System administrator</li> <li>Administrative staff of the ITBU</li> </ul> </li> <li>Expense necessary for the employment of visiting lecturers</li> <li>Provision of the project office and facilities necessary for the project implementation</li> <li>Others <ul style="list-style-type: none"> <li>Administrative and operational costs</li> <li>Connection charge of high-speed Internet</li> <li>Running costs for electricity, water, etc.</li> </ul> </li> </ol>	<p>1. The circumstances in which the lecturers are able to concentrate on their duties are improved.</p> <p>2. Lecturers are appropriately treated.</p> <p><b>Pre-conditions</b></p> <ol style="list-style-type: none"> <li>The IT Department is properly established.</li> <li>The definite framework of the ITBU is prepared.</li> </ol>
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### Annex1-2 : PDM (Version 1)

Project Name : The Project on Human Resource Development in IT Service Industry at the National University of Laos (NUOL)      Project Period : December 1, 2008 – November 30, 2013 (Five years)  
 Target Group : Persons related to the ITSC of IT Department of the Faculty of Engineering at the NUOL, people working for the IT service industry      Date : 2<sup>nd</sup> June, 2011  
 \* ITSC: Information and Technology Specialist Course      Version : No. 1

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b></p> <p>IT service industry is well-developed in the Lao PDR.</p>	<ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol>	<ol style="list-style-type: none"> <li>Economic statistics report</li> <li>Economic statistics report</li> </ol>	
<p><b>Project Purpose</b></p> <p>Human resources are developed according to the IT service market through the ITSC by the IT Department of the Faculty of Engineering at the NUOL.</p>	<ol style="list-style-type: none"> <li>Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced.                      * Results of the 1<sup>st</sup> year graduates will be the benchmark.                      Questionnaire is prepared by the Project.</li> <li>More than 80% of the graduates from ITSC will (re)start to work as the IT service engineers</li> <li>The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.</li> </ol>	<ol style="list-style-type: none"> <li>Questionnaire survey to the employers hiring the graduates and trainees</li> <li>Project record</li> <li>Achievement records of the short-term courses at NUOL</li> </ol>	<ol style="list-style-type: none"> <li>The governmental organizations and the IT user corporations come to order the system development, etc. to the IT service companies.</li> <li>The improvement of communication infrastructures and the spread of IT devices are promoted.</li> <li>Policies and related mechanisms and regulations necessary for the IT service industrial development are established and implemented.</li> </ol>
<p><b>Outputs</b></p> <ol style="list-style-type: none"> <li>ITSC are properly operated at the IT Department of the Faculty of Engineering, the NUOL.</li> <li>The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.</li> <li>Practical skills and teaching capabilities of lecturers in charge of the ITSC and master course that is planned to be established are enhanced in the field of the software engineering.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Guidelines of short term courses, evaluation on lecturers, outsourcing, library use and others necessary for effective implementation of ITSC and ITBU are developed, and approved by the head of IT department</li> <li>1-2. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</li> <li>2-1. The operational projects are appropriately managed according to the plan of the ITBU, whose results are reported to and approved by the head of IT department.</li> <li>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</li> <li>2-3. More than 3 incubation booths at ITBU are occupied during the Project period.</li> <li>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</li> <li>3-2. The number of the success of the system development in the ITBU is increased.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Project record</li> <li>1-2. Implementation records along the various types of guidelines</li> <li>2-1. Achievement records</li> <li>2-2. Records of accepting order</li> <li>2-3. Project record</li> <li>3-1. Questionnaire survey to the students and trainees</li> <li>3-2. Evaluation sheets of the system development and records of accepting order</li> </ol>	



<p>4. ITSC and master course, which is planned to be established, are for the practical software engineering and business skills are developed.</p> <p>5. Collaboration among the government, industry, and academia is reinforced.</p>	<p>4-1. Satisfaction ratings (evaluation) of the overall ITSC are enhanced by students and trainees. * <u>Results of the 1<sup>st</sup> year graduates will be the benchmark.</u> <u>The contents exclude lecturers evaluation. Questionnaire is prepared by the Project.</u></p> <p>4-2. The curriculums, syllabi, and learning materials are regularly updated.</p> <p>4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</p> <p>5-1. Joint seminars among the government, industry, and academia are annually held.</p> <p>5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</p>	<p>4-1. Questionnaire survey to the students and trainees</p> <p>4-2. Curriculums, syllabi, and learning materials</p> <p>4-3. Records of the curriculum board meetings</p> <p>5-1. Records of the joint seminars</p> <p>5-2. Records of lectures by the visiting lecturers</p>	
<p><b>Activities</b></p> <p>1-1 Prepare various types of necessary guidelines and the format of the implementation records.</p> <p>1-2 Prepare the TOR of the counterparts.</p> <p>1-3 Establish the mechanism of the job matching between the graduates and employers.</p> <p>1-4 Operate IT-related equipment.</p> <p>1-5 Conduct the inventory of the equipment regularly.</p> <p>1-6 Monitor the actual activities along the guidelines.</p>	<p><b>Inputs</b></p> <p>Japanese side</p> <p>1. Personnel</p> <p>Experts from Japan</p> <p>Chief advisor</p> <p>Coordinator</p> <p>Network construction</p> <p>Database and programming</p> <p>Business unit operation</p>	<p>Lao side</p> <p>1. Personnel</p> <p>Project Director</p> <p>Project Manager</p> <p>Manager of the ITBU</p> <p>Full-time lecturers</p> <p>Part-time lecturers</p> <p>System administrator</p>	<p>1. The circumstances in which the lecturers are able to concentrate on their duties are improved.</p> <p>2. Lecturers are appropriately treated.</p>

<p>1-7 Reflect the lecturers' activities in the ITBU into the lecturers' evaluation.</p> <p>1-8 Monitor the career options of the graduates.</p> <p>2-1 Prepare the plans of the ITBU and the format of the achievement records.</p> <p>2-2 Conduct the activities, such as sales promotion, PR activities, etc., along the plans of the ITBU.</p> <p>2-3 Monitor the progress of the plans of the ITBU.</p> <p>2-4 Encourage to promote new businesses at ITBU.</p> <p>3-1 Prepare the plan for the technical transfer to the lecturers.</p> <p>3-2 Prepare the curriculum and learning materials for the lecturers' trainings.</p> <p>3-3 Prepare the evaluation sheet of the system development for assessing the practical skills of lecturers.</p> <p>3-4 Conduct the lecturers' trainings.</p> <p>3-5 Monitor the practical skills and teaching capabilities of lecturers on regular basis.</p> <p>4-1 Study the market needs in the IT service industry.</p> <p>4-2 Set up the curriculum board.</p> <p>4-3 Develop the curriculums, syllabi, learning materials for the ITSC and master course, which is planned to be established, according to the market needs.</p> <p>4-4 Evaluate the curriculums of the ITSC and master course, which is planned to be established, through the curriculum board.</p> <p>4-5 Conduct the ITSC.</p> <p>4-6 Revise the curriculums, syllabi, and learning materials on regular basis.</p> <p>4-7 Study the satisfaction ratings of the ITSC.</p> <p>5-1 Set up the study sessions, such as the IT industrial development, cyber laws, new market exploration, etc., by the government, industry, and academia (including students &amp; alumni association).</p> <p>5-2 Conduct the symposiums, etc. by the study sessions.</p> <p>5-3 Hold the joint annual seminars.</p> <p>5-4 Deliver lectures by the visiting lecturers.</p>	<p>Industry-academia-government collaboration</p> <p>Lectures for seminars</p> <p>Experts from the third countries</p> <p>2. Training of counterpart personnel in Japan and the third countries</p> <p>3. Facility construction</p> <p>Lecture rooms and IT laboratory</p> <p>4. Provision of equipment</p> <p>IT-related equipment</p> <p>5. Operational expenses</p> <p>Administrative staff of the ITBU</p> <p>2. Expense necessary for the employment of visiting lecturers</p> <p>3. Provision of the project office and facilities necessary for the project implementation</p> <p>4. Others</p> <p>Administrative and operational costs</p> <p>Connection charge of high-speed Internet</p> <p>Running costs for electricity, water, etc.</p>	<p><b>Pre-conditions</b></p> <p>1. The IT Department is properly established.</p> <p>2. The definite framework of the ITBU is prepared.</p>
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2. 評価グリッド

**Annex 2: Evaluation Grid: The Project on Human Resource Development in IT Service Industry at NUOL**

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
Process of Implementation	<p><u>System/Structure of the Project</u> <u>management</u></p>	<p>Communication among organizations/personnel ~the extent of sharing info and challenges that are/were encountered</p>	<p>-Interview survey -Questionnaire</p>	<p>- Communication among experts and counterparts has been well coordinated through weekly meeting. Participants shared the scheduled plans for the coming week as well as the activities in the past week. - In addition, all the lecturers prepare weekly reports which show the activities in the past and coming week. Applying the weekly reports system is helping all the participants share information.</p>
		<p>Monitoring system ~practical accomplishment and its effectiveness</p>	<p>-Interview survey -Questionnaire</p>	<p>(Monitoring progress of the Project~ viewpoint of project management) - Monitoring the progress of the Project activities has been well implemented by weekly meeting along with weekly reports recorded by individuals (lecturers). It is evaluated the overall monitoring of the Project is functioned well.  (Monitoring results of the activities~ viewpoint of feedback) - On the other hand, another type of monitoring, which is to give feedback by results/comments from each activity has not fully conducted yet. For example, although the short term courses collected questionnaire answers from participants regarding the courses' contents, they have been left without sorting out the results at this moment. It is expected to organize the collected information for feedback to the activities of the Project.</p>
	<p><u>Counteractions to more effective implementation of the Project</u></p>	<p>(Japanese side) Arrangement of input contents and/or volume in accordance with the Project implementation process</p>	<p>-Interview survey -Questionnaire</p>	<p>- The Project made inputs of local consultants in order to reinforce limited number of manpower at NUOL in some of specific fields (see the Efficiency).</p>
		<p>(Lao side) Arrangement of input contents and/or volume in accordance with the Project implementation process</p>	<p>-Interview survey -Questionnaire</p>	<p>- Lao supported material inputs for smoother implementation of the Project, such as computers at Test center and furniture/equipment at the IT center.</p>

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	Main Items	Sub-Items		
Relevance (To examine the justifiability or necessity for project implementation)	<u>Policy</u>	Consistency with the development policy of the government	<ul style="list-style-type: none"> <li>-Documents of 7<sup>th</sup> NSEDP</li> <li>- Documents of NAST</li> <li>- Documents of NUOL</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- The 7<sup>th</sup> National Socio-Economic Development Plan (2011-2015) points out the importance of "Post and Telecommunication sector" in the context of "Specific Direction of NSEDP". The Plan shows that the government should "create a favorable environment for telecom and post operators/entrepreneurs through the provision of necessary infrastructure, and advanced technology", and should "develop the capacity of personnel in the post, telecommunication and internet sectors to meet international standards"</li> <li>- The ICT National Policy was officially issued in 2009 through NAFT (No. 047/PM/2009/2/16). The Policy places the importance on human resource development at IT sector along with development of IT sector industries market.</li> <li>- In this line, the Project's contents and purpose are consistent with the national and sector policy.</li> </ul>
	<u>Priority</u>	Consistency with Japanese ODA policy/plan (Country Assistance Program)	<ul style="list-style-type: none"> <li>-Japan's Country Assistance Program/ country-specific program</li> </ul>	<ul style="list-style-type: none"> <li>- The Japan's Country Assistance Program for Lao PDR sets six priority areas, one of which is "Institution building and human resources development for enhancing the private sector".</li> <li>- The Program shows in the area, "Japan will provide assistance to enhance human resources contributing to economic growth, based at the National University of Laos" in the chapter of Human resources development for enhancing the private sector.</li> <li>- The Project is matched with the priority areas and assistance policies of the Program in this line.</li> </ul>
	<u>Selection of the target group cum counterpart</u>	Needs of NUOL (Postgraduate course)	<ul style="list-style-type: none"> <li>-Project documents</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- In reflection with rapid development of IT sector entailing growth of demands on IT human resource, NUOL showed strong interests in corresponding to such human development needs as the highest educational institution in the country. However, NUOL had limited experiences to conduct practical IT courses as well as faced with lack of manpower of capable lecturers.</li> <li>- As of the planning period of the Project, NUOL had its own ICT master plan as well, setting the mission, which the university shall contribute to developing IT human resources in the country.</li> <li>- The Project is exactly in line with the NUOL's needs as well as its policy.</li> </ul>
		Needs of IT users and service industries	<ul style="list-style-type: none"> <li>-Project documents</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- Promoting efficiency of daily business by IT use is one of common agenda among local industries in Lao PDR. Although there are such huge demands on IT services domestically, there are no IT service companies which can offer system development at international level. Therefore, Lao industries have to order system development to neighboring countries and even trouble shooting sometimes in spite of its more costly option. Under this present situation, Lao local industries strongly expect the Project to enrich human resources on IT service industries.</li> </ul>

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		Appropriateness of the counterpart (NUOL) to implement the Project	-Project documents -Questionnaire -Interview survey	- NUOL is evaluated to be the best organization in terms of IT infrastructure as well as human resources among many institutions to train IT courses in the country. Although the necessity to strengthen organizational/technical capacity more and more is mutually recognized among the Project people, NUOL is evaluated as appropriate counterpart to achieve the Project purpose: to develop human resources of IT services in Lao PDR.
	<u>Advantage of Japanese technologies</u>		-Interview survey -Questionnaire	- The Project has effectively referred and/or adopted the Japanese system/approaches on IT human resource development at many aspects. The IT skill standard is one of the representing examples that the Project has utilized when planning career path of IT engineers along with curriculum development.
Effectiveness (To examine project effects)	<u>Project purpose</u>	Achievement forecast for the Project purpose	-Project record -Questionnaire -Interview survey	Project Purpose: Human resources are developed according to the IT service market through the postgraduate courses by the IT Department of the Faculty of Engineering at the NUOL. -Objectively verifiable indicator 1) Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced. 2) Evaluation of the postgraduate courses by the IT Department is enhanced from the perspectives of the human resource development. 3) The number of graduates (attending the long-term course) of the postgraduate course attains to more than XX people in the Lao PDR. 4) The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.  - The Project has steadily progressed towards achievement of the purpose as planned. - The postgraduate course, ITSC, had started in November 2010 after training period of the lecturers and organizational set up of ITSC. The course has been implemented by these lecturers who were trained and qualified by internal/external exams. The course also has applied more rigid evaluation guideline of students in order to keep the Project primary concept, which is to develop excellent IT engineers meeting with the market needs. - Although there are still some challenging issues in particular on ITBU, judging from the well-coordinated management of ITSC courses, it is predicted that the Project can proceed to achieve the Project purpose.  - Followings show the achievement status of the respective indicator: - The indicator 1) does not apply to the current situation of ITSC because of no graduates yet.

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				<p>Since the current indicator does not specify how to "evaluate graduates", the Project will determine the formats of questionnaire to evaluate graduates. The results of the 1<sup>st</sup> graduates will be a benchmark to the end of the Project period.</p> <ul style="list-style-type: none"> <li>- The indicator 2) is merged into the indicator 1) because the contents are essentially the same.</li> <li>- The indicator 3) is also deleted since the numbers of students are defined by the facility capacity of ITSC, meaning that it does not reflect achievement of the Project purpose. In this occasion, the new indicator should be considered.</li> <li>- The performance regarding the indicator 4), short term course training, is as follows: <ul style="list-style-type: none"> <li>- It is confirmed that the short term courses have been steadily held under the rigid course evaluation guideline.</li> </ul> </li> </ul> <table border="1" data-bbox="582 235 742 1086"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Number of courses</th> <th colspan="3">Number of trainees</th> </tr> <tr> <th>Passed</th> <th>Failed</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>1</td> <td>10</td> <td>2</td> <td>12</td> </tr> <tr> <td>2010</td> <td>15</td> <td>93</td> <td>58</td> <td>146</td> </tr> <tr> <td>2011</td> <td>6</td> <td>49</td> <td>11</td> <td>60</td> </tr> </tbody> </table>		Number of courses	Number of trainees			Passed	Failed	Total	2009	1	10	2	12	2010	15	93	58	146	2011	6	49	11	60
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	<p><u>Output 1.</u></p> <p>Achievement forecast for Output 1.</p>		<p>-Project record</p> <p>-Questionnaire</p> <p>-Interview survey</p>	<p>Output 1. Postgraduate courses are properly operated at the IT Department of the Faculty of Engineering, the NUOL.</p> <p>-Objectively verifiable indicator:</p> <p>1-1. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</p> <p>1-2. The lecturers' achievements in the IT Department Business Unit (ITBU) come to be highly appreciated.</p> <ul style="list-style-type: none"> <li>- Output 1 has been progressed well as planned</li> <li>- Some of key guidelines and regulations/rules for ITSC courses have been already developed and/or in process of drafting. Until the end of the Project, it is predicted possible that all the necessary guidelines and regulations are to be completed.</li> <li>- Followings show the achievement status of the respective indicator: <ul style="list-style-type: none"> <li>-As to the indicator 1-1, the recruitment and selection of students were conducted by several key personnel at NUOL in a transparent manner. Evaluation of students' grades has been made in accordance with the university's guideline. The process taken for the 1<sup>st</sup> year students is shown as follows:</li> </ul> </li> </ul>																							

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<u>Output 2</u>	Achievement forecast for the Output 2.	<ul style="list-style-type: none"> <li>-Project record</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<p>Output 2. The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.</p> <p>-Objectively Verifiable Indicator:</p> <p>2-1. The operational projects are appropriately managed according to the plan of the ITBU.</p> <p>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</p> <p>- The progress of Output 2 has been delayed comparing with the scheduled plan.</p> <p>- Although the short term courses have been implemented well owing to the efforts by the staffs, ITBU has not started full operation yet because of unstable personnel assignment including the change and vacancy of the manager's post so far.</p> <p>- Followings show the achievement status of the respective indicator:</p> <p>- "Plan of the ITBU" mentioned in the indicator 2-1 has not organized yet under the vacancy of the manager. Since the manager is expected to be assigned in July or August, making the plan of ITBU should be the first task under the new managers and staffs.</p> <p>- The indicator 2-2, system development from government and industry has not started yet as real business. Business chances are, however, expected by accumulated reputation on ITSC through presentation of actual outputs which are currently being made as field work of ITSC course.</p>																												

