

ラオス国
公共事業運輸省民間航空局

ラオス国
ビエンチャン国際空港の継続的改善に係る
技術支援プロジェクト
【有償勘定技術支援】
事業完了報告書

2022年5月

独立行政法人
国際協力機構（JICA）

株式会社ジャイロス
パシフィックコンサルタンツ株式会社

社基
JR
22-078

I. プロジェクトの基本情報

プロジェクトの基本情報は以下のとおり。

1. 国名

ラオス人民民主共和国

2. プロジェクト名称

ラオス国ビエンチャン国際空港の継続的改善に係る技術支援プロジェクト

【有償勘定技術支援】

3. プロジェクト実施期間（計画と実際）

実施期間（計画）：2021年2月～2021年10月（9ヶ月）

実施期間（実際）：2021年2月～2022年3月（14ヶ月）

4. プロジェクトの背景（議事録より（R/D））

ASEAN 唯一の内陸国であり、国土の 8 割が山岳部であるラオス人民民主共和国（以下、「ラオス」という）において、航空交通は、人、モノの円滑な移動、周辺国とのコネクティビティの観点から、同国発展のための重要な輸送手段となっている。

ラオスの首都ビエンチャンに位置するビエンチャン国際空港は、同国の玄関口として、また観光分野を始めとする経済活動の拠点として、重要な役割を担っている。公共事業運輸省民間航空局（DCA: Department of Civil Aviation, Ministry of Public Works and Transport）によると、2009 年から 2019 年にかけては、年間約 16%の割合で旅客数が増え、2018 年には国際線で約 179 万人、国内線で約 57 万人がビエンチャン国際空港を利用している。

このような航空需要の増大に対応するために、円借款「ビエンチャン国際空港ターミナル拡張事業」（2014 年、円借款貸付契約調印）による国際線ターミナルビル拡張及び国内線ターミナルビル新設等が実施され、2018 年 8 月からターミナルビルの供用が開始されているが、当該空港における航空需要は、需要予測を上回るペースで引き続き増加している。

このため DCA は、ビエンチャン国際空港を継続的に改善し、同事業の開発効果を継続的に発揮・向上するためには、当該空港の中長期的な改善計画の策定が必要であると認識し、日本政府に対し技術協力プロジェクトによる技術支援を要請したものである。

これを受け、JICAは、本件の必要性、要請の妥当性を確認するために2020年2月に詳細計画策定調査を行い、要請内容の確認及び必要な協力内容を検討・整理し、協議を行った上で、2020年6月10日、「ビエンチャン国際空港の継続的改善に係る技術支援プロジェクト」の枠組について、合意文書（R/D：Record of Discussions）を締結し、本プロジェクトの実施が決定された。

なお、「日本・ラオス開発協力共同計画」（2016年9月）における協力の三本柱の一つとして、「I 周辺国とのハード・ソフト面での連結性強化」が挙げられ、「空の連結性強化のためのビエンチャン国際空港の整備・運営」に共同で取り組むこととされており、本案件はこれに合致するものである。

5. 上位目標とプロジェクト目標（議事録より（R/D））

上位目標：

ビエンチャン国際空港の利便性・効率性・安全性が航空需要の増加に対応して改善されている。

プロジェクト目標：

ビエンチャン国際空港の継続的改善に係るDCAの能力が向上している。

6. 相手国関係機関

公共事業運輸省民間航空局（DCA：Department of Civil Aviation, Ministry of Public Works and Transport）

II. プロジェクトの成果

1. 成果

1-1 日本側投入

計画	実際
- 業務主任者／空港計画	- 業務主任者／空港計画／滑走路／航空管制容量分析（2）
- 航空需要予測	- 航空需要予測
- 滑走路／航空管制容量分析	- 滑走路／航空管制容量分析（1）
- 空域・飛行方式計画	- 空域・飛行方式計画
- 空港土木施設計画	- 空港土木施設計画
- 空港ターミナル施設計画	- 空港ターミナル施設計画
- 航空保安システム計画	- 航空保安システム計画
- 環境影響分析	- 環境影響分析
- 事業費積算	- 環境影響分析

- 経済財務分析	- 事業費積算 - 経済財務分析 - ローカルコンサルタント
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1-2 ラオス側投入