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	Output 3	Achievement forecast for the Output 3.	-Project record -Questionnaire -Interview survey	<p>Output 3. Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.</p> <p>-Objectively Verifiable Indicator:</p> <p>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</p> <p>3-2. The number of the success of the system development in the ITBU is increased.</p> <p>- Output 3 has been almost progressed as planned.</p> <p>- Lecturers of Network courses already gained CCNA certificate through the Project activities, which is recognized as a global standard certificate. On the other hand, the progress of lecturers of P programming courses is slightly delayed in terms of certificate holdings. It is necessary to tackle the issue during the remaining period.</p> <p>- From the viewpoint of evaluation by students on lecturers, overall evaluation resulted in almost high. There are some categories gaining lower points such as "explanation" and "appropriate advice", those points are expected to improve while compiling lecturing experiences.</p> <p>- Followings show the achievement status of the respective indicator:</p> <p>- As to the indicator 3-1, the results of evaluation are shown as below. The evaluation subjects are 11 lecturers. Students at each course, normally 6 to 12 people, made evaluation on its lecturer. The figure is a sum of all the answers.</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Answers</th> <th>Number of answers</th> <th>%</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Time punctuality</td> <td>Yes</td> <td>106</td> <td>98%</td> </tr> <tr> <td>No</td> <td>2</td> <td>2%</td> </tr> <tr> <td rowspan="2">Coverage of topics</td> <td>Yes</td> <td>104</td> <td>96%</td> </tr> <tr> <td>No</td> <td>4</td> <td>4%</td> </tr> <tr> <td rowspan="2">Explanation</td> <td>Yes, always</td> <td>52</td> <td>48%</td> </tr> <tr> <td>Yes, sometimes</td> <td>54</td> <td>50%</td> </tr> <tr> <td rowspan="2">Appropriate advice</td> <td>No</td> <td>2</td> <td>2%</td> </tr> <tr> <td>Yes, always</td> <td>59</td> <td>55%</td> </tr> <tr> <td rowspan="2">Correct answers to questions</td> <td>Yes, sometimes</td> <td>47</td> <td>44%</td> </tr> <tr> <td>No</td> <td>2</td> <td>2%</td> </tr> <tr> <td rowspan="2">Achievement of skills (self evaluation by students)</td> <td>Yes, always</td> <td>68</td> <td>63%</td> </tr> <tr> <td>Yes, sometimes</td> <td>39</td> <td>36%</td> </tr> <tr> <td rowspan="2"></td> <td>No</td> <td>1</td> <td>1%</td> </tr> <tr> <td>Yes</td> <td>71</td> <td>66%</td> </tr> <tr> <td rowspan="2"></td> <td>Maybe</td> <td>36</td> <td>33%</td> </tr> <tr> <td>No</td> <td>1</td> <td>1%</td> </tr> </tbody> </table> <p>- The indicator 3-2 is exactly the same as 2-2, therefore, it is deleted.</p>	Category	Answers	Number of answers	%	Time punctuality	Yes	106	98%	No	2	2%	Coverage of topics	Yes	104	96%	No	4	4%	Explanation	Yes, always	52	48%	Yes, sometimes	54	50%	Appropriate advice	No	2	2%	Yes, always	59	55%	Correct answers to questions	Yes, sometimes	47	44%	No	2	2%	Achievement of skills (self evaluation by students)	Yes, always	68	63%	Yes, sometimes	39	36%		No	1	1%	Yes	71	66%		Maybe	36	33%	No	1	1%
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Evaluation Criteria	Evaluation Items		Data Sources	Result
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	<u>Output 4</u>	Achievement forecast for the Output 4.	-Project record -Questionnaire -Interview survey	<p>Output 4. Postgraduate courses for the practical software engineering and business skills are developed and implemented.</p> <p>-Objectively Verifiable Indicator:</p> <p>4-1. Satisfaction ratings (evaluation) of the overall postgraduate courses are enhanced by students and trainees.</p> <p>4-2. The curriculums, syllabi, and learning materials are regularly updated.</p> <p>4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</p> <p>- Output 4 has been progressed well as planned</p> <p>- ITSC has proceeded under the curriculum corresponding to IT market needs, which was developed through collaborated meeting with academic, business, and government circle.</p> <p>- Followings show the achievement status of the respective indicator:</p> <p>- Evaluation on ITSC courses in the indicator 4-1 will be collected at the graduation period. The result of the 1<sup>st</sup> year students will form the benchmark until the end of the Project. The questionnaire to evaluate will be determined by the Project (The contents shall exclude the aspect of lecturers' evaluation in order to demarcate with the indicator 3-1).</p> <p>-As to the indicator 4-2, curriculum, syllabi, and learning materials were prepared by experts and lecturers. The necessity to change the contents on these has not arisen yet.</p> <p>-As to the indicator 4-3, curriculum board was held in April, 2010 for the first time, and the second is planned in June or July, 2011.</p>
	<u>Output 5</u>	Achievement forecast for the Output 5.	-Project record -Questionnaire -Interview survey	<p>Output 5. Collaboration among the government, industry, and academia is reinforced.</p> <p>-Objectively Verifiable Indicator:</p> <p>5-1. Joint seminars among the government, industry, and academia are annually held.</p> <p>5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</p> <p>- Output 5 has been progressed well as planned</p> <p>- The Project set joint seminars inviting the government, industry, and academia. In addition to such events, people from IT industries have conducted lectures at ITSC courses and short term courses, which contribute to bridge academia and real business world.</p> <p>- The study sessions/meetings were held as follows. In addition to the following seminars in the</p>

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	Main Items	Sub-Items														
				Table, there are some more events in the course of IT service market survey conducted by LICA.												
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	<u>Contribution factors</u>	Contributing factors to enhance the achievement of the Output and/or Project purpose	-Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>- Contribution factors to achievement of the Project purpose and outputs are as follows:</li> <li>- In addition to planned manpower input from Japanese and Lao sides, external human resources' inputs have contributed to enhance the Project's outputs. The details are shown in the description of "Efficiency".</li> </ul>												
	<u>Inhibition factors</u>	Factors to inhibit the achievement of the Output and/or Project purpose	-Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>- Inhibition factors to achievement of the Project purpose and outputs are as follows: (Basic knowledge and skills when entered ITSC)</li> <li>- Some of students do not have enough basic knowledge and skills when entered the ITSC. It is concerned that this situation would give influences on necessary period to complete ITSC training topics, and/or on achievement level when they graduate.</li> </ul> <p>Important assumptions (have been secured or not, and prospects for the remaining period)</p> <ul style="list-style-type: none"> <li>- Important assumptions have been secured only except "The circumstances (environment) in which the lecturers are able to concentrate on their duties are improved (secured)". Many of lecturers have to share their time on lecturing at undergraduates in order to reinforce insufficient manpower at undergraduate school. All the necessary works at ITSC have been managed somehow owing to overtime work by lecturers until now, but it may give negative influence on the Project activities if the situation gets worse from now on.</li> </ul>												
Efficiency (To examine project efficiency)	<u>Input (manpower)</u>	Enhancement of the output by the manpower input of Japanese experts (number, expertise, timing,	-Project record -Questionnaire -Interview survey	<p>Japanese manpower input</p> <ul style="list-style-type: none"> <li>- Japanese manpower input is formed by long term experts: chief advisor and project coordinator, and short term experts. The long term experts take care of project management in total with Lao counterparts, while the technical field is charged by short term experts. Such</li> </ul>												

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
		<p>performance) * to see the appropriateness of the balance between manpower input and project's design / framework</p>		<p>demarcated roles have been well functioned to enhance the expected outputs of the Project until now. In this line, Japanese manpower input until now is evaluated appropriate</p>
		<p>Enhancement of the output by the manpower input of counterpart personnel assigned * same as above captioned</p>	<p>-Project record -Questionnaire -Interview survey</p>	<p>Lao manpower input - NUJOL has assigned capable lectures with priority on the Project in spite of the limited number of lectures at the IT Department. - The Project adopted the policy to assign lectures only who are qualified by international IT standard (certificate). This assignment policy assures the certain level of teaching quality at ITSC, indicating that the manpower input has contributed to steady progress of the output. - On the other hand, ITBU has been faced challenges on manpower input until now. The manager of ITBU has been changed twice with certain of post's vacancy period, which has given negative influence onto the activities at ITBU. In addition, some leavers from posts at ITBU are planned due to studying abroad. It is crucial to secure capable manpower for implementation of the Project at ITBU.</p>
		<p>Enhancement of the output by manpower input of external resources assigned * same as above captioned</p>	<p>-Project record -Questionnaire -Interview survey</p>	<p>Other manpower input (local consultants, association etc) - The Project effectively made input of external human resources for the technical fields where NUJOL or human resources in the country is difficult to find.  1) Experts (organization) from the third country Institute of Technical Education College West (ITE CW), Singapore, dispatched experts to NUJOL to provide trainings on Cisco Certified Network Associate course for lecturers. The ITE CW, the Cisco certified organization, conducted trainings to lecturers in well organized manner, and resulted in producing new qualified 10 CCNA instructors. 2) Local consultants The Project made input of local consultants onto the fields "development methodology" and "research on incubators' market", both of which are essential for the Project activities. Since it is difficult to find such manpower in these specific fields in the country, this manpower inputs are evaluated beneficial to the Project activities. 3) External lecturers</p>

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
				External personnel who received training under the Project scheme are now working as part time lecturers at ITSC and short courses of ITBU along with NUOL fulltime lecturers. Their participation effectively reinforces the limited number of lecturers at ITSC and ITBU. The manpower allocation expectedly contributes to delivering skills and knowledge in their own business fields.
	<u>Input (material and facility)</u>	Enhancement of the output from the viewpoint of material and facility inputs (volume, specification, timing, usability, provided targets)	-Project record -Questionnaire -Interview survey	- Facilities of lecture rooms, laboratory and library in addition to materials such as computers were provided with appropriate volume to meet the Project activities.
	<u>Input (training in the third country)</u>	Enhancement of the output from the viewpoint of training conducted (contents, timing, period, numbers)	-Project record -Questionnaire -Interview survey	- Visiting (Study tour) to Thailand was conducted in order to learn the incubation market as well as the situation of collaboration between academic organizations and industries in the case of Thailand. The opportunity gave ideas where and how to go forward ITSC and ITBU to the tour participants including the vice dean of IT department. - Apart from the abovementioned visiting to Thailand, all the trainings have been conducted at NUOL.
	<u>Input (Budget)</u>	Amount of the project budget Timing to disburse	-Project record -Interview survey -Project record -Interview survey	- Amount of the Project budget has been appropriate to implement the Project activities. - Timing to disburse has been appropriate for implementation of the Project.
	<u>Complementary effect</u>	Other projects/programs to promote the Project's implementation and/or results	-Questionnaire -Interview survey	- Lao-Japan Center provided training courses on marketing to UTBC staffs including the manager.
	<u>Duplicated activities</u>	Other projects/programs to conflict or duplicate the activities of the Project's	-Questionnaire -Interview survey	- There are no duplicated activities.

Evaluation Criteria	Evaluation Items		Data Sources	Result																																																	
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Impact (To examine the project's effects including the ripple effects in the long term)	Overall goal	Achievement forecast for the overall goal	-Project record -Questionnaire -Interview survey	<p>Overall goal: IT service industry is well-developed in the Lao PDR. -Objectively Verifiable Indicator</p> <ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol> <p>- The basic trend of IT service industry is in direction to the overall goal's contents. - As to the indicator 1 and 2, the situation are as follows:</p> <p>GDP and GDP of IT sector</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">2009</th> <th colspan="2">2010</th> </tr> <tr> <th>Mil USD</th> <th>% of GDP</th> <th>Mil USD</th> <th>% of GDP</th> </tr> </thead> <tbody> <tr> <td>GDP</td> <td>5,598</td> <td>-</td> <td>6,341</td> <td>-</td> </tr> <tr> <td>LAO IT service (inc. Hardware sales)</td> <td>72</td> <td>1.29%</td> <td>92</td> <td>1.45%</td> </tr> <tr> <td>LAO IT service (exc. Hardware sales)</td> <td>28.8</td> <td>0.51%</td> <td>36.8</td> <td>0.58%</td> </tr> </tbody> </table> <p>Source: IT market survey by LICA, IMF</p> <p>Population and IT service human resource</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">2009</th> <th colspan="2">2010</th> </tr> </thead> <tbody> <tr> <td>Population</td> <td>6,320,000</td> <td>-</td> <td>6,900,000</td> <td>-</td> </tr> <tr> <td>Labor force</td> <td>2,100,000</td> <td>-</td> <td>3,690,000</td> <td>-</td> </tr> <tr> <td>Number of IT engineers (incl. users companies)</td> <td>2,884</td> <td>0.14%</td> <td>3,934</td> <td>0.11%</td> </tr> <tr> <td>Number of IT engineers (excl. users companies)</td> <td>631</td> <td>0.03%</td> <td>856</td> <td>0.02%</td> </tr> </tbody> </table> <p>Source: IT market survey by LICA, Ministry of Social and Welfare</p>		2009		2010		Mil USD	% of GDP	Mil USD	% of GDP	GDP	5,598	-	6,341	-	LAO IT service (inc. Hardware sales)	72	1.29%	92	1.45%	LAO IT service (exc. Hardware sales)	28.8	0.51%	36.8	0.58%		2009		2010		Population	6,320,000	-	6,900,000	-	Labor force	2,100,000	-	3,690,000	-	Number of IT engineers (incl. users companies)	2,884	0.14%	3,934	0.11%	Number of IT engineers (excl. users companies)	631	0.03%	856	0.02%
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Impacts occurred as ripple effects (positive and negative)	Aspects as follows: <ul style="list-style-type: none"> <li>policy,</li> <li>technical aspect,</li> <li>environment,</li> <li>socio-economy,</li> <li>organization</li> <li>finance</li> </ul>		-Project record -Questionnaire -Interview survey	<p>【Positive impact】 (Policy)</p> <p>It is planned that LICA will make presentation to the government officials about the results on IT market survey and the discussion topics raised by participants at the Study session. The tangible changes have not observed yet, but are expected later owing to such actions.</p> <p>(Technical aspect)</p> <p>- Some of lecturers at ITSC are giving lectures at undergraduate courses, which infer the quality of lecture contents at undergraduate courses received positive effects.</p> <p>(Organizational aspect)</p>																																																	

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
				<p>- Key essence of the guideline to evaluate lecturers, which was established in the Project activities, started to apply to the undergraduate courses of NUOL IT department. It is expected to enhance the quality of lectures in the undergraduate courses.</p> <p>(Socio-economy)</p> <ul style="list-style-type: none"> <li>- Impacts occurred are expected after the 1<sup>st</sup> year graduates (re)start to work in their job places.</li> <li>- One of the examples which are already observed is: A staff of private bank, BCEL, successfully developed his skills owing to the training opportunity, and now can deal with trouble shooting at higher level, which previously had to outsource to experts from Vietnam. It contributed to reducing cost and time for the bank.</li> </ul> <p><b>【Negative impact】</b></p> <ul style="list-style-type: none"> <li>- Negative impacts are not observed.</li> </ul>
Sustainability (To examine the sustainability after the termination of JICA's cooperation)	<u>Policy aspect</u>	<ul style="list-style-type: none"> <li>• Prospects of policy direction</li> <li>• Prospects of legislative preparation</li> </ul>	<ul style="list-style-type: none"> <li>- Documents of 7<sup>th</sup> NSEDP</li> <li>- Documents of NAST</li> <li>- Documents of NUOL</li> <li>- Questionnaire</li> <li>- Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- Basic direction of the governmental policy is confirmed as sustainable since the 7<sup>th</sup> National Socio-Economic Development Policy as well as ICT National policy stress the importance of IT human resource development in the country.</li> <li>- Challenging issue, however, remains in development of more detailed strategies and mechanisms in order to enhance IT sector and human resource development. Both NAST and NAPT are expected to play key roles to formulate such detailed policies and mechanisms beyond the slogan contents shown in the policies.</li> </ul>
	<u>Organization aspect</u> (regarding the NUOL as an organization to play key roles)	<ul style="list-style-type: none"> <li>• Appropriateness of the organizational structure of NUOL to continue producing the Project outputs</li> <li>• Appropriateness of the system or structure to continue effective collaboration between the gov, industry, and academia</li> </ul>	<ul style="list-style-type: none"> <li>- Questionnaire</li> <li>- Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- ITSC has been building organizational structure that enables to conduct ITSC courses smoothly. It is evaluated ITSC has sustainability at a certain level, judging from the current situation and performance.</li> <li>- If master course is established in the academic year of 2013, additional staffs may be required in accordance with new curriculum of the master course.</li> <li>- On the other hand, ITBU is now at the stage to re-launch with a new manager. There are many tackling issues including recruitment and training of incubation staffs, assignment and/or demarcating roles of short term coordinator(s) with test center works. It is necessary to make steady progress on these issues towards building organizational sustainability until the Project ends.</li> </ul>
	<u>Technical aspect</u>	<ul style="list-style-type: none"> <li>• Capacity of personnel</li> </ul>	- Questionnaire	<ul style="list-style-type: none"> <li>- Lecturers are able to keep and/or upgrade technical skills and knowledge by use of texts and</li> </ul>

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items (regarding the NUOL as an organization to play key roles)	Sub-Items and/or organizations in charge of key activities to produce the Project Outputs		
		<ul style="list-style-type: none"> <li>Prospects of continuous engagement of these personnel, lecturers at Postgraduate course in particular</li> </ul>	-Interview survey	<p>information from Cisco, Oracle, and other key de facto standard companies, which are to be procured on the basis of contract with NUOL and those companies. In this line, it is evaluated ITSC can keep sustainability of technical aspect.</p> <p>- On the other hand, ITBU's technical sustainability does not allow forecasting on the current organizational situation.</p>
	<u>Financial aspect</u>	<ul style="list-style-type: none"> <li>Prospects to secure sufficient financial resources to continuously produce project outputs</li> <li>Business prospects of ITBU</li> </ul>	-Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>Financial status at ITSC for the first academic year will possibly result in surplus except the category of depreciation cost of IT equipment.</li> <li>Towards securement of financial sustainability further, ITSC (and ITBU) need to raise revenue sources through not only tuition but promoting use of test center, and seeking business opportunities in order to cover depreciation cost of IT equipment, which will come up as the crucial issue in 4-5 years. .</li> </ul>
	<u>Social aspect</u>	<ul style="list-style-type: none"> <li>Acceptance of local industries and other job seekers at IT services sector</li> </ul>	-Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>Confirmed growing demands on IT human resources from local industries, the sustainability of social aspect is evaluated high,</li> </ul>

### 3. プロジェクトへの投入

Project on Human Resource Development in IT Service Industry at NUOL

#### Annex 3-1: List of Japanese Expert

##### Long term experts

	Name	Assingment period		Field
		from	to	
	Hiroyuki Ide	2008/12		Chief advisor
	Yasumitsu Ishikawa	see below		Database, software
	Yoichi Kogure	see below		Software, Multimedia
	Kiyomi Eguma	see below		Project management, Kaizen
	Yushi Kawaguchi	2009/3	2001/6	Coordinator
	Tsuneo Heito	2011/5		Coordinator

##### Short term experts

	Course	Assignment period		Experts	Number of Trainees
		from	to		(Passed/Failed)
1	DBA/LAMP	19/02/2009	24/03/2009	Yasumitsu Ishikawa	7/16
2	DBA/LAMP	2009/5/24	2009/7/2	Yasumitsu Ishikawa	14/16
3	SA	2009/8/9	2009/8/26	Yoichi Kogure	19/26
4	DBA/LAMP	2009/8/30	2009/10/16	Yasumitsu Ishikawa	12/16
5	CCNA D1	2009/9/2	2009/9/27	Mr.Samsul	15/15
6	CCNA D2	2009/9/27	2009/10/4	Mr.Vincent	10/15
7	SA	2010/1/31	2010/3/4	Yoichi Kogure	10/12
8	DBA/JAVA	2010/1/27	2010/3/18	Yasumitsu Ishikawa	13/13
9	CCNA D3	2010/3/8	2010/3/20	Mr. Darren	10/10
10	SA/LAMP	2010/5/9	2010/6/9	Yoichi Kogure	11/13
11	DBA/JAVA	2010/6/13	2010/8/3	Yasumitsu Ishikawa	15/21
12	IT Essentials	2010/8/8	2010/8/15	Mr.Christopher	8/10
13	CCNA D4	2010/8/15	2010/8/28	Mr.Tan Kok	10/10
14	SA/LAMP	2010/8/29	2010/9/29	Yoichi Kogure	4/4
15	TL	2011/2/13	2011/2/23	Kiyomi Eguma	11/11
16	SA/LAMP	2011/2/13	2011/3/17	Yoichi Kogure	6/6
17	DBA/JAVA	2011/2/15	2011/3/17	Yasumitsu Ishikawa	7/9