計画	実際
カウンターパート - プロジェクトディレクター - プロジェクトマネージャー - 空港改善委員会メンバー プロジェクト事務所 - DCA 本部内プロジェクト事務所 (家具、空調、電源付) 運営費用 - 事務所の運営と維持管理にかかる費用 - JICA から提供されない必要な機械、設備、資材などの供与および交換にかかる費用 - DCA カウンターパートの国内交通費および日当	カウンターパート - プロジェクトディレクター - プロジェクトマネージャー - 空港改善委員会メンバー プロジェクト事務所 - DCA 本部内プロジェクト事務所 (家具、空調、電源付) 運営費用 - 事務所の運営と維持管理にかかる費用 - JICA から提供されない必要な機械、設備、資材などの供与および交換にかかる費用 - DCA カウンターパート要員の国内交通費および日当

1-3 活動

計画	実際
1. ビエンチャン国際空港の現状を把握する 1-1 社会・経済状況 1-2 航空需要の増加傾向 1-3 関連組織-政府、航空会社、空港運営者、その他 1-4 空港整備に係る政策 1-5 ビエンチャン国際空港の施設 1-6 ビエンチャン国際空港へのアクセス 1-7 ビエンチャン国際空港の整備に係る既存調査 1-8 環境関連法令 2. ビエンチャン国際空港の 2050 年までの航空需要予測を行う 2-1 将来の社会経済フレームの予測 2-2 年間旅客、貨物、離着陸回数の予測 2-3 ピーク時予測 2-4 空港アクセス交通量予測 3. ビエンチャン国際空港の既存施設・サービスを現状及び将来の要求に対して評価する 3-1 滑走路、計器飛行方式および航空管制手順	1. ビエンチャン国際空港の現状を把握する 1-1 社会・経済状況 1-2 航空需要の増加傾向 1-3 関連組織-政府、航空会社、空港運営者、その他 1-4 空港整備に係る政策 1-5 ビエンチャン国際空港の施設 1-6 ビエンチャン国際空港へのアクセス 1-7 ビエンチャン国際空港の整備に係る既存調査 1-8 環境関連法令 2. ビエンチャン国際空港の 2050 年までの航空需要予測を行う 2-1 将来の社会経済フレームの予測 2-2 年間旅客、貨物、離着陸回数の予測 2-3 ピーク時予測 2-4 空港アクセス交通量予測 3. ビエンチャン国際空港の既存施設・サービスを現状及び将来の要求に対して評価する 3-1 滑走路、計器飛行方式および航空管制手順

3-2 誘導路および駐機場	3-2 誘導路および駐機場
3-3 旅客ターミナル施設	3-3 旅客ターミナル施設
3-4 貨物ターミナル施設	3-4 貨物ターミナル施設
3-5 消火救難施設	3-5 消火救難施設
3-6 航空灯火システム	3-6 航空灯火システム
3-7 航空保安・気象システム	3-7 航空保安・気象システム
3-8 給油施設	3-8 給油施設
3-9 都市供給施設	3-9 都市供給施設
3-10 空港アクセス	3-10 空港アクセス
3-11 排水施設	3-11 排水施設
3-12 その他施設	3-12 その他施設
4. ビエンチャン国際空港の短期改善ニーズを特定する	4. ビエンチャン国際空港の短期改善ニーズを特定する
4-1 施設の改善	4-1 施設の改善
4-2 サービスの改善	4-2 サービスの改善 e
5. 周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画を立案する	5. 周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画を立案する
5-1 滑走路容量の増加に係る比較検討を行う	5-1 滑走路容量の増加に係る比較検討を行う
5-2 各改善策の概要、配置計画、実施機関等を含む空港施設の長期改善計画を作成する	5-2 各改善策の概要、配置計画、実施機関等を含む空港施設の長期改善計画を作成する
5-3 事業実施スケジュールと費用を見積もる	5-3 事業実施スケジュールと費用を見積もる
6. ビエンチャン国際空港の長期改善計画の経済財務分析を行う	6. ビエンチャン国際空港の長期改善計画の経済財務分析を行う
6-1 長期改善計画の経済分析を行う	6-1 長期改善計画の経済分析を行う
6-2 長期改善計画の財務分析を行う	6-2 長期改善計画の財務分析を行う
6-3 長期改善計画の資金調達計画を検討する	6-3 長期改善計画の資金調達計画を検討する