DBA:Database Administration

SA:Server Administration

CCNA:CISCO Certified Network Associate

TL:Teamwork/Leadership



**Annex 3-2: Facility and Equipment provided**

Equipment	Name	vol.	supplier	note
<b>January-09</b>				
LCD Projector	Epson EMP-1714	1	Inter Computer	
Still Digital camera	Panasonic DMC-FX37	1		
4GB SD card	Lexear SDHC	2		
Digital Video camera	Canon FS9	1		
Copier	Ricoh Aficio 1999Le	1	Microinfo	
PC server	Dell PowerEdge TM T100	1	S.O.A	
Lap Top Computer	Dell Vostro 1510	14		
DeskTop computer	Dell Vostro 220 mini tower	1		
Security Wire	Tergus Defcon CL	15		
24 port Hub	ZyXEL GS-1124	2		
APC Back up UPS	800VA	8		
Color Laser printer	Canon LBP5960	1		

**May-09**

books		11	JICA	
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**May-09**

Lap Top Computer (with bag)	HP IDS 15.6GM47 UMA 4610s NB PC	13	Microinfo	stolen
Security Wire Lock	Targus Defcon Cable LockPA410B	13		
Scanner (A4 with Sheet feeder)	Epson GT 2500	1		
Portable LCD projector	Epson EMP 1715	1		stolen

**June-09**

Cisco Router	CISCO 1841	18	Siam Nissei Co.,Ltd	
Serial WAN card for network router	WIC-2A/S	18		
Serial WAN cable (DTE side)	CAB-SS-V35MT	18		
Serial WAN cable (DCE side)	CAB-SS-V35FC	18		
Cisco Switch	WS-C2960-24TT-L	15		
Cisco Wireless Router	Linksys WRT320N	10		

**February-10**

Router (with security function)	CISCO 1841	4	DataCom	
Serial I/F card for Router	WIC-2A/S	4		
Serial cable for Router (male)	CAB-SS-V35MT	4		
Serial cable for Router (female)	CAB-SS-V35FC	4		
1 port Ethernet card	WIC-1ENET	2		
Network Switch	WS-C2960-24TT-L	6		
Wireless N-Broadband Router	WRTS4GL Linksys	7		
Lap Top Computer	Toshiba Satellite Pro LS10-B450	26		
mouse	Toshiba Optical Tiltwheel	26		
LCD projector	Epson EMP 1725	3		Acer P1266p changed
monochrome Laser network printer (A4)	Epson Aculaser M2010DN	4		

**February-10**

IT center	R C ,40m x 16m	1	Panyathip	
Consulting for construction		1	KPP	

**July-10**

Desktop PC	Acer Veriton M490G	27	SOA	
Photo Copier (A3)	Canon 2318L	1		
monochrome Laser network printer (A4)	Canon Laser Shot LBP 6300	1		

**Aug-10**

Steel Desk	Leeco BD-147 CH	4		
Office Chair	Leeco LSC-411	7		
Drawer Cabinet	Leeco BD-046 B	2		

Steel Locker	Leeco LK-106	8	Viengniyom	
Lecture Chair	Siam Steel MGN	54		
Stacking Chair	Siam Steel LTS-80 A	77		
Stacking Chair	Siam Steel CM-128	12		
Polypropylene Stacking Chair	Nat CP-02C	10		
Folding Table	Nat TF-2460	79		
Steel Desk	Siam Steel TEC 70100	12		
Meeting Table	Mono PTO-310	1		
Cupboard set	Leeco SLG+SLS+SLB-0303	1		
Book Shelf	Siam Steel SB-3072	6		
Book Shelf	Nat S-205	5		
Magagine Shelf	Nat S-001	1		
Storage Shelf	Nat S-103	13		
Cabinet	Leeco CB-02	3		
Shoe Shelf	order-made	13		

**Sep-10**

air condition		29	ODIEN	for IT center
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**Jan-11**

Desktop PC	Acer Veriton M490G	15	SOA	
Desktop PC	Acer Veriton M490G	10		supplement for the stolen ones
LCD Multimedia Projector	Epson Powerlite 1735W	1		supplement for the stolen ones, 1775W

Annex 3-3: List of Counterparts

name	post	organization	education	specialty	remarks
<b>Project Counterpart</b>					
1 Boualinh SOYSOUVANH	Dean	FE, NUOL	D in France	Civil Engineering	Project Director
2 Khamphout SOUTHISOMBATH	Vice Dean	FE, NUOL	D. at Tokai Univ.	Telecommunications	Project Deputy Director
3 Somphone KANTHAVONG	Head	CE & IT, FE, NUOL	M. in KMUTT, Thailand	IT	Project Manager
4 Khampheth BOUNNADY	Lecturer	ITSC	D. in KMUTT, Thailand	Programming	Leader
5 Sithiphone PHANDALA	Lecturer	ITSC	B at NUOL	Programming	
6 Vimontha KHIEOVONGPHACHANH	Lecturer	ITSC	D. at Tokai Univ.	Programming	
7 Sengthasamy CHANTHAMINAVONG	Lecturer	ITSC	M. in Chulalongkorn	Networking	Leader
8 Khamxay LEEVANGTOU	Lecturer	ITSC	B at NUOL	Networking	
9 Chaxiong YU KONHIA TOU	Lecturer	ITSC	B at NUOL	Networking	
10 Khanthanou LUANGXAYSANA	Staff	ITBU	M. at Ritsumeikan Univ.	Optical fiber	Lecturer in undergraduate
11 Phonexay VILAKONE	Staff	ITBU	M. in India	Database	Lecturer in undergraduate
12 Naly PENGPHOMMY	Staff	ITBU		Accountant	
13 Daoheuang SIBORIBOUNE	Manager	ITBU	B at NUOL		Left Project in April 2011
14 Phougeun PHOMMAXAYSY	Manager	ITBU	M.in Civil	Civil Engineering	Left Project in September 2009
15 Chanthaboune	Lecturer	CE & IT, FE, NUOL	B at NUOL		Left Project in April 2009
16 BounOm PHIMSIPHASOM	Lecturer	CE & IT, FE, NUOL	B at NUOL		Left Project in October 2009
17 Toulakhom KEOMANIVONG	Lecturer	CE & IT, FE, NUOL	B at NUOL		Left Project in August 2009
18 Thavisone MOUNLASANE	private secretary		B. in Math, NUOL	Mathematics	Student of CE & IT
<b>Successful Trainees / visiting lecturers</b>					
19 Anouhaph PHOUNSAVATH		BCEL	M in China	Database, Programming	Teaching in ITSC
20 Sirithip SOUKSAVATH		NAST	Diploma in Australia	Networking	
21 Phouthavong PHOUMMASAK		Ministry of Labor	M in India	Database, Programming	
22 Bounma PHAVONG		Cyberia	B. at Jules Verne Univ. France	Database	
23 Sisouphanh SIDAXAY		Planet Computer Co.,Ltd		Database	
24 Souksavanh CHOUNDALY	Lecturer	CE & IT, FE, NUOL	B at NUOL	Database, Programming	studying abroad
25 Souphonth PHOUNSAVATH		Planet Computer Co.,Ltd	B at wronongong Univ. Australia	Networking	Teaching in ITSC
26 Khamla KITTIPIHANH		ADB	B at Institute of Technology of Cambodia	Networking	Teaching in ITSC
27 Seunseck DOUANGSILA	Lecturer	CE & IT, FE, NUOL	M. in KMUTT, Thailand	Electronics, Networking	
28 Khamphao SISAAT	Lecturer	CE & IT, FE, NUOL	M. at Nara Institute of Science & Technology	Networking	
29 Chansamone CHANTHAKOUMMANE		Tigo then KPMG		Networking	
30 Vongvilai INTHASANH		Datacom	Higher Diploma	Database, Programming	
31 Phoutsamay TONMANY		NAST	Higher Diploma	Networking	
32 Bandaxay LOVANXAY		IBI Company	M at Tsukuba Univ.	Programming, Project Management	Teaching in ITSC

B: bachelor  
M: Master  
D: Doctor

**MINUTES OF MEETING  
BETWEEN  
THE JAPANESE MID-TERM REVIEW TEAM AND  
NATIONAL UNIVERSITY OF LAOS (NUOL)  
ON  
JAPANESE TECHNICAL COOPERATION FOR  
THE PROJECT ON HUMAN RESOURCE DEVELOPMENT  
IN  
IT SERVICE INDUSTRY AT NUOL**

The Japanese Mid-term Review Team (hereinafter referred to as “the Team”), organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. Yoshiharu YONEYAMA, visited the Lao People’s Democratic Republic (hereinafter referred to as “the Lao PDR”) from 19 May to 4 June 2011 for the purpose of conducting the Mid-term Review for the Technical Cooperation for Project on Human Resource Development in IT Service Industry at NUOL. (hereinafter referred to as “the Project”.)


During its stay in the Lao PDR, the Team had a series of discussions with the Lao authorities concerned. The Team prepared the Mid-term Review Report (hereinafter referred to as “the Report”) as attached, and presented it to Joint Coordinating Committee, held on 2 June 2011.

As a result of the discussions, both parties reached common understanding and agreed to take necessary measures for the matters referred to in the Report.

Vientiane, 2 June 2011



Mr. Yoshiharu YONEYAMA  
Leader  
Mid-term Review Team,  
Japan International Cooperation Agency  
Japan



Prof. Dr. Boualinh SOYSOUVANH  
Dean  
Faculty of Engineering  
National University of Laos  
the Lao People’s Democratic Republic

## THE ATTACHED DOCUMENT

### **I. Outline of Mid-term Review**

The project is launched on 01 December 2008 and will be completed on 30 November 2013. Purpose of the project is that Human resources are developed according to the IT service market through the postgraduate courses by the Department of Computer Engineering and Information Technology of the Faculty of Engineering at the NUOL.

The Mid-term review mission was carried out from 19 May to 4 June for the purpose of reviewing the achievement of the project.

The brief findings of the evaluation were shared with the 3<sup>rd</sup> Joint Coordination Committee on June 2, 2011 and the detailed evaluation results were presented in the Midterm Review Report (see Appendix 3). It is based on the results of the documentation review and interviews with the personnel concerned with the project.

### **II. Conclusion of Evaluation**

The mid-term review team confirmed the Project has steadily progressed towards achievement of the purpose, development of human resources in IT service industries, in accordance with the schedule. Only the output regarding ITBU's organizational capacity development has been delayed due to unstable personnel assignment, although ITBU has shown active performance in short term course implementation.

From the viewpoint of five evaluation criteria, the team confirmed the Project has kept its relevance as the Project's contents are in line with the governmental policy as well as the needs of Lao counterparts and local industries. As to the effectiveness and efficiency, owing to NUOL's prioritized assignment of lecturers on ITSC, the courses have been implemented with capable/qualified lecturers, which endorse the educational quality at the course. Also, the team confirmed that the Project has effectively utilized internal/external manpower inputs, which has led to steady progress of the expected outputs until now. Impacts are expected to observe in local industries after the students (re)start to work at their workplaces. The team also observed positive forecast of sustainability on ITSC, while difficult to judge on ITBU as of now since it will reconstruct its organization with a new manager.

It is concluded that most of the Project's activity have made good progress as a whole.

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In terms of development of ITBU, the team expects smooth implementation after assignment of new manager.

In order to ensure further steps of the Project activities including tackling issues on ITBU, in addition, the master courses, which are planned to establish in NUOL, CE/IT department, both Japanese and Lao sides agreed with issues from III to V as follows:

Furthermore, the team also proposes modification of PDM based on the recommendation from evaluation.

**III Cooperation for establishment of Master Course at Department of CE and IT**  
NUOL is now planning to establish Master Course at Department of CE/IT, targeting the academic year of 2013. In order to ensure the consistency with the Project and newly establishing Master Course, as well as to produce synergy effects by both concepts, both parties agreed with the recommended issues described as follows:

(Concept of the master course)

- The Master Course shall keep its basic philosophy, which is to provide practical knowledge and skills along with theory, which is also the primary concept of ITSC. In this line, NUOL shall consider using the name of the Professional master, not simply called as master degree.

(Endorsement of quality of education~ lecturers' assignment policy)

- The Master Course shall select lecturers on the basis of practical skills and technical qualification.
- The Master Course shall ensure the quality of education provided at master course through curriculum board, which consists of members from industries and IT related organizations.
- The Master Course shall evaluate the performance of graduates working at industries in regular basis in order to gain feedback to the course program.

(Allocation and status of additional staffs)

- The Master Course shall receive additional lecturers in accordance with the Master Course curriculum.

(Regarding the allocation of new staff to the position necessary for establishment of Master Course, please see the Appendix 2)

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(Reasonable course setting)

- The Master Course shall set up the reasonable course design to receive competent students in a sustainable manner. In this line, the team recommended the course design as follows:
  - 1) Master Course will develop based on ITSC.
  - 2) Duration of Master Course is 1 year and 6 month.
  - 3) Graduate Diploma is given for students who want to enroll only part of first grade.
  - 4) Considering the number of applicants toward ITSC in the past years, operating hours of Master Course is decided at the timing of Terminal Evaluation of the Project.
  - 5) Considering the number of lecturer and capability of the facility at the current facility, maximum number of student at the Master Course is 50.
  - 6) Tuition fee is set to be reasonable, allowing to offer chances to many capable applicants

(Coverage area of the Project)

- The Project supports to design and prepare the master course in addition to originally planned activities of the Project, as long as the Master Course's concept and other primary issues are in line with the Project's concept.
- The Project shall not support for acquiring the higher degree of lectures.

#### **IV Strengthening the management of ITBU**

Since the team observed the delay in the progress of ITBU's organizational capacity development, following issues are necessary to proceed:

- Faculty of Engineering, NUOL, shall assign appropriate personnel for manager's post of ITBU as soon as possible.  
(Regarding the allocation of new staff to the position necessary for ITBU, please see the Appendix 2)
- After appointment of a new manager, ITBU shall start formulating the implementation plan.
- ITBU shall develop organizational management capacity including accounting, personnel assignment with demarcated roles of staffs, feedback system of courses implemented and other incoming issues related to incubation assistance.

*J*



## **V Founding the function of incubator**

- ITBU shall increase number of staff who are familiar with solution for business, not only from university, but also from other organization as well and strengthen capability of expertise related to the business skills.

(Regarding the allocation of new staff to the position necessary for ITBU, please see the Appendix 2)

- Incoming staffs at incubation section shall be employed as permanent or non-permanent level in order to reserve stable personnel engagement.

## **VI Modification of PDM**

Based on the recommendation of mid-term review team mentioned above, PDM shall be modified as shown on the Appendix 1.

END

Appendix 1: Project Design Matrix (Revised)

Appendix 2: Allocation List of new staff for the activity of Project

Appendix 3: Midterm Review Report



**Appendix 1 : Project Design Matrix (Revised)**

Project Name : The Project on Human Resource Development in IT Service Industry at the National University of Laos (NUOL)

Project Period : December 1, 2007 – November 30, 2013 (Five years)

Target Group : Persons related to the ITSC of IT Department of the Faculty of Engineering at the NUOL, people working for the IT service industry

Version : No. 1

\* ITSC: Information and Technology Specialist Course

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> IT service industry is well-developed in the Lao PDR.</p>	<ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol>	<ol style="list-style-type: none"> <li>Economic statistics report</li> <li>Economic statistics report</li> </ol>	
<p><b>Project Purpose</b> Human resources are developed according to the IT service market through the ITSC by the IT Department of the Faculty of Engineering at the NUOL.</p>	<ol style="list-style-type: none"> <li>Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced. * Results of the 1<sup>st</sup> year graduates will be the benchmark. Questionnaire is prepared by the Project.</li> <li>More than 80% of the graduates from ITSC will (re)start to work as the IT service engineers</li> <li>The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.</li> </ol>	<ol style="list-style-type: none"> <li>Questionnaire survey to the employers hiring the graduates and trainees</li> <li>Project record</li> <li>Achievement records of the short-term courses at NUOL</li> </ol>	<ol style="list-style-type: none"> <li>The governmental organizations and the IT user corporations come to order the system development, etc. to the IT service companies.</li> <li>The improvement of communication infrastructures and the spread of IT devices are promoted.</li> <li>Policies and related mechanisms and regulations necessary for the IT service industrial development are established and implemented.</li> </ol>
<p><b>Outputs</b> 1. ITSC are properly operated at the IT Department of the Faculty of Engineering, the NUOL.  2. The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.</p>	<ol style="list-style-type: none"> <li>1-1. Guidelines of short term courses, evaluation on lecturers, outsourcing, library use and others necessary for effective implementation of ITSC and ITBU are developed, and approved by the head of IT department.</li> <li>1-2. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</li> <li>2-1. The operational projects are appropriately managed according to the plan of the ITBU, whose results are reported to and approved by the head of IT department.</li> <li>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</li> <li>2-3. More than 3 incubation booths at ITBU are occupied during the Project period.</li> <li>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</li> <li>3-2. The number of the success of the system development in the ITBU is increased.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Project record</li> <li>1-2. Implementation records along the various types of guidelines</li> <li>2-1. Achievement records</li> <li>2-2. Records of accepting order</li> <li>2-3. Project record</li> <li>3-1. Questionnaire survey to the students and trainees</li> <li>3-2. Evaluation sheets of the system development and records of accepting order</li> </ol>	
<p>3. Practical skills and teaching capabilities of lecturers in charge of the ITSC and master course that is planned to be established are enhanced in the field of the software engineering.</p>			

<p>4. ITSC and master course, which is planned to be established, are for the practical software engineering and business skills are developed.</p>	<p>4-1. Satisfaction ratings (evaluation) of the overall ITSC are enhanced by students and trainees. * Results of the 1<sup>st</sup> year graduates will be the benchmark. The contents exclude lecturers evaluation. Questionnaire is prepared by the Project. 4-2. The curriculums, syllabi, and learning materials are regularly updated. 4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</p>	<p>4-1. Questionnaire survey to the students and trainees 4-2. Curriculums, syllabi, and learning materials 4-3. Records of the curriculum board meetings</p>	
<p>5. Collaboration among the government, industry, and academia is reinforced.</p> <p><b>Activities</b> 1-1 Prepare various types of necessary guidelines and the format of the implementation records. 1-2 Prepare the TOR of the counterparts. 1-3 Establish the mechanism of the job matching between the graduates and employers. 1-4 Operate IT-related equipment. 1-5 Conduct the inventory of the equipment regularly. 1-6 Monitor the actual activities along the guidelines.</p>	<p>5-1. Joint seminars among the government, industry, and academia are annually held. 5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</p> <p><b>Inputs</b> Japanese side 1. Personnel Experts from Japan Chief advisor Coordinator Network construction Database and programming Business unit operation</p>	<p>5-1. Records of the joint seminars 5-2. Records of lectures by the visiting lecturers</p>	<p>1. The circumstances in which the lecturers are able to concentrate on their duties are improved. 2. Lecturers are appropriately treated.</p>

	Industry-academia-government collaboration Lectures for seminars Experts from the third countries	Administrative staff of the ITBU	Pre-conditions
<p>1-7 Reflect the lecturers' activities in the ITBU into the lecturers' evaluation.</p> <p>1-8 Monitor the career options of the graduates.</p> <p>2-1 Prepare the plans of the ITBU and the format of the achievement records.</p> <p>2-2 Conduct the activities, such as sales promotion, PR activities, etc., along the plans of the ITBU.</p> <p>2-3 Monitor the progress of the plans of the ITBU.</p> <p>2-4 Encourage to promote new businesses at ITBU.</p> <p>3-1 Prepare the plan for the technical transfer to the lecturers.</p> <p>3-2 Prepare the curriculum and learning materials for the lecturers' trainings.</p> <p>3-3 Prepare the evaluation sheet of the system development for assessing the practical skills of lecturers.</p> <p>3-4 Conduct the lecturers' trainings.</p> <p>3-5 Monitor the practical skills and teaching capabilities of lecturers on regular basis.</p> <p>4-1 Study the market needs in the IT service industry.</p> <p>4-2 Set up the curriculum board.</p> <p>4-3 Develop the curriculums, syllabi, learning materials for the ITSC and master course, which is planned to be established, according to the market needs.</p> <p>4-4 Evaluate the curriculums of the ITSC and master course, which is planned to be established, through the curriculum board.</p> <p>4-5 Conduct the ITSC.</p> <p>4-6 Revise the curriculums, syllabi, and learning materials on regular basis.</p> <p>4-7 Study the satisfaction ratings of the ITSC.</p> <p>5-1 Set up the study sessions, such as the IT industrial development, cyber laws, new market exploration, etc., by the government, industry, and academia (including students &amp; alumni association).</p> <p>5-2 Conduct the symposiums, etc. by the study sessions.</p> <p>5-3 Hold the joint annual seminars.</p> <p>5-4 Deliver lectures by the visiting lecturers.</p>	<p>2. Training of counterpart personnel in Japan and the third countries</p> <p>3. Facility construction Lecture rooms and IT laboratory</p> <p>4. Provision of equipment IT-related equipment</p> <p>5. Operational expenses</p>	<p>2. Expense necessary for the employment of visiting lecturers</p> <p>3. Provision of the project office and facilities necessary for the project implementation</p> <p>4. Others Administrative and operational costs Connection charge of high-speed Internet Running costs for electricity, water, etc.</p>	<p>1. The IT Department is properly established.</p> <p>2. The definite framework of the ITBU is prepared.</p>

**Appendix 2: Allocation List of new staff for the activity of Project**

Position	Name	Start work date
ITBU Manager	Mrs Sengmany XAYYASENG	1/8/2011
ITBU Staff (Incubation Leader)	Not found yet	1/9/2011
ITBU Staff (Incubation staff)	Miss Aple PHIMMASONE	1/9/2011
ITBU Staff (Business staff)	Miss Theva SIVONGKHAM	1/7/2011
ITBU Staff (Business staff & Librarian)	Miss Khamphay	1/7/2011
ITSC teaching staff (Software engineering)	Mr. Soulinthone KEOHAVONG	1/9/2011
ITSC teaching staff (Software engineering)	Not found yet	1/9/2011
ITSC teaching staff (Networking)	Not found yet	1/9/2011

All of them must be the non permanent or permanent staffs.



## Appendix 3: Midterm Review Report

Mid-Term Review Report on Project on Human Resource Development in IT Service Industry at NUOL (National University of Laos)

### 1. Introduction

#### 1-1 Preface

The project is launched on 01 December 2008 and will be completed on 30 November 2013. With remaining project period of approximately 2 year and 6 months, JICA dispatched the team to Lao PDR from 19 May to 4 June for the purpose of reviewing the achievement of the project.

#### 1-2 Objective of Mid-Term Review

Main objects of Mid-term review missions are as follows

- (1) to review the achievement and assess the major outcome of the Project according to the Project Design Matrix(hereinafter refer to as "PDM" )
- (2) to clarify the issues to be addressed for the successful implementation of the project for the remaining period,
- (3) to evaluate the Project according to the five criteria, i.e. relevance, effectiveness, efficiency, impact and sustainability
- (4) to make recommendation for the activities in the remaining period; and
- (5) to review and revise the PDM if necessary.

#### 1-3 Schedule of Mid-Term Review

Day	Date	Contents
19-May	Thur	Arrival in Vientiane
20-May	Fri	Meeting with Experts of the Project
		Meeting with Faculty of Engineering
21-May	Sat	Summarize Information
22-May	Sun	Summarize Information
23-May	Mon	Courtesy Call to National University of Laos
		Meeting with Department of Higher Education
		Courtesy Call to Ministry of Education Department of Planning & Cooperation
		Meeting with Department of Computer Science and IT

24-May	Tue	Meeting with GR at JICA Laos Office
		Interview with Laos-Japan Institute
		Meeting with Department of Computer Science and IT
25-May	Wed	Interview with National Authority for Post and Telecommunication (NAPT) Department of Internet at Internet Center
		Interview with SMEPDO (Small Medium Enterprise Promotion Development Office)
		Interview with Lao ICT Commerce Association (LIGA)
26-May	Thur	Visit Banque Pour Le Commerce Exterieur Lao (BCEL) Bank
		Visit Digital Divide Data (DDD)
		Prepare Evaluation Report
27-May	Fri	Meeting with JICA Laos Office
		Prepare Evaluation Report
28-May	Sat	Summarize Information
29-May	Sun	Summarize Information
30-May	Mon	Meeting with JICA Laos Office
		Making Minutes of Meeting (M/M)
31-May	Tue	Making Minutes of Meeting (M/M)
		Discussion on M/M with FE
1-Jun	Wed	Prepare Final M/M
2-Jun	Thur	Meeting with FE on Confirming Final M/M
		Signing M/M
		Joint Coordination Committee Meeting (JCC)
3-Jun	Fri	Report to JICA Laos Office
		Report to Embassy of Japan
4-Jun	Sat	Summarize Information
		Departure from Laos

#### 1-4 Members of Mid-Term Review Team

Mr. Yoshiharu YONEYAMA	Team Leader Senior Representative	JICA Laos Office
Mr. Koichi TOYA	Cooperative Planning Staff	JICA Laos Office

Mr. Jun TOTSUKAWA	Evaluation Analysis Consultant	Sano Planning Co, Ltd.
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## 2. Outline of the Project

### 2-1 Background of the Project

Compared to the situation whereby developed countries and nearby ASEAN countries are utilizing Information Technology (IT) to the acceleration of economic development, the advancement of informatization in Lao PDR has been delayed. Therefore, it is a concern that the economic gap has widened. Regarding IT development policy in Lao PDR, the importance of IT education was recognized at the 7th Lao People's Revolutionary Party Congress in 2001. The utilization of IT has been promoted as a means to promote economic and national development in Lao PDR. The government of Lao PDR (GOL) recognized the necessity of the utilization of IT fields as major means to actively promote industrialization and modernization. In this regard, in January 2003, the policy for industrialization and modernization stated that it is necessary to 1) focus on IT education, 2) promote socio-economic growth through the use of IT not only in the field of communication but also in the fields of tourism, transportation, health and environment. In order to develop human resources in IT field efficiently and effectively, the technical cooperation project namely "the Project for the Upgrading IT Education (Information Technology Bridging Course)" was implemented in National University of Laos (NUOL) for 5 years from April 2003. Then, to develop human resources in IT field has been considered as important role of NUOL.

On the other hand, the existing education institutes in Lao PDR have been facing difficulties to meet the strong demand from the IT service industry for developing practical IT specialists/ engineers especially in the field of database, network and application.

Against this background, the GOL requested the technical cooperation of the Japanese government on this matter in relation to the FE at NUOL. This project aims to contribute to the economic development of Lao PRD by establishing the sustainable system for developing human resources in the government and private sectors. The concept of this project is in line with "Asia Information Technology Initiative (AITI)" advocated by Japanese government from 2002.

### 2-2 Summary of the Project

The project has been conducted based on the PDM. Its main points are as follows.

(1) Overall Goal :

IT service industry is well-developed in the Lao PDR.

(2)Project purposes:

Human resources are developed according to the IT service market through the postgraduate courses by the Department of Computer Engineering and Information Technology of the Faculty of Engineering at the NUOL.

Output

1. Postgraduate courses are properly operated at the Department of Computer Engineering and Information Technology of the Faculty of Engineering, the NUOL.
2. The IT Business Unit is properly operated at the Department of Computer Engineering and Information Technology of the Faculty of Engineering, the NUOL.
3. Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.
4. Postgraduate courses for the practical software engineering and business skills are developed and implemented.
5. Collaboration among the government, industry, and academia is reinforced.

3. Methodology of the Review

3-1 Evaluation Framework

In accordance with the JICA evaluation guideline, the mid-term review of the Project was conducted within the framework below.

1) Assessing the performance of the project

The performance of the project was assessed against the indicators set by the Project Design Matrix (PDM) shown in Annex. The assessment was made by measuring the project results, examining implementation process, and investigating causal relationships, including contributing and constraining factors for the achievement.

2) Making a value judgment based on five evaluation criteria

The project was evaluated using five evaluation criteria, which are relevance, effectiveness, efficiency, impact, and sustainability.

Five Evaluation Criteria

1. Relevance	Relevance is evaluated by reviewing the consistency of the project purpose and the overall goal with the Lao Government's development policy and with needs of the beneficiaries in Lao PDR. The consistency with Japanese
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	assistance policy for Lao PDR is reviewed as well
2. Effectiveness	Effectiveness is evaluated by reviewing to what extent the project has achieved its purpose and outputs.
3. Efficiency	Efficiency is evaluated by reviewing the appropriateness of outputs' achievement focusing on whether outputs reflect sufficiently the activities carried out and the inputs invested for the project. Appropriateness of the project inputs is also evaluated in terms of timing, quality and quantity.
4. Impact	Impact is evaluated by reviewing the direct and indirect impacts of both positive and negative caused by the Project implementation.
5. Sustainability	Sustainability is evaluated by reviewing capacity and potentiality of the project-implementing agency, in terms of institutional, organizational, financial and technical aspects. Potentiality of establishment and promulgation of the technology, which is transferred through the Project, is also evaluated here.

Source: JICA evaluation handbook

### 3) Making recommendations and feedback

Recommendations for the remaining implementation period were shared with both Lao and Japanese stakeholders.

### 3-2 Data Collection Method

Data and necessary information for the review were collected by questionnaire survey and interviews to stakeholders of the Project implementation. The interview targets were extended not only to the staffs at NUOL but also to line ministries as well as local industries (association, and IT users companies).

## 4. Project Performance and Implementation Process

### 4-1 Achievement of Projects Purpose

Project Purpose	Human resources are developed according to the IT service market through the postgraduate courses by the IT Department of the Faculty of Engineering at the NUOL.
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Objectively verifiable indicator	<ol style="list-style-type: none"> <li>1. Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced.</li> <li>2. Evaluation of the postgraduate courses by the IT Department is enhanced from the perspectives of the human resource development.</li> <li>3. The number of graduates (attending the long-term course) of the postgraduate course attains to more than XX people in the Lao PDR.</li> <li>4. The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.</li> </ol>
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- The Project has steadily progressed towards achievement of the purpose as planned.
- The postgraduate course, ITSC, had started in November 2010 after training period of the lecturers and organizational set up of ITSC. The course has been implemented by these lecturers who were trained and qualified by internal/external exams. The course also has applied more rigid evaluation guideline of students in order to keep the Project primary concept, which is to develop excellent IT engineers meeting with the market needs.
- Although there are still some challenging issues in particular on ITBU, judging from the well-coordinated management of ITSC courses, it is predicted that the Project can proceed to achieve the Project purpose.

- Followings show the achievement status of the respective indicator:
- The indicator 1) does not apply to the current situation of ITSC because of no graduates yet. Since the current indicator does not specify how to “evaluate graduates”, the Project needs to determine the formats of questionnaire to evaluate graduates. The results of the 1<sup>st</sup> graduates will be a benchmark to the end of the Project period.
- The indicator 2) is merged into the indicator 1) because the contents are essentially the same.
- The indicator 3) is also deleted since the numbers of students are defined by the facility capacity of ITSC, meaning that it does not reflect achievement of the Project purpose. In this occasion, the new indicator should be considered.
- The performance regarding the indicator 4), short term course training, is as follows:
- It is confirmed that the short term courses have been steadily held under the rigid course evaluation guideline.

Table4.1 Number of short term courses implemented

	Number of courses	Number of trainees		
		Passed	Failed	Total
2009	1	10	2	12
2010	15	93	58	146
2011	6	49	11	60

#### 4-2 Achievement of Outputs

Output 1.	Postgraduate courses are properly operated at the IT Department of the Faculty of Engineering, the NUOL.
Objectively verifiable indicator	1-1. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted. 1-2. The lecturers' achievements in the IT Department Business Unit (ITBU) come to be highly appreciated.

- Output 1 has been progressed well as planned.
- Some of key guidelines and regulations/rules for ITSC courses have been already developed and/or in process of drafting. Until the end of the Project, it is predicted possible that all the necessary guidelines and regulations are to be completed.
- Followings show the achievement status of the respective indicator:
- As to the indicator 1-1, the recruitment and selection of students were conducted by several key personnel at NUOL in a transparent manner. Evaluation of students' grades has been made in accordance with the university's guideline. The process taken for the 1<sup>st</sup> year students is shown as follows:

Table 4.2 Preparation process of ITSC in 2010

Activities	Period	Note
Application guidebook	July 21~	
Public announcement	11 times	Newspaper 3 comp, TV 1 comp
Explanation of scholarship	July 26~	
Deadline of application	August 31	88 people
Exam for entrance	September 7	75 people
Announcement of results	September 13	50 people passed
Finalist of admission	October 20	39 people

Classes started	November 1	
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- The indicator 1-2 does not correspond to the contents of Output 1. The new indicator, "development of necessary guideline, and official approval" will be applied instead of the current one.

Output 2.	The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.
Objectively verifiable indicator	2-1. The operational projects are appropriately managed according to the plan of the ITBU. 2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.

- The progress of Output 2 has been delayed comparing with the scheduled plan.  
- Although the short term courses have been implemented well owing to the efforts by the staffs, ITBU has not started full operation yet because of unstable personnel assignment including the change and vacancy of the manager's post so far.

- Followings show the achievement status of the respective indicator:  
- "Plan of the ITBU" mentioned in the indicator 2-1 has not organized yet under the vacancy of the manager. Since the manager is expected to be assigned in July or August, making the plan of ITBU should be the first task under the new managers and staffs.  
- The indicator 2-2, system development from government and industry has not started yet as real business. Business chances are, however, expected by accumulated reputation on ITSC through presentation of actual outputs which are currently being made as field work of ITSC course.

Output 3.	Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.
Objectively verifiable indicator	3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees. 3-2. The number of the success of the system development in the ITBU is increased.

- Output 3 has been almost progressed as planned.
- Lecturers of Network courses already gained CCNA certificate through the Project activities, which is recognized as a global standard certificate. On the other hand, the progress of lecturers of Programming courses is slightly delayed in terms of certificate holdings. It is necessary to tackle the issue during the remaining period.
- From the viewpoint of evaluation by students on lecturers, overall evaluation resulted in almost high. There are some categories gaining lower points such as “explanation” and “appropriate advice”, those points are expected to improve while compiling lecturing experiences.
- Followings show the achievement status of the respective indicator:
- As to the indicator 3-1, the results of evaluation are shown as below. The evaluation subjects are 11 lecturers. Students at each course, normally 6 to 12 people, made evaluation on its lecturer. The figure is a sum of all the answers.

Table 4.3 Evaluation results of full time lecturers at ITSC

Category	Answers	Number of answers	%
Time punctuality	Yes	106	98%
	No	2	2%
Coverage of topics	Yes	104	96%
	No	4	4%
Explanation	Yes, always	52	48%
	Yes, sometimes	54	50%
	No	2	2%
Appropriate advice	Yes, always	59	55%
	Yes, sometimes	47	44%
	No	2	2%
Correct answers to questions	Yes, always	68	63%
	Yes, sometimes	39	36%
	No	1	1%
Achievement of skills (self evaluation by students)	Yes	71	66%
	Maybe	36	33%
	No	1	1%

- The indicator 3-2 is exactly the same as 2-2, therefore, it is deleted.

Output 4.	Postgraduate courses for the practical software engineering and business skills are developed and implemented.
Objectively verifiable indicator	<p>4-1. Satisfaction ratings (evaluation) of the overall postgraduate courses are enhanced by students and trainees.</p> <p>4-2. The curriculums, syllabi, and learning materials are regularly updated.</p> <p>4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</p>

- Output 4 has been progressed well as planned
- ITSC has proceeded under the curriculum corresponding to IT market needs, which was developed through collaborated meeting with academic, business, and government circle.

- Followings show the achievement status of the respective indicator:

- Evaluation on ITSC courses in the indicator 4-1 will be collected at the graduation period. The result of the 1<sup>st</sup> year students will form the benchmark until the end of the Project. The questionnaire to evaluate will be determined by the Project (The contents shall exclude the aspect of lecturers' evaluation in order to demarcate with the indicator 3-1).

- As to the indicator 4-2, curriculum, syllabi, and learning materials were prepared by experts and lecturers. The necessity to change the contents on these has not arisen yet.

- As to the indicator 4-3, curriculum board was held in April, 2010 for the first time, and the second is planned in June or July, 2011.

Output 5.	Collaboration among the government, industry, and academia is reinforced.
Objectively verifiable indicator	<p>5-1. Joint seminars among the government, industry, and academia are annually held.</p> <p>5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</p>

- Output 5 has been progressed well as planned

- The Project set joint seminars inviting the government, industry, and academia. In addition to such events, people from IT industries have conducted lectures at ITSC courses and short term courses, which contribute to bridge academia and real business world.

- The study sessions/meetings were held as follows. In addition to the following seminars in the Table, there are some more events in the course of IT service market survey conducted by LICA.

Table 4.4 Collaboration events by the government, industry and academia

	Date	Contents
Joint study seminar	November, 2010	“Bar Camp” invited more than 200 people from government, industries, university, and also from overseas including Thailand.
	March, 2011	25 lecture meetings held. Introduced software on accounting, hotel reservation etc.
Lecture meeting by government and industries	March, 2011	Ditto

#### 4-3 Process of Implementation

##### Communication among organizations/personnel

- Communication among experts and counterparts has been well coordinated through weekly meeting. Participants shared the scheduled plans for the coming week as well as the activities in the past week.
- In addition, all the lecturers prepare weekly reports which show the activities in the past and coming week. Applying the weekly reports system is helping all the participants share information.

##### Monitoring system

(Monitoring progress of the Project~ viewpoint of project management)

- Monitoring the progress of the Project activities has been well implemented by weekly meeting along with weekly reports recorded by individuals (lecturers). It is evaluated the overall monitoring of the Project is functioned well.

(Monitoring results of the activities~ viewpoint of feedback)

- On the other hand, another type of monitoring, which is to give feedback by results/comments from each activity has not fully conducted yet. For example, although the short term courses collected questionnaire answers from participants regarding the courses' contents, they have been left without sorting out the results at this moment. It

is expected to organize the collected information for feedback to the activities of the Project.

#### Counteractions to more effective implementation of the Project

- The Project made inputs of local consultants in order to collect necessary information to implement the Project. (see the Efficiency).
- Lao supported material inputs for smoother implementation of the Project, such as computers at Test center and furniture/equipment at the IT center.

### 5. Evaluation by Five Criteria

#### 5-1 Relevance

##### Consistency with the development policy of the government

- The 7<sup>th</sup> National Socio-Economic Development Plan (2011-2015) points out the importance of “Post and Telecommunication sector” in the context of “Specific Direction of NSEDP”. The Plan shows that the government should “create a favorable environment for telecom and post operators/entrepreneurs through the provision of necessary infrastructure, and advanced technology”, and should “develop the capacity of personnel in the post, telecommunication and Internet sectors to meet international standards”
- The ICT National Policy was officially issued in 2009 through NAPT (No. 047/PM/2009/2/16). The Policy places the importance on human resource development at IT sector along with development of IT sector industries market.
- In this line, the Project’s contents and purpose are consistent with the national and sector policy.