2. 実績

2-1 成果と指標

目標値	指標	実績
成果 1 : ビエンチャン国際空港の現状が把握されている	ビエンチャン国際空港の現状に係る報告書が作成されている	ドラフト最終報告書の第 2 章 100%
成果 2 : ビエンチャン国際空港の 2050 年までの航空需要予測が作成されている	ビエンチャン国際空港の 2050 年までの航空需要予測に係る報告書が作成されている	ドラフト最終報告書の第 3 章 100%
成果 3 : ビエンチャン国際空港の施設・サービスを現状評価が行われている	ビエンチャン国際空港の施設・サービスの現状評価に係る報告書が作成されている	ドラフト最終報告書の第 4 章 100%
成果 4 :	ビエンチャン国際空港の短期改善ニーズに係る報告書が作成されている	ドラフト最終報告書の第 5 章 100%

ビエンチャン国際空港の短期改善ニーズが特定されている		
成果5： 周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画が立案されている	周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画に係る報告書が作成されている	ドラフト最終報告書の第6章 100%
成果6： ビエンチャン国際空港の長期改善計画の経済財務分析が行われている	ビエンチャン国際空港の長期改善計画の経済財務分析に係る報告書が作成されている	ドラフト最終報告書の第7章 100%

2-2 プロジェクト目標と指標

目標値	指標	実績
ビエンチャン国際空港の継続的改善に係るDCAの能力が向上している	プロジェクトの全ての成果を取りまとめた報告書が作成されている	ドラフト最終報告書が提出される 100%

3. PDM改定の歴史

PDMは2021年9月に変更され、プロジェクト実施期間が9ヶ月（2021年の10月末まで）から14ヶ月（2022年3月末まで）に変更となった。

4. その他

4-1 環境・社会への配慮の結果

ドラフト最終報告書の6.1.2 環境・社会的影響を参照。

4-2 ジェンダー/平和構築/貧困削減に関する検討結果

対象外

III. 共同レビューの成果

1. DAC評価基準に基づくレビュー結果

評価基準	結果	評価
妥当性	高	プロジェクト目標は、ラオス国家社会経済開発計画（NSEDP）の目標に合致している。プロジェクト成果はDCAのニーズと整合している。本プロジェクトは、日本のODA政策やプログラムに合致している。
有効性	高	プロジェクト目標は、許容可能なレベルを達成している。

		プロジェクト成果は、プロジェクト目標の達成に貢献している。
効率性	中	日本人専門家はプロジェクトに十分に貢献した。 カウンターパートチームは適当であり、彼らの能力は活動を行うのに十分であった。 すべての成果は計画通り達成した。 プロジェクトは Covid-19 の影響で遅延した。
インパクト	高	ビエンチャン国際空港の短期改善開発計画と長期改善計画の策定を通じ、DCA はビエンチャン国際空港を継続的に改善する必要性を認識し、短期改善開発計画を実施する計画である。
持続性	高	ビエンチャン国際空港の将来需要や国際基準を満たすため、同空港を持続的に開発し運用するための段階的な開発計画が作成された。

2. 実施と結果に影響を与える主な要因

COVID-19 は、プロジェクトの実施に影響を及ぼした。当初の計画では、2021 年 4 月、8 月、10 月に日本人専門家 10 名がビエンチャン国際空港を 3 回訪問する予定であったが、Covid-19 の感染拡大防止対策により 6 月から 10 月にかけて 3 名の専門家が一回ずつのみ現地を訪問することしかできなかった。このため、現状把握のために必要なデータと情報収集が遅れることとなった。また、日本においても Covid-19 の感染拡大防止対策により日本での活動の進捗にも影響があった。その結果として、プロジェクトの実施期間が 9 ヶ月から 14 ヶ月に延長せざるを得なかった。

3. プロジェクトリスク管理の結果の評価

COVID-19 の感染拡大防止対策により、プロジェクトのスケジュールを変更する必要があった。このリスクはプロジェクト開始時から認識されていたが、長く続くとは予想しておらず、2021 年の半ばには日本人専門家が現地訪問する計画としていた。しかしながら、10 名の専門家全員が現場を訪問することは出来ず、実際には 3 名の専門家のみそれぞれ一回しか現地訪問ができなかった。このため、現地調査は、写真撮影、動画撮影、携帯電話を使用した遠隔観測などを駆使して実施することとなった。また、日本人専門家とカウンターパートチームとのコミュニケーションは、主に携帯電話による通話やビデオ会議により実施した。調査業務の円滑化のために専任の現地コンサルタントをフルタイムで雇用し、調査に必要な情報収集の補助やカウンターパートチームとのコミュニケーションの円滑化のために貢献してもらった。これらの方法により、調査は効率

的に実施できたものの、対面式コミュニケーションによる調査実施の効率性の水準を確保することは出来なかった。

4. 教訓

実際に現地へ行かずに既存施設の現状を評価することは困難であった。情報やデータをリモートで収集するには長時間がかかった。調査の最初の段階においてカウンターパートと日本人専門家との間に信頼関係を構築することが重要であるが、対面でのコミュニケーションが出来ず、リモートでの打ち合わせにより信頼関係を構築することは困難であった。数名の日本人専門家が実際に現地を訪問することでこれらの困難を軽減することは出来たが、それでもかなりの時間を要することとなった。

マスタープラン策定業務のような調査を効率的に実施するためには、プロジェクトの初期段階で日本人専門家が実際に現地を訪問し調査を実施することが極めて重要であると考えられる。

IV. プロジェクト完了後の上位目標の達成

1. 上位目標を達成

上位目標：

ビエンチャン国際空港の利便性・効率性・安全性が航空需要の増加に対応して改善されている。

COVID-19 の後、2025 年までに航空交通需要の回復が見込まれる。航空旅客数は 2019 年以前と同様に急増すると期待されるため、ビエンチャン国際空港の既存施設の開発とリハビリが必要となる。

2. 上位目標達成のためのラオス側の運営計画と実施体制

本プロジェクトでは、2025 年までに完成を目標とする短期整備開発計画と 2045 年を目標とする長期整備開発計画を策定した。短期整備開発計画には混雑緩和と航空機の安全運航に重点を置いた。DCA は、この短期整備開発計画を実施する計画である。

3. ラオス側への提言

本プロジェクトで策定した短期整備開発計画は、本調査で実施した航空交通需要予測に基づいて策定したものである。将来の航空需要は予測値とは異なることがあるため、空港の実状を反映するためにも需要予測や開発計画は 5 年ごとに見直す必要があると考える。

付属書 1 : プロジェクトの結果

JICA 技術協力チームメンバー

担当分野	名前	会社
業務主任者／空港計画／滑走路／航空管制容量分析 (2)	山口 高男	株式会社ジャイロス
航空交通需要予測	有川 英夫	アルスシステム株式会社
滑走路/航空管制容量分析 (1)	三輪 敦	パシフィックコンサルタンツ株式会社
空域・飛行方式計画	原 晋司	パシフィックコンサルタンツ株式会社
空港土木施設計画	水上 敬介	パシフィックコンサルタンツ株式会社
空港ターミナル施設計画	荻原 公彦	株式会社ジャイロス
航空保安システム計画	水政 弘	株式会社ジャイロス
環境影響分析	山崎 典和	八千代エンジニアリング株式会社
事業費積算	五百川 真里恵	株式会社ジャイロス
経済財務分析	福田 絹代	株式会社ジャイロス
ローカルコンサルタント	カムレック チンタヴォン	株式会社ジャイロス

カウンターパートチームメンバー

組織	職位	名前
DCA	局長	ヴィエンサイ シンカム
	飛行場安全基準部門 (ASSD) 部長	センサグアン チャンタヴォン
	航空保安部門副部長	ティエントン ソファ
	航空輸送部門副部長	ピケオ ボンビセス
	航空基準部門部長	ソンサクシット カムケオ
	プロジェクトマネージャ (ASSD)	コマック ケオチャンパ
	プロジェクトオフィサー (ASSD)	キンサックダ ムオンマニー
	プロジェクトオフィサー (ASSD)	アヌーシン リエンザイ
AOL	空港安全課副部長	パンタ ペンパニット
LANS	AIS オフィサー・飛行方式プランナー	ソムパワン キンサダ
	技術課副部長	インシーリー ブアパオ
WIA	ワットイ国際空港空港長	ケオツリー ヌフォンサムット
L-JATS	副局長	ブンタヴィ ソムサニット