##### Consistency with Japanese ODA policy/plan (Country Assistance Program)

- The Japan’s Country Assistance Program for Lao PDR sets six priority areas, one of which is “Institution building and human resources development for enhancing the private sector”.
- The Program shows in the area, “Japan will provide assistance to enhance human resources contributing to economic growth, based at the National University of Laos” in the chapter of Human resources development for enhancing the private sector.
- The Project is matched with the priority areas and assistance policies of the Program in this line.

##### Needs of NUOL



- In reflection with rapid development of IT sector entailing growth of demands on IT human resource, NUOL showed strong interests in corresponding to such human development needs as the highest educational institution in the country. However, NUOL had limited experiences to conduct practical IT courses as well as faced with lack of manpower of capable lecturers.
- As of the planning period of the Project, NUOL had its own ICT master plan as well, setting the mission, which the university shall contribute to developing IT human resources in the country.
- The Project is exactly in line with the NUOL's needs as well as its policy.

#### Needs of IT users and service industries

- Promoting efficiency of daily business by IT use is one of common agenda among local industries in Lao PDR. Although there are such huge demands on IT services domestically, there are no IT service companies which can offer system development at international level. Therefore, Lao industries have to order system development to neighboring countries and even trouble shooting sometimes in spite of its more costly option. Under this present situation, Lao local industries strongly expect the Project to enrich human resources on IT service industries.

#### Appropriateness of the counterpart (NUOL) to implement the Project

- NUOL is evaluated to be the best organization in terms of IT infrastructure as well as human resources among many institutions to train IT courses in the country. Although the necessity to strengthen organizational/technical capacity more and more is mutually recognized among the Project people, NUOL is evaluated as appropriate counterpart to achieve the Project purpose: to develop human resources of IT services in Lao PDR.

### **5-2 Effectiveness**

#### Achievement of Project purpose and outputs

- The Project has steadily progressed towards achievement of the Project purpose.
- The achievement levels of the outputs are different as of now from Output 2 and others. While Output 1, 3, 4 and 5 shows progress as almost scheduled, development of organizational capacity of ITBU, Output 2, has been delayed mainly due to personnel assignment issues.

#### Contribution Factors

- Additional manpower input from Japanese and Lao sides, external human resources' inputs have contributed to enhance the Project's outputs. The details are shown in the description of "Efficiency".

#### Inhibition factors

(Basic knowledge and skills when entered ITSC)

- Some of students do not have enough basic knowledge and skills when entered the ITSC. It is concerned that this situation would give influences on necessary period to complete ITSC training topics, and/or on achievement level when they graduate.

(Important assumption)

- Important assumptions of PDM have been secured only except "The circumstances (environment) in which the lecturers are able to concentrate on their duties are improved (secured)". Many of lecturers have to share their time on lecturing at undergraduates in order to reinforce insufficient manpower at undergraduate school. All the necessary works at ITSC have been managed somehow owing to overtime work by lecturers until now.

### 5-3 Efficiency

#### Input (manpower)

(Japanese manpower input)

- Japanese manpower input is formed by long term experts: chief advisor and project coordinator, and short term experts. The long term experts take care of project management in total with Lao counterparts, while the technical field is charged by short term experts. Such demarcated roles have been well functioned to enhance the expected outputs of the Project until now. In this line, Japanese manpower input until now is evaluated appropriate

(Lao manpower input)

- NUOL has assigned capable lectures with priority on the Project in spite of the limited number of lectures at the IT Department.
- The Project adopted the policy to assign lectures only who are qualified by international IT standard (certificate). This assignment policy assures the certain level of teaching quality at ITSC, indicating that the manpower input has contributed to steady progress of the output.
- On the other hand, ITBU has been faced challenges on manpower input until now. The

manager of ITBU has been changed twice with certain of post's vacancy period, which has given negative influence onto the activities at ITBU. In addition, some leavers from posts at ITBU are planned due to studying abroad. It is crucial to secure capable manpower for implementation of the Project at ITBU.

(Other manpower input (local consultants, association etc))

- The Project effectively made input of external human resources for the technical fields where NUOL or human resources in the country is difficult to find.

1) Experts (organization) from the third country

Institute of Technical Education College West (ITE CW), Singapore, dispatched experts to NUOL to provide trainings on Cisco Certified Network Associate course for lecturers. The ITE CW, the Cisco certified organization, conducted trainings to lectures in well organized manner, and resulted in producing new qualified 10 CCNA instructors.

2) Local consultants

The Project made input of local consultants onto the fields "development methodology" and "research on incubators' market", both of which are essential for the Project activities. Since it is difficult to find such manpower in these specific fields in the country, this manpower inputs are evaluated beneficial to the Project activities.

3) External lecturers

External personnel who received training under the Project scheme are now working as part time lecturers at ITSC and short courses of ITBU along with NUOL fulltime lecturers. Their participation effectively reinforces the limited number of lecturers at ITSC and ITBU. The manpower allocation expectedly contributes to delivering skills and knowledge in their own business fields.

Input (material and facility)

- Facilities of lecture rooms, laboratory and library in addition to materials such as computers were provided with appropriate volume to meet the Project activities.

Input (training in the third country)

- Visiting (Study tour) to Thailand was conducted in order to learn the incubation market as well as the situation of collaboration between academic organizations and industries in the case of Thailand. The opportunity gave ideas where and how to go forward ITSC and ITBU to the tour participants including the vice dean of IT department.

- Apart from the abovementioned visiting to Thailand, all the trainings have been conducted at NUOL.

#### Input (Budget)

- Amount of the Project budget has been appropriate to implement the Project activities.
- Timing to disburse has been appropriate for implementation of the Project.

#### 5-4 Impact

##### Achievement forecast of overall goal

Overall goal	IT service industry is well-developed in the Lao PDR.
Objectively verifiable indicator	<ol style="list-style-type: none"> <li>1. The ratio of the IT services in the GDP is increased.</li> <li>2. The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol>

- The basic trend of IT service industry is in direction to the overall goal's contents.
- As to the indicator 1 and 2, the situations are as follows:

Table 5.1 GDP and GDP of IT sector

	2008		2009		2010		2011(Forecast)	
	Mil. USD	% of GDP	Mil. USD	% of GDP	Mil. USD	% of GDP	Mil. USD	% of GDP
GDP	5,187	-	5,598	-	6,341	-	6,946	-
LAO IT service (Inc. Hardware sales)	59	1.14%	72	1.29%	92	1.45%	116	1.67%
LAO IT service (exc. Hardware sales)	23.6	0.45%	28.8	0.51%	36.8	0.58%	46.4	0.67%

Source: IT market survey by LICA, IMF

Table 5.2 Population and IT service human resource

	2008		2009		2010		2011 (Forecast)
Population	6,128,000	-	6,320,000	-	6,900,000	-	-
Labor force	2,100,000	-	2,100,000	-	3,690,000	-	-
# of IT engineers (incl. users companies)	2,140	0.10%	2,884	0.14%	3,934	0.11%	4,767
# of IT engineers (excl. users companies)	448	0.02%	631	0.03%	856	0.02%	1,040

Source: IT market survey by LICA, Ministry of Social and Welfare, CIA fact book

### Impacts occurred as ripple effects (positive and negative)

#### **【Positive impact】**

##### **(Policy)**

- It is planned that LICA will make presentation to the government officials about the results on IT market survey and the discussion topics raised by participants at the Study session. The tangible changes have not observed yet, but are expected later owing to such actions.

##### **(Technical aspect)**

- Some of lecturers at ITSC are giving lectures at undergraduate courses, which infer the quality of lecture contents at undergraduate courses received positive effects.

##### **(Organizational aspect)**

- Key essence of the guideline to evaluate lecturers, which was established in the Project activities, started to apply to the undergraduate courses of NUOL IT department. It is expected to enhance the quality of lectures in the undergraduate courses.

##### **(Socio-economy)**

- Impacts occurred are expected after the 1<sup>st</sup> year graduates (re)start to work in their job places.

- One of the examples which are already observed is: A staff of private bank, BCEL, successfully developed his skills owing to the training opportunity, and now can deal with trouble shooting at higher level, which previously had to outsource to experts from Vietnam. It contributed to reducing cost and time for the bank.

#### **【Negative impact】**

- Negative impacts are not observed.

### **5-5 Sustainability**

#### Policy aspect

- Basic direction of the governmental policy is confirmed as sustainable since the 7<sup>th</sup> National Socio-Economic Development Policy as well as ICT National policy stress the importance of IT human resource development in the country.

- Challenging issue, however, remains in development of more detailed strategies and mechanisms in order to enhance IT sector and human resource development. Both

NAST and NAPT are expected to play key roles to formulate such detailed policies and mechanisms beyond the slogan contents shown in the policies.

#### Organization aspect

- ITSC has been building organizational structure that enables to conduct ITSC courses smoothly. It is evaluated ITSC has sustainability at a certain level, judging from the current situation and performance.
- If master course is established in the academic year of 2013, additional staffs may be required in accordance with new curriculum of the master course.
- On the other hand, ITBU is now at the stage to re-launch with a new manager. There are many tackling issues including recruitment and training of incubation staffs, assignment and/or demarcating roles of short term coordinator(s) with test center works. It is necessary to make steady progress on these issues towards building organizational sustainability until the Project ends.

#### Technical aspect

- Lecturers are able to keep and/or upgrade technical skills and knowledge by use of texts and information from Cisco, Oracle, and other key de facto standard companies, which are to be procured on the basis of contract with NUOL and those companies. In this line, it is evaluated ITSC can keep sustainability of technical aspect.
- On the other hand, ITBU's technical sustainability does not allow forecasting on the current organizational situation.

#### Financial aspect

- Financial status at ITSC for the first academic year will possibly result in surplus except the category of depreciation cost of IT equipment.
- Towards securement of financial sustainability further, ITSC (and ITBU) need to raise revenue sources through not only tuition but promoting use of test center, and seeking business opportunities in order to cover depreciation cost of IT equipment, which will come up as the crucial issue in 4-5 years.

#### Social aspect

- Confirmed growing demands on IT human resources from local industries, the sustainability of social aspect is evaluated high,

## 6. Modification of PDM

The mid-term review mission recommended to modify PDM as shown in the below table. In addition to the following modifications, the word “postgraduate” converts to “ITSC” to avoid misunderstanding because the “postgraduate” has different interpretation between Japan and Lao PDR (Table does not show all the changes of “postgraduate”),

Subject Item	Current PDM	Recommended modification (underline and erasing line)	Reasons to modify	Note / necessary actions to follow up
Output 3	Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.	Practical skills and teaching capabilities of lecturers in charge of the <u>ITSC and master course that is planned to be established</u> are enhanced in the field of the software engineering.	Establishment of master course at NUOL is planned as of now.	—
Output 4	Postgraduate courses for the practical software engineering and business skills are developed and implemented.	<u>ITSC and master course, which is planned to be established, are developed to offer</u> the practical software engineering and business skills.	Establishment of master course at NUOL is planned as of now. The Project period does not cover the initial stage of the master course in 2013, therefore, “implemented” is deleted from the sentence.	—
Activity 2-4	Encourage the graduates to promote new businesses (judged by the time of the mid-term evaluation).	Encourage the <del>graduates</del> to promote new businesses at <u>ITBU</u> ( <del>judged by the time of the mid-term evaluation</del> ).	Target is not only graduates	Necessary to secure and develop capacity of staffs in charge of incubation
Activity 4-3	Develop the curriculums, syllabi, learning materials for the postgraduate courses according to the market needs.	Develop the curriculums, syllabi, learning materials for the <u>ITSC and master course, which is planned to be established,</u>	Establishment of master course at NUOL is planned as of now.	—

		according to the market needs.		
Activity 4-4	Evaluate the curriculums of the postgraduate courses through the curriculum board.	Evaluate the curriculums of the <u>ITSC and master course, which is planned to be established</u> , through the curriculum board.	Establishment of master course at NUOL is planned as of now.	—
Indicator Project purpose 1	Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced.	Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced. <u>* Results of the 1<sup>st</sup> year graduates will be the benchmark. Questionnaire is prepared by the Project.</u>	The base of evaluation and method was ambiguous in the current indicator.	Questionnaire format of the evaluation is prepared by the Project. The format will be presented in the next JCC.
Indicator Project purpose 2	Evaluation of the postgraduate courses by the IT Department is enhanced from the perspectives of the human resource development.	Deleted.	Essence of this indicator is the same as the indicator 1.	-
Indicator Project purpose 3	The number of graduates (attending the long-term course) of the postgraduate course attains to more than XX people in the Lao PDR.	Replaced by: <u>More than 80% of the graduates from ITSC will (re)start to work as the IT service engineers.</u>	The numbers of students are determined by the facility capacity of ITSC. Also, application of restrict entrance criteria for incoming students may result in smaller number of students. Therefore, the new one is recommended.	-
Indicator Output 1-2	The lecturers' achievements in the IT Department Business	Replaced by: <u>Guidelines of short term courses, evaluation on</u>	The current indicator does not link to the	The order of this new indicator is



	Unit (ITBU) come to be highly appreciated.	<u>lecturers, outsourcing, library use and others necessary for effective implementation of ITSC courses and ITBU are developed, and approved by the head of IT department.</u>	Output contents. Effective guidelines are crucial for “proper operation”.	exchanged with the current 1-1.
Indicator Output 2-1	The operational projects are appropriately managed according to the plan of the ITBU.	The operational projects are appropriately managed according to the plan of the ITBU, <u>whose results are reported to and approved by the head of IT department.</u>	Necessary to endorse the appropriateness by high ranked personnel.	
Indicator Output 2-3		More than 3 incubation booths at ITBU are occupied during the Project period.	The Project newly starts to assist incubation. Necessary to see the achievement.	
Indicator Output 4-1	Satisfaction ratings (evaluation) of the overall postgraduate courses are enhanced by students and trainees.	Satisfaction ratings (evaluation) of the overall ITSC are enhanced by students and trainees. <u>* Results of the 1<sup>st</sup> year graduates will be the benchmark. The contents exclude lecturers evaluation. Questionnaire is prepared by the Project.</u>	The base of evaluation and method was ambiguous.	Questionnaire format of evaluation is prepared by the Project. The format will be presented in the next JCC.

## 7. Conclusions and Recommendation

On the basis of review of relevant documents and series of interview and discussion with key stakeholders, it is confirmed that Project has steadily progressed towards achievement of the purpose as a whole. Additionally, it is expected that graduates from ITSC who can successfully acquire the practical skill based on the upgraded educational materials and experience of system development meet the demand of IT service market in Lao PDR. In terms of policy level, ICT National policy and ICT master plan of NUOL both of which aim to contribute to the development of human resource, coincidences with the purpose of this project.

Regarding the operation of ITSC, appropriateness for a series of the process of

admission and approval for guideline of evaluation are confirmed. Although quality of lecturers are gradually improved, there is still room needed for strengthening the programming skill. As for activities by ITBU, we have confirmed that number of 22 short-term course have been successfully run based on the rigid evaluation guideline and opened web-test center as a first trial in Lao PDR. However, we refer to the activity related to Outcome 2, "The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL", should be reinforced after formulating the implementation plan of ITBU. As for the collaboration among the government, industry and academia, several seminars, which was introducing updated technology of ICT and exchanging opinion among government, industries and university, are constantly held.

Finally, this project covers several new concepts, which is difficult to set up specific indicator to some activities at the timing of feasibility study. Additionally, this project is supposed to set up the function of incubator and take necessary measure of concept for foundation of Master Course at Faculty of CE and IT. Therefore, the team would like to propose the revision of PDM.

The following is a series of recommendation for addressing the above-mentioned issues in the future project implementation.

1. Cooperation for the Establishment of Master Course at Department of CE /IT,
2. Strengthening the Management of ITBU,
3. Foundation for the function of Incubator,
4. Strengthening lecturer of Programming course
5. Collaboration with other organization)

## **8. Recommendation**

### **8-1 Cooperation for the Establishment of Master Course at Department of CE/IT**

At the beginning of academic year 2013, all faculty of NUOL is supposed to set up master course. The team confirmed that purpose of the master course is same as ITSC in terms of acquiring practical skills rather than academic knowledge. Additionally, from the viewpoints of quality assurance of the educational program, it is preferable that Master course develop based on ITSC.

However, all of the condition noted as below should be met before commencement of Master Course.

#### **(1) Basic philosophy**

The Master Course shall keep its basic philosophy, which is to provide practical

knowledge and skills along with theory, which is also the primary concept of ITSC. In this line, NUOL shall consider using the name of the Professional master, not simply called as master degree.

**(2) Measurement for quality assurance**

- The Master Course shall select lecturers on the basis of practical skills and technical qualification.
- The Master Course shall ensure the quality of education provided at Master Course through curriculum board, which consists of members from industries and IT related organizations.
- The Master Course shall evaluate the performance of graduates working at industries in regular basis in order to gain feedback to the course program.

**(3) Allocation and status of additional staffs)**

- The master course shall receive additional lecturers in accordance with the Master Course curriculum.

**(4) Course design**

The Master Course shall set up the reasonable course design to receive competent students in a sustainable manner. In this line, the team recommended the course design as follows:

- Master Course will develop based on ITSC.
- Duration of Master Course is 1 year and 6 month.
- Graduate Degree is given for students who want to enroll only part of first grade.
- Considering the number of applicants toward ITSC in the past years, operating hours of Master Course is decided at the timing of Terminal Evaluation of the Project.
- Considering the number of lecturer and capability of the facility at the current facility, maximum number of student at the Master Course is 50.
- Tuition fee is set to be reasonable, allowing to offer chances to many capable applicants

**(6) Coverage area of the Project**

- The Project supports to design and prepare the Master Course in addition to originally planned activities of the Project, as long as the Master Course's concept and other primary issues are in line with the Project's concept.

- The Project shall not support for acquiring the higher degree of lectures.

## **8-2. Strengthening the Management of ITBU**

Although the short-term courses have been well managed cooperated by the efforts of staff at ITBU and Expert at Project side, ITBU has faced unstable personnel assignment of the manager's post so far. It is highly recommended that appropriate personnel be assigned for manager's post as soon as possible. After appointment of a new manager, ITBU shall start formulating the implementation plan.

From the viewpoint of capacity development of ITBU, it is recommended that Management system, which includes accounting, personnel assignment with demarcated roles of staffs, feedback system of courses implemented and other incoming issues related to incubation assistance, should be reinforced.

## **8-3. Function of Incubator**

At the beginning of this project, "Encouraging the graduates to promote new business" (Activity 2-4 at PDM) is supposed to determine at the mid-term review. We can safely mention that focal person of ITSC and ITBU understand the basic concept of Incubator through the site visit at Incubation market in KhonKaen University in Thailand.

Additionally, competition for idea of business has held at Lao-India Center which is located in faculty of engineering, to support entrepreneur funded by the World Bank. Therefore, the team agrees with the implementation of "Encouraging to promote new business" as incubator. But if implementation of incubator is officially to be approved, ITBU has responsibility to support the activity of entrepreneur by way of consultation for marketing skill, management of their company, business manner and so on. For the satisfaction of young businessmen at the incubator, it is inevitable to increase number of staff who are familiar with solution for business, not only from university, but also from other organization as well and strengthen capability of expertise related to the business skills.

In addition, the team recommends that incoming staffs at incubation section should be employed as permanent or non-permanent level in order to reserve stable personnel engagement.

## **8-4. Strengthening lecturer of Programming course**

In this mission, the team confirmed that lectures of network course have already acquired the CCNA certificate, which is consider as the global standard certificate.

Compared to the result, there is still room for improvement of the skills of lecturers in Programming course. Therefore, it is recommended that additional approach to reinforce the skills be specified

#### 8-5. Collaboration with other organization

Furthermore, it is observed that collaboration of activities with other agency, which provides business skills, such as LJI (Laos-Japan center), are necessary in the future. For example, if Participants of business course, who wants to start business, are interested in IT industry, ITBU is expected to provide basic knowledge about IT and support their business. From the side of business organization, when staff of ITBU needs to acquire basic business skills, dispatching lecturer would contribute to the consultation skills of staff at ITBU. The team suggests that mutual cooperation between the project and organization mentioned above contribute to activate the implementation of ITBU.

#### ANNEXS

1. Project Design Matrix(PDM)
  - 1-1 PDM (Version 0)
  - 1-2 PDM (Version 1)
2. Evaluation Grid
3. Input to the Project
  - 3-1 List of Japanese Expert
  - 3-2 List of Equipments Provided by JICA
  - 3-3 List of Counterpart
4. List of Interviewee

### ANNEX 1-1: PDM<sub>0</sub>(Tentative Version)

Project Name : The Project on Human Resource Development in IT Service Industry at the National University of Laos (NUOL) Project Period : December 1, 2007 – November 30, 2013 (Five years)  
 Target Group : Persons related to the postgraduate courses of IT Department of the Faculty of Engineering at the NUOL, people working for the IT service industry Date : July 24, 2008 Version : No. 0

Narrative Summary		Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<b>Overall Goal</b> IT service industry is well-developed in the Lao PDR.	<ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol>	<ol style="list-style-type: none"> <li>Economic statistics report</li> <li>Economic statistics report</li> </ol>		
<b>Project Purpose</b> Human resources are developed according to the IT service market through the postgraduate courses by the IT Department of the Faculty of Engineering at the NUOL.	<ol style="list-style-type: none"> <li>Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced.</li> <li>Evaluation of the postgraduate courses by the IT Department is enhanced from the perspectives of the human resource development.</li> <li>The number of graduates (attending the long-term course) of the postgraduate course attains to more than <del>XXX</del> people in the Lao PDR.</li> <li>The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.</li> </ol>	<ol style="list-style-type: none"> <li>Questionnaire survey to the employers hiring the graduates and trainees</li> <li>Questionnaire survey to the industry groups being involved in the Project</li> <li>Achievement records of the long-term courses at NUOL</li> <li>Achievement records of the short-term courses at NUOL</li> </ol>	<ol style="list-style-type: none"> <li>The governmental organizations and the IT user corporations come to order the system development, etc. to the IT service companies.</li> <li>The improvement of communication infrastructures and the spread of IT devices are promoted.</li> <li>Policies and related mechanisms and regulations necessary for the IT service industrial development are established and implemented.</li> </ol>	
<b>Outputs</b>				
1. Postgraduate courses are properly operated at the IT Department of the Faculty of Engineering, the NUOL.	<ol style="list-style-type: none"> <li>1-1. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</li> <li>1-2. The lecturers' achievements in the IT Department Business Unit (ITBU) come to be highly appreciated.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Implementation records along the various types of guidelines</li> <li>1-2. Lecturers' evaluation records in the ITBU</li> </ol>		
2. The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.	<ol style="list-style-type: none"> <li>2-1. The operational projects are appropriately managed according to the plan of the ITBU.</li> <li>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</li> </ol>	<ol style="list-style-type: none"> <li>2-1. Achievement records</li> <li>2-2. Records of accepting order</li> </ol>		
3. Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.	<ol style="list-style-type: none"> <li>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</li> <li>3-2. The number of the success of the system development in the ITBU is increased.</li> </ol>	<ol style="list-style-type: none"> <li>3-1. Questionnaire survey to the students and trainees</li> <li>3-2. Evaluation sheets of the system development and records of accepting order</li> </ol>		
4. Postgraduate courses for the practical software engineering and business skills are developed and implemented.	<ol style="list-style-type: none"> <li>4-1. Satisfaction ratings (evaluation) of the overall postgraduate courses are enhanced by students and trainees.</li> <li>4-2. The curriculums, syllabi, and learning materials are regularly updated.</li> <li>4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</li> </ol>	<ol style="list-style-type: none"> <li>4-1. Questionnaire survey to the students and trainees</li> <li>4-2. Curriculums, syllabi, and learning materials</li> <li>4-3. Records of the curriculum board meetings</li> </ol>		
5. Collaboration among the government, industry, and academia is reinforced.	<ol style="list-style-type: none"> <li>5-1. Joint seminars among the government, industry, and academia are annually held.</li> <li>5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</li> </ol>	<ol style="list-style-type: none"> <li>5-1. Records of the joint seminars</li> <li>5-2. Records of lectures by the visiting lecturers</li> </ol>		

<p><b>Activities</b></p> <p>1-1 Prepare various types of necessary guidelines and the format of the implementation records.</p> <p>1-2 Prepare the TOR of the counterparts.</p> <p>1-3 Establish the mechanism of the job matching between the graduates and employers.</p> <p>1-4 Operate IT-related equipment.</p> <p>1-5 Conduct the inventory of the equipment regularly.</p> <p>1-6 Monitor the actual activities along the guidelines.</p> <p>1-7 Reflect the lecturers' activities in the ITBU into the lecturers' evaluation.</p> <p>1-8 Monitor the career options of the graduates.</p> <p>2-1 Prepare the plans of the ITBU and the format of the achievement records.</p> <p>2-2 Conduct the activities, such as sales promotion, PR activities, etc., along the plans of the ITBU.</p> <p>2-3 Monitor the progress of the plans of the ITBU.</p> <p>2-4 Encourage the graduates to promote new businesses (judged by the time of the mid-term evaluation).</p> <p>3-1 Prepare the plan for the technical transfer to the lecturers.</p> <p>3-2 Prepare the curriculum and learning materials for the lecturers' trainings.</p> <p>3-3 Prepare the evaluation sheet of the system development for assessing the practical skills of lecturers.</p> <p>3-4 Conduct the lecturers' trainings.</p> <p>3-5 Monitor the practical skills and teaching capabilities of lecturers on regular basis.</p> <p>4-1 Study the market needs in the IT service industry.</p> <p>4-2 Set up the curriculum board.</p> <p>4-3 Develop the curriculums, syllabi, learning materials for the postgraduate courses according to the market needs.</p> <p>4-4 Evaluate the curriculums of the postgraduate courses through the curriculum board.</p> <p>4-5 Conduct the postgraduate courses.</p> <p>4-6 Revise the curriculums, syllabi, and learning materials on regular basis.</p> <p>4-7 Study the satisfaction ratings of the postgraduate courses.</p> <p>5-1 Set up the study sessions, such as the IT industrial development, cyber laws, new market exploration, etc., by the government, industry, and academia (including students &amp; alumni association).</p> <p>5-2 Conduct the symposiums, etc. by the study sessions.</p> <p>5-3 Hold the joint annual seminars.</p> <p>5-4 Deliver lectures by the visiting lecturers.</p>	<p><b>Inputs</b></p> <p>Japanese side</p> <ol style="list-style-type: none"> <li>Personnel</li> <li>Experts from Japan</li> <li>Chief advisor</li> <li>Coordinator</li> <li>Network construction</li> <li>Database and programming</li> <li>Business unit operation</li> <li>Industry-academia-government collaboration</li> <li>Lectures for seminars</li> <li>Experts from the third countries</li> <li>Training of counterpart personnel in Japan and the third countries</li> <li>Facility construction</li> <li>Lecture rooms and IT laboratory</li> <li>Provision of equipment</li> <li>IT-related equipment</li> <li>Operational expenses</li> </ol>	<p>Lao side</p> <ol style="list-style-type: none"> <li>Personnel</li> <li>Project Director</li> <li>Project Manager</li> <li>Manager of the ITBU</li> <li>Full-time lecturers</li> <li>Part-time lecturers</li> <li>System administrator</li> <li>Administrative staff of the ITBU</li> </ol> <p><b>Pre-conditions</b></p> <ol style="list-style-type: none"> <li>The IT Department is properly established.</li> <li>The definite framework of the ITBU is prepared.</li> </ol>
	<p>1. Expense necessary for the employment of visiting lecturers</p> <p>2. Provision of the project office and facilities necessary for the project implementation</p> <p>3. Others</p> <p>Administrative and operational costs</p> <p>Connection charge of high-speed Internet</p> <p>Running costs for electricity, water, etc.</p>	

### Annex 1-2 : PDM (Version 1)

Project Name : The Project on Human Resource Development in IT Service Industry at the National University of Laos (NUOL) Project Period : December 1, 2007 – November 30, 2013 (Five years)  
 Target Group : Persons related to the ITSC of IT Department of the Faculty of Engineering at the NUOL, people working for the IT service industry Date : 2<sup>nd</sup> June, 2011  
 \* ITSC: Information and Technology Specialist Course Version : No. 1

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> IT service industry is well-developed in the Lao PDR.</p>	<ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol>	<ol style="list-style-type: none"> <li>Economic statistics report</li> <li>Economic statistics report</li> </ol>	
<p><b>Project Purpose</b> Human resources are developed according to the IT service market through the ITSC by the IT Department of the Faculty of Engineering at the NUOL.</p>	<ol style="list-style-type: none"> <li>Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced. * Results of the 1<sup>st</sup> year graduates will be the benchmark. Questionnaire is prepared by the Project.</li> <li>More than 80% of the graduates from ITSC will (re)start to work as the IT service engineers</li> <li>The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.</li> </ol>	<ol style="list-style-type: none"> <li>Questionnaire survey to the employers hiring the graduates and trainees</li> <li>Project record</li> <li>Achievement records of the short-term courses at NUOL</li> </ol>	<ol style="list-style-type: none"> <li>The governmental organizations and the IT user corporations come to order the system development, etc. to the IT service companies.</li> <li>The improvement of communication infrastructures and the spread of IT devices are promoted.</li> <li>Policies and related mechanisms and regulations necessary for the IT service industrial development are established and implemented.</li> </ol>
<p><b>Outputs</b></p>			
<ol style="list-style-type: none"> <li>ITSC are properly operated at the IT Department of the Faculty of Engineering, the NUOL.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Guidelines of short term courses, evaluation on lecturers, outsourcing, library use, and others necessary for effective implementation of ITSC and ITBU are developed, and approved by the head of IT department.</li> <li>1-2. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</li> </ol>	<ol style="list-style-type: none"> <li>1-1. Project record</li> <li>1-2. Implementation records along the various types of guidelines</li> </ol>	
<ol style="list-style-type: none"> <li>The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.</li> </ol>	<ol style="list-style-type: none"> <li>2-1. The operational projects are appropriately managed according to the plan of the ITBU, whose results are reported to and approved by the head of IT department.</li> <li>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</li> <li>2-3. More than 3 incubation booths at ITBU are occupied during the Project period.</li> </ol>	<ol style="list-style-type: none"> <li>2-1. Achievement records</li> <li>2-2. Records of accepting order</li> <li>2-3. Project record</li> </ol>	
<ol style="list-style-type: none"> <li>Practical skills and teaching capabilities of lecturers in charge of the ITSC and master course that is planned to be established are enhanced in the field of the software engineering.</li> </ol>	<ol style="list-style-type: none"> <li>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</li> <li>3-2. The number of the success of the system development in the ITBU is increased.</li> </ol>	<ol style="list-style-type: none"> <li>3-1. Questionnaire survey to the students and trainees</li> <li>3-2. Evaluation sheets of the system development and records of accepting order</li> </ol>	



<p>4. ITSC and master course, which is planned to be established, are for the practical software engineering and business skills are developed.</p>	<p>4-1. Satisfaction ratings (evaluation) of the overall ITSC are enhanced by students and trainees. * Results of the 1<sup>st</sup> year graduates will be the benchmark. The contents exclude lecturers evaluation. Questionnaire is prepared by the Project. 4-2. The curriculums, syllabi, and learning materials are regularly updated. 4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry). 5-1. Joint seminars among the government, industry, and academia are annually held. 5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</p>	<p>4-1. Questionnaire survey to the students and trainees 4-2. Curriculums, syllabi, and learning materials 4-3. Records of the curriculum board meetings 5-1. Records of the joint seminars 5-2. Records of lectures by the visiting lecturers</p>	
<p>5. Collaboration among the government, industry, and academia is reinforced.</p> <p><b>Activities</b> 1-1 Prepare various types of necessary guidelines and the format of the implementation records. 1-2 Prepare the TOR of the counterparts. 1-3 Establish the mechanism of the job matching between the graduates and employers. 1-4 Operate IT-related equipment. 1-5 Conduct the inventory of the equipment regularly. 1-6 Monitor the actual activities along the guidelines.</p>	<p><b>Inputs</b> Japanese side 1. Personnel Experts from Japan Chief advisor Coordinator Network construction Database and programming Business unit operation</p>	<p>Lao side 1. Personnel Project Director Project Manager Manager of the ITBU Full-time lecturers Part-time lecturers System administrator</p>	<p>1. The circumstances in which the lecturers are able to concentrate on their duties are improved. 2. Lecturers are appropriately treated.</p>

<p>1-7 Reflect the lecturers' activities in the ITBU into the lecturers' evaluation.</p> <p>1-8 Monitor the career options of the graduates.</p> <p>2-1 Prepare the plans of the ITBU and the format of the achievement records.</p> <p>2-2 Conduct the activities, such as sales promotion, PR activities, etc., along the plans of the ITBU.</p> <p>2-3 Monitor the progress of the plans of the ITBU.</p> <p>2-4 <u>Encourage to promote new businesses at ITBU.</u></p> <p>3-1 Prepare the plan for the technical transfer to the lecturers.</p> <p>3-2 Prepare the curriculum and learning materials for the lecturers' trainings.</p> <p>3-3 Prepare the evaluation sheet of the system development for assessing the practical skills of lecturers.</p> <p>3-4 Conduct the lecturers' trainings.</p> <p>3-5 Monitor the practical skills and teaching capabilities of lecturers on regular basis.</p> <p>4-1 Study the market needs in the IT service industry.</p> <p>4-2 Set up the curriculum board.</p> <p>4-3 Develop the curriculums, syllabi, learning materials for the ITSC and master course, which is planned to be established, according to the market needs.</p> <p>4-4 Evaluate the curriculums of the ITSC and master course, which is planned to be established, through the curriculum board.</p> <p>4-5 Conduct the ITSC.</p> <p>4-6 Revise the curriculums, syllabi, and learning materials on regular basis.</p> <p>4-7 Study the satisfaction ratings of the ITSC.</p> <p>5-1 Set up the study sessions, such as the IT industrial development, cyber laws, new market exploration, etc., by the government, industry, and academia (including students &amp; alumni association).</p> <p>5-2 Conduct the symposiums, etc. by the study sessions.</p> <p>5-3 Hold the joint annual seminars.</p> <p>5-4 Deliver lectures by the visiting lecturers.</p>	<p>Industry-academia-government collaboration</p> <p>Lectures for seminars</p> <p>Experts from the third countries</p> <p>2. Training of counterpart personnel in Japan and the third countries</p> <p>3. Facility construction</p> <p>Lecture rooms and IT laboratory</p> <p>4. Provision of equipment</p> <p>IT-related equipment</p> <p>5. Operational expenses</p> <p>Administrative staff of the ITBU</p> <p>2. Expense necessary for the employment of visiting lecturers</p> <p>3. Provision of the project office and facilities necessary for the project implementation</p> <p>4. Others</p> <p>Administrative and operational costs</p> <p>Connection charge of high-speed Internet</p> <p>Running costs for electricity, water, etc.</p>	<p><b>Pre-conditions</b></p> <p>1. The IT Department is properly established.</p> <p>2. The definite framework of the ITBU is prepared.</p>
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## Annex 2: Evaluation Grid: The Project on Human Resource Development in IT Service Industry at NUOL

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
Process of Implementation	<u>System/Structure of the Project management</u>	Communication among organizations/personnel ~the extent of sharing info and challenges that are/were encountered	-Interview survey -Questionnaire	- Communication among experts and counterparts has been well coordinated through weekly meeting. Participants shared the scheduled plans for the coming week as well as the activities in the past week. - In addition, all the lecturers prepare weekly reports which show the activities in the past and coming week. Applying the weekly reports system is helping all the participants share information.
		Monitoring system ~practical accomplishment and its effectiveness	-Interview survey -Questionnaire	(Monitoring progress of the Project~ viewpoint of project management) - Monitoring the progress of the Project activities has been well implemented by weekly meeting along with weekly reports recorded by individuals (lecturers). It is evaluated the overall monitoring of the Project is functioned well.  (Monitoring results of the activities~ viewpoint of feedback) - On the other hand, another type of monitoring, which is to give feedback by results/comments from each activity has not fully conducted yet. For example, although the short term courses collected questionnaire answers from participants regarding the courses' contents, they have been left without sorting out the results at this moment. It is expected to organize the collected information for feedback to the activities of the Project.
	<u>Counteractions to more effective implementation of the Project</u>	(Japanese side) Arrangement of input contents and/or volume in accordance with the Project implementation process	-Interview survey -Questionnaire	- The Project made inputs of local consultants in order to reinforce limited number of manpower at NUOL in some of specific fields (see the Efficiency).
		(Lao side) Arrangement of input contents and/or volume in accordance with the Project implementation process	-Interview survey -Questionnaire	- Lao supported material inputs for smoother implementation of the Project, such as computers at Test center and furniture/equipment at the IT center.