運営計画

Year/Month	2021													
	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Japanese Experts														
1. Chief Advisor/Airport Planner/ Runway/ATC Capacity Analysis Expert (2)														
2. Air Traffic Demand Forecast Expert														
3. Runway/ATC Capacity Analysis Expert (1)														
4. Airspace and Flight Procedure Planner														
5. Airport Civil Engineering Facility Planner														
6. Airport Terminal Facility Planner														
7. Air Navigation System Planner														
8. Environmental Impact Expert														
9. Project Cost Estimation Expert														
10. Economic/Financial Analysis Expert														
Activities														
1. To understand current situation of Vientiane International Airport														
1-1 Socio-economic conditions	✓	✓												
1-2 Air traffic demand growth trend	✓	✓												
1-3 Related organizations – government, airlines, airport operators and others	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-4 Government policy on airport development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-5 Vientiane International Airport facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-6 Airport access to Vientiane International Airport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-7 Past studies on airport development for Vientiane International Airport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-8 Environmental laws and regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. To conduct air traffic demand forecasts up to year 2050 of Vientiane International Airport														
2-1 Projection of future socio-economic framework	✓	✓												
2-2 Annual passenger, cargo and aircraft movement forecasts	✓	✓												
2-3 Peak hour forecasts	✓	✓												
2-4 Airport access traffic forecast	✓	✓	✓											
3. To evaluate current facilities and services of Vientiane International Airport with respect to current and future requirements														
3-1 Runway, instrument flight procedures and ATC procedures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-2 Taxiways and aircraft stands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-3 Passenger terminal facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-4 Cargo terminal facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-5 Rescue and firefighting facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-6 Aeronautical ground lighting systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-7 Air navigation and meteorological systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-8 Fuel supply facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-9 Airport access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-10 Airport utility systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-11 Drainage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-12 Others	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. To identify immediate improvement needs at Vientiane International Airport														
4-1 Improvement of facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4-2 Improvement of services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. To develop long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas														
5-1 To conduct alternative study to enhance runway capacity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5-2 To formulate long-term development plan for airport facilities including descriptions of each improvement, general layout plan, implementing organization, etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5-3 To estimate project implementation schedule and costs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. To conduct economic and financial analyses on the long-term development plan of Vientiane International Airport														
6-1 To conduct economic analysis of the long-term development plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6-2 To conduct financial analysis on the long-term development plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6-3 To examine funding plan for the long-term development plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring Plan														
1. Work Plan (Inception Report)														
2. Progress Report														
3. Monitoring Report (Progress Report)														
4. Draft Final Report														
5. Project Completion Report (Final Report)														
6. JCC														

付属書 2 : プロジェクト成果品リスト (報告書、マニュアル、ハンドブック等)