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-items		
Relevance (To examine the justifiability or necessity for project implementation)	<u>Policy</u>	Consistency with the development policy of the government	<ul style="list-style-type: none"> <li>-Documents of 7<sup>th</sup> NSEDP</li> <li>- Documents of NAST</li> <li>- Documents of NUOL</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- The 7<sup>th</sup> National Socio-Economic Development Plan (2011-2015) points out the importance of "Post and Telecommunication sector" in the context of "Specific Direction of NSEDP". The Plan shows that the government should "create a favorable environment for telecom and post operators/entrepreneurs through the provision of necessary infrastructure, and advanced technology", and should "develop the capacity of personnel in the post, telecommunication and Internet sectors to meet international standards"</li> <li>-The ICT National Policy was officially issued in 2009 through NAPT (No. 047/PM/2009/2/16). The Policy places the importance on human resource development at IT sector along with development of IT sector industries market.</li> <li>- In this line, the Project's contents and purpose are consistent with the national and sector policy.</li> </ul>
	<u>Priority</u>	Consistency with Japanese ODA policy/plan (Country Assistance Program)	<ul style="list-style-type: none"> <li>-Japan's Country Assistance Program/ country-specific program</li> </ul>	<ul style="list-style-type: none"> <li>- The Japan's Country Assistance Program for Lao PDR sets six priority areas, one of which is "Institution building and human resources development for enhancing the private sector".</li> <li>- The Program shows in the area, "Japan will provide assistance to enhance human resources contributing to economic growth, based at the National University of Laos" in the chapter of Human resources development for enhancing the private sector.</li> <li>- The Project is matched with the priority areas and assistance policies of the Program in this line.</li> </ul>
	<u>Selection of the target group cum counterpart</u>	Needs of NUOL (Postgraduate course)	<ul style="list-style-type: none"> <li>-Project documents</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- In reflection with rapid development of IT sector entailing growth of demands on IT human resource, NUOL showed strong interests in corresponding to such human development needs as the highest educational institution in the country. However, NUOL had limited experiences to conduct practical IT courses as well as faced with lack of manpower of capable lecturers.</li> <li>- As of the planning period of the Project, NUOL had its own ICT master plan as well, setting the mission, which the university shall contribute to developing IT human resources in the country.</li> <li>- The Project is exactly in line with the NUOL's needs as well as its policy.</li> </ul>
		Needs of IT users and service industries	<ul style="list-style-type: none"> <li>-Project documents</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- Promoting efficiency of daily business by IT use is one of common agenda among local industries in Lao PDR. Although there are such huge demands on IT services domestically, there are no IT service companies which can offer system development at international level. Therefore, Lao industries have to order system development to neighboring countries and even trouble shooting sometimes in spite of its more costly option. Under this present situation, Lao local industries strongly expect the Project to enrich human resources on IT service industries.</li> </ul>

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
		Appropriateness of the counterpart (NUOL) to implement the Project	-Project documents -Questionnaire -Interview survey	- NUOL is evaluated to be the best organization in terms of IT infrastructure as well as human resources among many institutions to train IT courses in the country. Although the necessity to strengthen organizational/technical capacity more and more is mutually recognized among the Project people, NUOL is evaluated as appropriate counterpart to achieve the Project purpose: to develop human resources of IT services in Lao PDR.
	<u>Advantage of Japanese technologies</u>		-Interview survey -Questionnaire	- The Project has effectively referred and/or adopted the Japanese system/approaches on IT human resource development at many aspects. The IT skill standard is one of the representing examples that the Project has utilized when planning career path of IT engineers along with curriculum development.
Effectiveness (To examine project effects)	<u>Project purpose</u>	Achievement forecast for the Project purpose	-Project record -Questionnaire -Interview survey	Project Purpose: Human resources are developed according to the IT service market through the postgraduate courses by the IT Department of the Faculty of Engineering at the NUOL. -Objectively verifiable indicator 1) Evaluation of graduates and trainees working for the domestic IT service companies, governmental organizations, and IT user corporations is enhanced. 2) Evaluation of the postgraduate courses by the IT Department is enhanced from the perspectives of the human resource development. 3) The number of graduates (attending the long-term course) of the postgraduate course attains to more than XX people in the Lao PDR. 4) The number of trainees (attending the short-term course) of the postgraduate course is increased in the Lao PDR.  - The Project has steadily progressed towards achievement of the purpose as planned. - The postgraduate course, ITSC, had started in November 2010 after training period of the lecturers and organizational set up of ITSC. The course has been implemented by these lecturers who were trained and qualified by internal/external exams. The course also has applied more rigid evaluation guideline of students in order to keep the Project primary concept, which is to develop excellent IT engineers meeting with the market needs. - Although there are still some challenging issues in particular on ITBU, judging from the well-coordinated management of ITSC courses, it is predicted that the Project can proceed to achieve the Project purpose.  - Followings show the achievement status of the respective indicator: - The indicator 1) does not apply to the current situation of ITSC because of no graduates yet.

Evaluation Criteria	Evaluation Items		Data Sources	Result																						
	Main Items	Sub-Items																								
				<p>Since the current indicator does not specify how to "evaluate graduates", the Project will determine the formats of questionnaire to evaluate graduates. The results of the 1<sup>st</sup> graduates will be a benchmark to the end of the Project period.</p> <ul style="list-style-type: none"> <li>- The indicator 2) is merged into the indicator 1) because the contents are essentially the same.</li> <li>- The indicator 3) is also deleted since the numbers of students are defined by the facility capacity of ITSC, meaning that it does not reflect achievement of the Project purpose. In this occasion, the new indicator should be considered.</li> <li>- The performance regarding the indicator 4), short term course training, is as follows:</li> <li>- It is confirmed that the short term courses have been steadily held under the rigid course evaluation guideline.</li> </ul> <table border="1" data-bbox="560 230 719 1088"> <thead> <tr> <th rowspan="2"></th> <th rowspan="2">Number of courses</th> <th colspan="2">Number of trainees</th> <th rowspan="2">Total</th> </tr> <tr> <th>Passed</th> <th>Failed</th> </tr> </thead> <tbody> <tr> <td>2009</td> <td>1</td> <td>10</td> <td>2</td> <td>12</td> </tr> <tr> <td>2010</td> <td>15</td> <td>93</td> <td>58</td> <td>146</td> </tr> <tr> <td>2011</td> <td>6</td> <td>49</td> <td>11</td> <td>60</td> </tr> </tbody> </table>		Number of courses	Number of trainees		Total	Passed	Failed	2009	1	10	2	12	2010	15	93	58	146	2011	6	49	11	60
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Output 1.	Achievement forecast for Output 1.	<ul style="list-style-type: none"> <li>-Project record</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<p>Output 1. Postgraduate courses are properly operated at the IT Department of the Faculty of Engineering, the NUOL.</p> <p>-Objectively verifiable indicator:</p> <p>1-1. The recruitment, selection, evaluation of learning results, and graduation approval of students are appropriately conducted.</p> <p>1-2. The lecturers' achievements in the IT Department Business Unit (ITBU) come to be highly appreciated.</p> <ul style="list-style-type: none"> <li>- Output 1 has been progressed well as planned</li> <li>- Some of key guidelines and regulations/rules for ITSC courses have been already developed and/or in process of drafting. Until the end of the Project, it is predicted possible that all the necessary guidelines and regulations are to be completed.</li> <li>- Followings show the achievement status of the respective indicator:</li> <li>- As to the indicator 1-1, the recruitment and selection of students were conducted by several key personnel at NUOL in a transparent manner. Evaluation of students' grades has been made in accordance with the university's guideline. The process taken for the 1<sup>st</sup> year students is shown as follows:</li> </ul>																							

Evaluation Criteria	Evaluation Items		Data Sources	Result																											
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Output 2	Achievement forecast for the Output 2.	<ul style="list-style-type: none"> <li>-Project record</li> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<p>Output 2. The IT Department Business Unit (ITBU) is properly operated at the IT Department of the Faculty of Engineering, the NUOL.</p> <p>-Objectively Verifiable Indicator:</p> <p>2-1. The operational projects are appropriately managed according to the plan of the ITBU.</p> <p>2-2. The ITBU comes to be able to receive works on the system development from the government and industry for profits.</p> <p>- The progress of Output 2 has been delayed comparing with the scheduled plan.</p> <p>- Although the short term courses have been implemented well owing to the efforts by the staffs, ITBU has not started full operation yet because of unstable personnel assignment including the change and vacancy of the manager's post so far.</p> <p>- Followings show the achievement status of the respective indicator:</p> <ul style="list-style-type: none"> <li>- "Plan of the ITBU" mentioned in the indicator 2-1 has not organized yet under the vacancy of the manager. Since the manager is expected to be assigned in July or August, making the plan of ITBU should be the first task under the new managers and staffs.</li> <li>- The indicator 2-2, system development from government and industry has not started yet as real business. Business chances are, however, expected by accumulated reputation on ITSC through presentation of actual outputs which are currently being made as field work of ITSC course.</li> </ul>																												

Evaluation Criteria	Evaluation Items		Data Sources	Result																																																												
	Main Items	Sub-Items																																																														
	Output 3	Achievement forecast for the Output 3.	-Project record -Questionnaire -Interview survey	<p>Output 3. Practical skills and teaching capabilities of lecturers in charge of the postgraduate courses are enhanced in the field of the software engineering.</p> <p>-Objectively Verifiable Indicator.</p> <p>3-1. Satisfaction ratings (evaluation) of the lecturers are enhanced by students and trainees.</p> <p>3-2. The number of the success of the system development in the ITBU is increased.</p> <p>- Output 3 has been almost progressed as planned.</p> <p>- Lecturers of Network courses already gained CCNA certificate through the Project activities, which is recognized as a global standard certificate. On the other hand, the progress of lecturers of Programming courses is slightly delayed in terms of certificate holdings. It is necessary to tackle the issue during the remaining period.</p> <p>-From the viewpoint of evaluation by students on lecturers, overall evaluation resulted in almost high. There are some categories gaining lower points such as "explanation" and "appropriate advice", those points are expected to improve while compiling lecturing experiences.</p> <p>- Followings show the achievement status of the respective indicator:</p> <p>-As to the indicator 3-1, the results of evaluation are shown as below. The evaluation subjects are 11 lecturers. Students at each course, normally 6 to 12 people, made evaluation on its lecturer. The figure is a sum of all the answers.</p> <table border="1"> <thead> <tr> <th>Category</th> <th>Answers</th> <th>Number of answers</th> <th>%</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Time punctuality</td> <td>Yes</td> <td>106</td> <td>98%</td> </tr> <tr> <td>No</td> <td>2</td> <td>2%</td> </tr> <tr> <td rowspan="2">Coverage of topics</td> <td>Yes</td> <td>104</td> <td>96%</td> </tr> <tr> <td>No</td> <td>4</td> <td>4%</td> </tr> <tr> <td rowspan="2">Explanation</td> <td>Yes, always</td> <td>52</td> <td>48%</td> </tr> <tr> <td>Yes, sometimes</td> <td>54</td> <td>50%</td> </tr> <tr> <td rowspan="2">Appropriate advice</td> <td>No</td> <td>2</td> <td>2%</td> </tr> <tr> <td>Yes, always</td> <td>59</td> <td>55%</td> </tr> <tr> <td rowspan="2">Correct answers to questions</td> <td>Yes, sometimes</td> <td>47</td> <td>44%</td> </tr> <tr> <td>No</td> <td>2</td> <td>2%</td> </tr> <tr> <td rowspan="2">Achievement of skills (self evaluation by students)</td> <td>Yes, always</td> <td>68</td> <td>63%</td> </tr> <tr> <td>Yes, sometimes</td> <td>39</td> <td>36%</td> </tr> <tr> <td rowspan="2"></td> <td>No</td> <td>1</td> <td>1%</td> </tr> <tr> <td>Yes</td> <td>71</td> <td>66%</td> </tr> <tr> <td rowspan="2"></td> <td>Maybe</td> <td>36</td> <td>33%</td> </tr> <tr> <td>No</td> <td>1</td> <td>1%</td> </tr> </tbody> </table> <p>- The indicator 3-2 is exactly the same as 2-2, therefore, it is deleted.</p>	Category	Answers	Number of answers	%	Time punctuality	Yes	106	98%	No	2	2%	Coverage of topics	Yes	104	96%	No	4	4%	Explanation	Yes, always	52	48%	Yes, sometimes	54	50%	Appropriate advice	No	2	2%	Yes, always	59	55%	Correct answers to questions	Yes, sometimes	47	44%	No	2	2%	Achievement of skills (self evaluation by students)	Yes, always	68	63%	Yes, sometimes	39	36%		No	1	1%	Yes	71	66%		Maybe	36	33%	No	1	1%
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Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
	<u>Output 4</u>	Achievement forecast for the Output 4.	-Project record -Questionnaire -Interview survey	<p>Output 4. Postgraduate courses for the practical software engineering and business skills are developed and implemented.</p> <p>-Objectively Verifiable Indicator:</p> <p>4-1. Satisfaction ratings (evaluation) of the overall postgraduate courses are enhanced by students and trainees.</p> <p>4-2. The curriculums, syllabi, and learning materials are regularly updated.</p> <p>4-3. The curriculum board is annually held with the external knowledgeable persons (from the government and industry).</p> <p>- Output 4 has been progressed well as planned</p> <p>- ITSC has proceeded under the curriculum corresponding to IT market needs, which was developed through collaborated meeting with academic, business, and government circle.</p> <p>- Followings show the achievement status of the respective indicator:</p> <p>- Evaluation on ITSC courses in the indicator 4-1 will be collected at the graduation period. The result of the 1<sup>st</sup> year students will form the benchmark until the end of the Project. The questionnaire to evaluate will be determined by the Project (The contents shall exclude the aspect of lecturers' evaluation in order to demarcate with the indicator 3-1).</p> <p>- As to the indicator 4-2, curriculum, syllabi, and learning materials were prepared by experts and lecturers. The necessity to change the contents on these has not arisen yet.</p> <p>- As to the indicator 4-3, curriculum board was held in April, 2010 for the first time, and the second is planned in June or July, 2011.</p>
	<u>Output 5</u>	Achievement forecast for the Output 5.	-Project record -Questionnaire -Interview survey	<p>Output 5. Collaboration among the government, industry, and academia is reinforced.</p> <p>-Objectively Verifiable Indicator:</p> <p>5-1. Joint seminars among the government, industry, and academia are annually held.</p> <p>5-2. Lectures by the visiting lecturers from the government and industry are delivered at a constant rate.</p> <p>- Output 5 has been progressed well as planned</p> <p>- The Project set joint seminars inviting the government, industry, and academia. In addition to such events, people from IT industries have conducted lectures at ITSC courses and short term courses, which contribute to bridge academia and real business world.</p> <p>- The study sessions/meetings were held as follows. In addition to the following seminars in the</p>

Evaluation Criteria	Evaluation Items		Data Sources	Result												
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				<p>Table, there are some more events in the course of IT service market survey conducted by LICA.</p> <table border="1"> <thead> <tr> <th></th> <th>Date</th> <th>Contents</th> </tr> </thead> <tbody> <tr> <td>Joint study seminar</td> <td>November, 2010</td> <td>"Bar Camp" invited more than 200 people from government, industries, university, and also from overseas including Thailand.</td> </tr> <tr> <td></td> <td>March, 2011</td> <td>25 lecture meetings held. Introduced software on accounting, hotel reservation etc.</td> </tr> <tr> <td>Lecture meeting by government and industries</td> <td>March, 2011</td> <td>Ditto</td> </tr> </tbody> </table>		Date	Contents	Joint study seminar	November, 2010	"Bar Camp" invited more than 200 people from government, industries, university, and also from overseas including Thailand.		March, 2011	25 lecture meetings held. Introduced software on accounting, hotel reservation etc.	Lecture meeting by government and industries	March, 2011	Ditto
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	<u>Contribution factors</u> to enhance the achievement of the Output and/or Project purpose	-Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>- Contribution factors to achievement of the Project purpose and outputs are as follows:</li> <li>- In addition to planned manpower input from Japanese and Lao sides, external human resources' inputs have contributed to enhance the Project's outputs. The details are shown in the description of "Efficiency".</li> </ul>													
	<u>Inhibition factors</u>	-Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>- Inhibition factors to achievement of the Project purpose and outputs are as follows: (Basic knowledge and skills when entered ITSC)</li> <li>- Some of students do not have enough basic knowledge and skills when entered the ITSC. It is concerned that this situation would give influences on necessary period to complete ITSC training topics, and/or on achievement level when they graduate.</li> </ul> <p>Important assumptions (have been secured or not, and prospects for the remaining period)</p> <ul style="list-style-type: none"> <li>- Important assumptions have been secured only except "The circumstances (environment) in which the lecturers are able to concentrate on their duties are improved (secured)". Many of lecturers have to share their time on lecturing at undergraduates in order to reinforce insufficient manpower at undergraduate school. All the necessary works at ITSC have been managed somehow owing to overtime work by lecturers until now, but it may give negative influence on the Project activities if the situation gets worse from now on.</li> </ul>													
<u>Efficiency</u> (To examine project efficiency)	<u>Input (manpower)</u> Enhancement of the output by the manpower input of Japanese experts (number, expertise, timing,	-Project record -Questionnaire -Interview survey	<ul style="list-style-type: none"> <li>- Japanese manpower input is formed by long term experts: chief advisor and project coordinator, and short term experts. The long term experts take care of project management in total with Lao counterparts, while the technical field is charged by short term experts. Such</li> </ul>													

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
		<p>performance) * to see the appropriateness of the balance between manpower input and project's design / framework</p>		<p>demarkated roles have been well functioned to enhance the expected outputs of the Project until now. In this line, Japanese manpower input until now is evaluated appropriate</p>
	<p>Enhancement of the output by the manpower input of counterpart personnel assigned * same as above captioned</p>	<p>-Project record -Questionnaire -Interview survey</p>	<p>Lao manpower input - NUOL has assigned capable lectures with priority on the Project in spite of the limited number of lectures at the IT Department - The Project adopted the policy to assign lectures only who are qualified by international IT standard (certificate). This assignment policy assures the certain level of teaching quality at ITSC, indicating that the manpower input has contributed to steady progress of the output. - On the other hand, ITBU has been faced challenges on manpower input until now. The manager of ITBU has been changed twice with certain of post's vacancy period, which has given negative influence onto the activities at ITBU. In addition, some leavers from posts at ITBU are planned due to studying abroad. It is crucial to secure capable manpower for implementation of the Project at ITBU.</p>	
	<p>Enhancement of the output by manpower input of external resources assigned * same as above captioned</p>	<p>-Project record -Questionnaire -Interview survey</p>	<p>Other manpower input (local consultants, association etc) - The Project effectively made input of external human resources for the technical fields where NUOL or human resources in the country is difficult to find.  1) Experts (organization) from the third country Institute of Technical Education College West (ITE CW), Singapore, dispatched experts to NUOL to provide trainings on Cisco Certified Network Associate course for lecturers. The ITE CW, the Cisco certified organization, conducted trainings to lectures in well organized manner, and resulted in producing new qualified 10 CCNA instructors. 2) Local consultants The Project made input of local consultants onto the fields "development methodology" and "research on incubators' market", both of which are essential for the Project activities. Since it is difficult to find such manpower in these specific fields in the country, this manpower inputs are evaluated beneficial to the Project activities. 3) External lecturers</p>	

Evaluation Criteria	Evaluation Items		Data Sources	Result
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				External personnel who received training under the Project scheme are now working as part time lecturers at ITSC and short courses of ITBU along with NUOL fulltime lecturers. Their participation effectively reinforces the limited number of lecturers at ITSC and ITBU. The manpower allocation expectedly contributes to delivering skills and knowledge in their own business fields.
	<u>Input (material and facility)</u>	Enhancement of the output from the viewpoint of material and facility inputs (volume, specification, timing, usability, provided targets)	-Project record -Questionnaire -Interview survey	- Facilities of lecture rooms, laboratory and library in addition to materials such as computers were provided with appropriate volume to meet the Project activities.
	<u>Input (training in the third country)</u>	Enhancement of the output from the viewpoint of training conducted (contents, timing, period, numbers)	-Project record -Questionnaire -Interview survey	- Visiting (Study tour) to Thailand was conducted in order to learn the incubation market as well as the situation of collaboration between academic organizations and industries in the case of Thailand. The opportunity gave ideas where and how to go forward ITSC and ITBU to the tour participants including the vice dean of IT department. -Apart from the abovementioned visiting to Thailand, all the trainings have been conducted at NUOL.
	<u>Input (Budget)</u>	Amount of the project budget Timing to disburse	-Project record -Interview survey -Project record -Interview survey	- Amount of the Project budget has been appropriate to implement the Project activities. - Timing to disburse has been appropriate for implementation of the Project.
	<u>Complementary effect</u>	Other projects/programs to promote the Project's implementation and/or results	-Questionnaire -Interview survey	- Lao-Japan Center provided training courses on marketing to UTBC staffs including the manager.
	<u>Duplicated activities</u>	Other projects/programs to conflict or duplicate the activities of the Project's	-Questionnaire -Interview survey	- There are no duplicated activities.

Evaluation Criteria	Evaluation Items		Data Sources	Result																																																	
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Impact (To examine the project's effects including the ripple effects in the long term)	Overall goal Achievement forecast for the overall goal	-Project record -Questionnaire -Interview survey	<p>Overall goal: IT service industry is well-developed in the Lao PDR. -Objectively Verifiable Indicator</p> <ol style="list-style-type: none"> <li>The ratio of the IT services in the GDP is increased.</li> <li>The ratio of the people working for the domestic IT service industry in the working population is increased.</li> </ol> <p>- The basic trend of IT service industry is in direction to the overall goal's contents. - As to the indicator 1 and 2, the situation are as follows:</p> <p>GDP and GDP of IT sector</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">2009</th> <th colspan="2">2010</th> </tr> <tr> <th>Mill USD</th> <th>% of GDP</th> <th>Mill USD</th> <th>% of GDP</th> </tr> </thead> <tbody> <tr> <td>GDP</td> <td>5,598</td> <td>-</td> <td>6,341</td> <td>-</td> </tr> <tr> <td>LAO IT service (inc. Hardware sales)</td> <td>72</td> <td>1.29%</td> <td>92</td> <td>1.45%</td> </tr> <tr> <td>LAO IT service (exc. Hardware sales)</td> <td>28.8</td> <td>0.51%</td> <td>36.8</td> <td>0.58%</td> </tr> </tbody> </table> <p>Source: IT market survey by LICA, IMF</p> <p>Population and IT service human resource</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">2009</th> <th colspan="2">2010</th> </tr> </thead> <tbody> <tr> <td>Population</td> <td>6,320,000</td> <td>-</td> <td>6,900,000</td> <td>-</td> </tr> <tr> <td>Labor force</td> <td>2,100,000</td> <td>-</td> <td>3,690,000</td> <td>-</td> </tr> <tr> <td>Number of IT engineers (incl. users companies)</td> <td>2,884</td> <td>0.14%</td> <td>3,934</td> <td>0.11%</td> </tr> <tr> <td>Number of IT engineers (excl. users companies)</td> <td>631</td> <td>0.03%</td> <td>856</td> <td>0.02%</td> </tr> </tbody> </table> <p>Source: IT market survey by LICA, Ministry of Social and Welfare</p>		2009		2010		Mill USD	% of GDP	Mill USD	% of GDP	GDP	5,598	-	6,341	-	LAO IT service (inc. Hardware sales)	72	1.29%	92	1.45%	LAO IT service (exc. Hardware sales)	28.8	0.51%	36.8	0.58%		2009		2010		Population	6,320,000	-	6,900,000	-	Labor force	2,100,000	-	3,690,000	-	Number of IT engineers (incl. users companies)	2,884	0.14%	3,934	0.11%	Number of IT engineers (excl. users companies)	631	0.03%	856	0.02%	<p><b>[Positive impact]</b> (Policy)</p> <p>It is planned that LICA will make presentation to the government officials about the results on IT market survey and the discussion topics raised by participants at the Study session. The tangible changes have not observed yet, but are expected later owing to such actions.</p> <p>(Technical aspect)</p> <p>- Some of lecturers at ITSC are giving lectures at undergraduate courses, which infer the quality of lecture contents at undergraduate courses received positive effects.</p> <p>(Organizational aspect)</p>
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Impacts occurred as ripple effects (positive and negative)	Aspects as follows: <ul style="list-style-type: none"> <li>policy,</li> <li>technical aspect,</li> <li>environment,</li> <li>socio-economy,</li> <li>organization</li> <li>finance</li> </ul>	-Project record -Questionnaire -Interview survey	<p><b>[Positive impact]</b> (Policy)</p> <p>It is planned that LICA will make presentation to the government officials about the results on IT market survey and the discussion topics raised by participants at the Study session. The tangible changes have not observed yet, but are expected later owing to such actions.</p> <p>(Technical aspect)</p> <p>- Some of lecturers at ITSC are giving lectures at undergraduate courses, which infer the quality of lecture contents at undergraduate courses received positive effects.</p> <p>(Organizational aspect)</p>																																																		

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
Sustainability (To examine the sustainability after the termination of JICA's cooperation)	<u>Policy aspect</u>	<ul style="list-style-type: none"> <li>Prospects of policy direction</li> <li>Prospects of legislative preparation</li> </ul>	-Documents of 7 <sup>th</sup> NSEDP - Documents of NAST -Documents of NUOL -Questionnaire -Interview survey	- Key essence of the guideline to evaluate lecturers, which was established in the Project activities, started to apply to the undergraduate courses of NUOL IT department. It is expected to enhance the quality of lectures in the undergraduate courses.  (Socio-economy) - Impacts occurred are expected after the 1 <sup>st</sup> year graduates (re)start to work in their job places. - One of the examples which are already observed is: A staff of private bank, BCEL, successfully developed his skills owing to the training opportunity, and now can deal with trouble shooting at higher level, which previously had to outsource to experts from Vietnam. It contributed to reducing cost and time for the bank.  [Negative impact] - Negative impacts are not observed.
	<u>Organization aspect</u> (regarding the NUOL as an organization to play key roles)	<ul style="list-style-type: none"> <li>Appropriateness of the organizational structure of NUOL to continue producing the Project outputs</li> <li>Appropriateness of the system or structure to continue effective collaboration between the gov, industry, and academia</li> </ul>	-Questionnaire -Interview survey	- ITSC has been building organizational structure that enables to conduct ITSC courses smoothly. It is evaluated ITSC has sustainability at a certain level, judging from the current situation and performance. - If master course is established in the academic year of 2013, additional staffs may be required in accordance with new curriculum of the master course.  - On the other hand, ITBU is now at the stage to re-launch with a new manager. There are many tackling issues including recruitment and training of incubation staffs, assignment and/or demarcating roles of short term coordinator(s) with test center works. It is necessary to make steady progress on these issues towards building organizational sustainability until the Project ends.
	<u>Technical aspect</u>	<ul style="list-style-type: none"> <li>Capacity of personnel</li> </ul>	-Questionnaire	- Lecturers are able to keep and/or upgrade technical skills and knowledge by use of texts and

Evaluation Criteria	Evaluation Items		Data Sources	Result
	Main Items	Sub-Items		
	(regarding the NUOL as an organization to play key roles)	<ul style="list-style-type: none"> <li>and/or organizations in charge of key activities to produce the Project Outputs</li> <li>Prospects of continuous engagement of these personnel, lecturers at Postgraduate course in particular</li> </ul>	-Interview survey	<p>information from Cisco, Oracle, and other key de facto standard companies, which are to be procured on the basis of contract with NUOL and those companies. In this line, it is evaluated ITSC can keep sustainability of technical aspect.</p> <p>- On the other hand, ITBU's technical sustainability does not allow forecasting on the current organizational situation.</p>
	<u>Financial aspect</u>	<ul style="list-style-type: none"> <li>Prospects to secure sufficient financial resources to continuously produce project outputs</li> <li>Business prospects of ITBU</li> </ul>	<ul style="list-style-type: none"> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- Financial status at ITSC for the first academic year will possibly result in surplus except the category of depreciation cost of IT equipment.</li> <li>- Towards securement of financial sustainability further, ITSC (and ITBU) need to raise revenue sources through not only tuition but promoting use of test center, and seeking business opportunities in order to cover depreciation cost of IT equipment, which will come up as the crucial issue in 4-5 years. .</li> </ul>
	<u>Social aspect</u>	<ul style="list-style-type: none"> <li>Acceptance of local industries and other job seekers at IT services sector</li> </ul>	<ul style="list-style-type: none"> <li>-Questionnaire</li> <li>-Interview survey</li> </ul>	<ul style="list-style-type: none"> <li>- Confirmed growing demands on IT human resources from local industries, the sustainability of social aspect is evaluated high,</li> </ul>

## Annex 3-1: List of Japanese Expert

## Long term experts

	Name	Assingment period		Field
		from	to	
	Hiroyuki Ide	2008/12		Chief advisor
	Yasumitsu Ishikawa	see below		Database, software
	Yoichi Kogure	see below		Software, Multimedia
	Kiyomi Eguma	see below		Project management, Kaizen
	Yushi Kawaguchi	2009/3	2001/6	Coordinator
	Tsuneo Heito	2011/5		Coordinator

## Short term experts

	Course	Assignment period		Experts	Number of Trainees
		from	to		(Passed/Failed)
1	DBA/LAMP	19/02/2009	24/03/2009	Yasumitsu Ishikawa	7/16
2	DBA/LAMP	2009/5/24	2009/7/2	Yasumitsu Ishikawa	14/16
3	SA	2009/8/9	2009/8/26	Yoichi Kogure	19/26
4	DBA/LAMP	2009/8/30	2009/10/16	Yasumitsu Ishikawa	12/16
5	CCNA D1	2009/9/2	2009/9/27	Mr. Samsul	15/15
6	CCNA D2	2009/9/27	2009/10/4	Mr. Vincent	10/15
7	SA	2010/1/31	2010/3/4	Yoichi Kogure	10/12
8	DBA/JAVA	2010/1/27	2010/3/18	Yasumitsu Ishikawa	13/13
9	CCNA D3	2010/3/8	2010/3/20	Mr. Darren	10/10
10	SA/LAMP	2010/5/9	2010/6/9	Yoichi Kogure	11/13
11	DBA/JAVA	2010/6/13	2010/8/3	Yasumitsu Ishikawa	15/21
12	IT Essentials	2010/8/8	2010/8/15	Mr. Christopher	8/10
13	CCNA D4	2010/8/15	2010/8/28	Mr. Tan Kok	10/10
14	SA/LAMP	2010/8/29	2010/9/29	Yoichi Kogure	4/4
15	TL	2011/2/13	2011/2/23	Kiyomi Eguma	11/11
16	SA/LAMP	2011/2/13	2011/3/17	Yoichi Kogure	6/6
17	DBA/JAVA	2011/2/15	2011/3/17	Yasumitsu Ishikawa	7/9

DBA:Database Administration

SA:Server Administration

CCNA:CISCO Certified Network Associate

TL:Teamwork/Leadership



### Annex 3-2: Facility and Equipment provided

Equipment	Name	vol.	supplier	note
<b>January-09</b>				
LCD Projector	Epson EMP-1714	1	Inter Computer	
Still Digital camera	Panasonic DMC-FX37	1		
4GB SD card	Lexear SDHC	2		
Digital Video camera	Canon FS9	1		
Copier	Ricoh Aficio 1999Le	1	Microinfo	
PC server	Dell PowerEdge T1100	1	S.O.A	
Lap Top Computer	Dell Vostro 1510	14		
DeskTop computer	Dell vostro z20 mini tower	1		
Security Wire	Tergus Defcon CL	15		
24 port Hub	ZyXEL GS-1124	2		
APC Back up UPS	800VA	8		
Color Laser printer	Canon LBP5960	1		

**May-09**

books		11	JICA	
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**May-09**

Lap Top Computer (with bag)	HP IDS 15.6GM47 UMA 4610s NB PC	13	Microinfo	stolen
Security Wire Lock	Targus Defcon Cable LockPA410B	13		
Scanner (A4 with Sheet feeder)	Epson GT 2500	1		
Portable LCD projector	Epson EMP 1715	1		stolen

**June-09**

Cisco Router	CISCO 1841	18	Siam Nissei Co.,Ltd	
Serial WAN card for network router	WIC-2A/S	18		
Serial WAN cable(DTE side)	CAB-SS-V35MT	18		
Serial WAN cable(DCE side)	CAB-SS-V35FC	18		
Cisco Switch	WS-C2960-24TT-L	15		
Cisco Wireless Router	Linksys WRT320N	10		

**February-10**

Router (with security function)	CISCO 1841	4	DataCom	
Serial I/F card for Router	WIC-2A/S	4		
Serial cable for Router (male)	CAB-SS-V35MT	4		
Serial cable for Router (female)	CAB-SS-V35FC	4		
1 port Ethernet card	WIC-1ENET	2		
Network Switch	WS-C2960-24TT-L	6		
Wireless N-Broadband Router	WRTS4GL Linksys	7		
Lap Top Computer	Toshiba Satellite Pro LS10-B450	26		
mouse	Toshiba Optical Wheel	26		
LCD projector	Epson EMP 1725	3		Acer P1266p changed
Monochrome Laser network printer (A4)	Epson AcuLaser M2010DN	4		

**February-10**

IT center	RC,40mx16m	1	Panyathip	
Consulting for construction		1	KPP	

**July-10**

Desktop PC	Acer Veriton M490G	27	SOA	
Photo Copier (A3)	Canon 2318L	1		
Monochrome Laser network printer (A4)	Canon Laser Shot LBP 6300	1		

**Aug-10**

Steel Desk	Leeco BD-147 CH	4	Viengniyom	
Office Chair	Leeco LSC-411	7		
Drawer Cabinet	Leeco BD-046 B	2		
Steel Locker	Leeco LK-106	8		
Lecture Chair	Siam Steel MGN	54		
Stacking Chair	Siam Steel LTS-80 A	77		
Stacking Chair	Siam Steel CM-128	12		
Polypropylene Stacking Chair	Nat CP-02C	10		
Folding Table	Nat TF-2460	79		
Steel Desk	Siam Steel TEC 70100	12		
Meeting Table	Mono PTO-310	1		
Cupboard set	Leeco SLG+SLS+SLB-0303	1		
Book Shelf	Siam Steel SB-3072	6		
Book Shelf	Nat S-205	5		
Magazine Shelf	Nat S-001	1		
Storage Shelf	Nat S-103	13		
Cabinet	Leeco CB-02	3		
Shoe Shelf	order-made	13		

**Sep-10**

air condition		29	ODIEN	for IT center
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**Jan-11**

Desktop PC	Acer Veriton M490G	15	SOA	
Desktop PC	Acer Veriton M490G	10		supplement for the stolen ones
LCD Multimedia Projector	Epson Powerlite 1735W	1		supplement for the stolen ones, 1775W

### Annex3-3 : List of Counterparts

name	post	organization	education	specialty	remarks
<b>Project Counterpart</b>					
1	Boualinh SOYSOUVANH	FE, NUOL	D in France	Civil Engineering	Project Director
2	Khamphoui SOUTHISOMBATH	FE, NUOL	D. at Tokai Univ.	Telecommunications	Project Deputy Director
3	Somphone KANTHAVONG	CE & IT, FE, NUOL	M. in KMTEL, Thailand	IT	Project Manager
4	Khampheth BOUNNADY	ITSC	D. in KMTEL, Thailand	Programming	Leader
5	Sithiphone PHANDALA	ITSC	B at NUOL	Programming	
6	Vimontha KHIEOVONGPHACHANH	ITSC	D. at Tokai Univ.	Programming	
7	Senglathamy CHANTHAMINAVONG	ITSC	M. in Chulalongkorn	Networking	Leader
8	Khamxay LEEVANGTOU	ITSC	B at NUOL	Networking	
9	Chaxiong YUKONHIATOU	ITSC	B at NUOL	Networking	
10	Khanthanou LUANGXAYSANA	ITBU	M. at Ritsumeikan Univ.	Optical fiber	Lecturer in undergraduate
11	Phonexay VILAKONE	ITBU	M. in India	Database	Lecturer in undergraduate
12	Naly PENGPHOMMY	ITBU		Accountant	
13	Daohuang SIBORIBOUNE	ITBU	B at NUOL		Left Project in April 2011
14	Phougeun PHOMMAXAYSY	ITBU	M.in Civil	Civil Engineering	Left Project in September 2009
15	Chanthaboune	CE & IT, FE, NUOL	B at NUOL		Left Project in April 2009
16	BounOm PHIMSIPHASOM	CE & IT, FE, NUOL	B at NUOL		Left Project in October 2009
17	Toulakhom KEOMANVONG	CE & IT, FE, NUOL	B at NUOL		Left Project in August 2009
18	Thavisonne MOUNLASANE	private secretary	B. in Math, NUOL	Mathematics	Student of CE & IT

Successful Trainees / visiting lecturers						
			BOEEL	M in China	Database, Programming	Teaching in ITSC
19	Anouphap PHOUNSAVATH		BOEEL	M in China	Database, Programming	Teaching in ITSC
20	Sirithip SOUKSAVATH		NAST	Diploma in Australia	Networking	
21	Phouthavong PHOUMMASAK		Ministry of Labor	M in India	Database, Programming	
22	Bounma PHAVONG		Cyberia	B. at Jules Verne Univ. France	Database	
23	Sisouphanh SIDAXAY		Planet Computer Co.,Ltd		Database	
24	Souksavanh CHOUNDALY	Lecturer	CE & IT, FE, NUOL	B at NUOL	Database, Programming	studying abroad
25	Souphonh PHOUNSAVATH		Planet Computer Co.,Ltd	B at Wollongong Univ. Australia	Networking	Teaching in ITSC
26	Khamla KITIPHANH		ADB	B at Institute of Technology of Cambodia	Networking	Teaching in ITSC
27	Seumsack DOUANGSILA	Lecturer	CE & IT, FE, NUOL	M. in KMTL, Thailand	Electronics, Networking	
28	Khamphao SISAAT	Lecturer	CE & IT, FE, NUOL	M. at Nara Institute of Science & Technology	Networking	
29	Chansamone CHANTHAKOUMMANE		Tigo then KPMG		Networking	
30	Vongvilai INTHASANH		Datacom	Higher Diploma	Database, Programming	
31	Phoutsamay TONMANY		NAST	Higher Diploma	Networking	
32	Bandaxay LOVANXAY		IBI Company	M at Tsukuba Univ.	Programming, Project Manage	Teaching in ITSC

B: bachelor

M: Master

D: Doctor

**ANNEX 4 :List of Interviewee**

<b>Name</b>	<b>Position</b>	<b>Organization</b>
<b>Lao side</b>		
<b>1. National University of Laos (NUOL)</b>		
Mr. Saykhong XAYNASIN,	Vice President	National University of Laos (NUOL)
Ms. Bounheng SIHARATH	Deputy Director for Planning and International Cooperation	National University of Laos (NUOL)
Mr. Boualinh SOYSOUVANH	Dean of Faculty	Faculty of Engineering, NUOL
Mr. Khamphoui SOUTHISOMBATH	Vice Dean of Faculty	Faculty of Engineering, NUOL
Mr. Somphone KANTHAVONG	Director, Department of Computer Engineering and IT	Faculty of Engineering, NUOL
Mr. Khampheth BOUNNADY	Lecturer, Leader of Programming course	Faculty of Engineering, NUOL
Mr. Senglathamy CHANTHAMINAVONG	Lecturer, Leader of Network course	Faculty of Engineering, NUOL
<b>2. Ministry of Education (MOE)</b>		
Mr. Sengsomphone VIRAVOUTH	Director General, Department of Planning and Cooperation	MOE
Ms. Phonphet BOUPHA	Director General, Department of Higher Education	MOE
<b>3. National Authority for Post and Telecommunication (NAPT)</b>		
Mr. Khamphoui Outhaiphone	Deputy Director, Department of Internet, at Internet Center	NAPT
<b>4. Ministry of Industry and Commerce (MIC)</b>		
Mr. Bountheung DOUANGSAVANH	Deputy Director General, SME Promotion and Development Office (SMEPDO),	MIC
<b>5. Member Company of Lao ICT Commerce Association (LICA)</b>		
Mr. Thanousone Phonamat	Managing Director	Planet Online.
Mr. Anousa	Co-Founder & CTO	Cyberia
<b>6. Banque Pour Le Commerce Exterieur Lao (BCEL)</b>		
Mr. Sonexay SITPHAXAY	CEO	BCEL

Mr. Phansana KHOUNNOUVONG	Deputy General Director	BCEL
Mr. Sisaath NEUMASA	Head of IT Center	BCEL
<b>7. Digital Divide Data (DDD)</b>		
Mr. Eric Wong Poh Sang	General Manager	DDD
<b>Japanese side</b>		
<b>8. Embassy of Japan</b>		
Mr. Tomohiro Tanaka	Second Secretary	Embassy of Japan
<b>9. JICA Expert</b>		
Mr. Hiroyuki Ide	JICA Expert	NUOL
Mr. Yushi Kawaguchi	JICA Expert	NUOL
Mr. Tsuneo Heito	JICA Expert	NUOL
Mr. Toshio Kinoshita	JICA Expert	Laos-Japan Center(LJI)
Mr. Akira Miyoshi	JICA Expert	LJI