1. インセプションレポート
2. プロGRESSレポート
3. ドラフトファイナルレポート
4. ファイナルレポート

付属書3：PDM（PDMすべてのバージョン）

プロジェクト名称：ラオス国ビエンチャン国際空港の継続的改善に係る技術支援プロジェクト【有償勘定技術支援】

実施機関：公共事業運輸省民間航空局（DCA）

目標グループ：空港改善委員会（DCA/AOL/LANS/L-JATS/ATS）

プロジェクトサイト：ビエンチャン国際空港

バージョン 2.0

プロジェクト期間：14ヶ月

日付：2021年9月30日

プロジェクトの要約	指標	指標データ入手手段	外部条件
上位目標			
ビエンチャン国際空港の利便性・効率性・安全性が航空需要の増加に対応して改善されている。	<ol style="list-style-type: none"> 1. ビエンチャン国際空港の短期整備開発が実施された。 2. ビエンチャン国際空港の長期整備開発計画の予算確保がDCAによって決定された。 	調査	
プロジェクト目標			
ビエンチャン国際空港の継続的改善に係るDCAの能力が向上している。	プロジェクトの全ての成果を取りまとめた報告書が作成されている。	プロジェクト完了報告書（ファイナルレポート）	<ul style="list-style-type: none"> - ビエンチャン国際空港の早急開発に必要な予算は確保されている。 - MPWTからビエンチャン国際空港の長期開発計画の実施を指示している。
成果			
<ol style="list-style-type: none"> 1. ビエンチャン国際空港の現状を把握されている 2. ビエンチャン国際空港の2050年までの航空需要予測が作成されている 3. ビエンチャン国際空港の施設・サービスの現状評価が行われている 4. ビエンチャン国際空港の短期改善ニーズが特定されている 5. 周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画が立案されている 6. ビエンチャン国際空港の長期改善計画の経済財務分析が行われている 	<p>ビエンチャン国際空港の現状に係る報告書が作成されている</p> <p>ビエンチャン国際空港の2050年までの航空需要予測に係る報告書が作成されている</p> <p>ビエンチャン国際空港の施設・サービスの現状評価に係る報告書が作成されている</p> <p>ビエンチャン国際空港の短期改善ニーズに係る報告書が作成されている</p> <p>周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画に係る報告書が作成されている</p> <p>ビエンチャン国際空港の長期改善計画の経済財務分析に係る報告書が作成されている</p>	<p>モニタリングレポート（進捗報告書1&2）</p> <p>モニタリングレポート（進捗報告書1&2）</p> <p>モニタリングレポート（進捗報告書1&2）</p> <p>モニタリングレポート（進捗報告書1&2）</p> <p>モニタリングレポート（進捗報告書1&2）</p> <p>プロジェクトドラフト最終報告書（ドラフトファイナルレポート）</p> <p>プロジェクトドラフト最終報告書（ドラフトファイナルレポート）</p>	

活動	成果		成果
	日本側	ラオス側	
<p>1. ビエンチャン国際空港の現状を把握する</p> <p>1-1 社会・経済状況</p> <p>1-2 航空需要の増加傾向</p> <p>1-3 関連組織-政府、航空会社、空港運営者、その他</p> <p>1-4 空港整備に係る政策</p> <p>1-5 ビエンチャン国際空港の施設</p> <p>1-6 ビエンチャン国際空港へのアクセス</p> <p>1-7 ビエンチャン国際空港の整備に係る既存調査</p> <p>1-8 環境関連法令</p> <p>2. ビエンチャン国際空港の2050年までの航空需要予測を行う</p> <p>2-1 将来の社会経済フレームの予測</p> <p>2-2 年間旅客、貨物、離着陸回数の予測</p> <p>2-3 ピーク時予測</p> <p>2-4 空港アクセス交通量予測</p> <p>3. ビエンチャン国際空港の既存施設・サービスを現状及び将来の要求に対して評価する</p> <p>3-1 滑走路、計器飛行方式および航空管制手順</p> <p>3-2 誘導路および駐機場</p> <p>3-3 旅客ターミナル施設</p> <p>3-4 貨物ターミナル施設</p> <p>3-5 消火救難施設</p> <p>3-6 航空灯火システム</p> <p>3-7 航空保安・気象システム</p> <p>3-8 給油施設</p> <p>3-9 都市供給施設</p> <p>3-10 空港アクセス</p> <p>3-11 排水施設</p> <p>3-12 その他施設</p> <p>4. ビエンチャン国際空港の短期改善ニーズを特定する</p> <p>4-1 施設の改善</p> <p>4-2 サービスの改善</p>	<p>専門家（担当分野）：</p> <ul style="list-style-type: none"> - 業務主任者／空港計画／滑走路／航空管制容量分析（2） - 航空需要予測 - 滑走路／航空管制容量分析（1） - 空域・飛行方式計画 - 空港土木施設計画 - 空港ターミナル施設計画 - 航空保安システム計画 - 環境影響分析 - 事業費積算 - 経済財務分析 	<p>カウンターパート</p> <ul style="list-style-type: none"> - プロジェクトディレクター - プロジェクトマネージャー - 空港改善委員会メンバー <p>プロジェクト事務所</p> <ul style="list-style-type: none"> - DCA 本部内プロジェクト事務所（家具、空調、電源付） <p>運営費用</p> <ul style="list-style-type: none"> - 事務所の運営と維持管理にかかる費用 - JICA から提供されない必要な機械、設備、資材などの供与および交換にかかる費用 - DCA カウンターパート要員の国内交通費および日当 	<ul style="list-style-type: none"> - プロジェクト期間を通じて、カウンターパートはプロジェクトに関与した。 - カウンターパートは十分なオーナーシップを持ってプロジェクトを実施した。 <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">前提条件</div> <ul style="list-style-type: none"> - 公共事業運輸省がプロジェクトの実施を支援する。 - DCA はプロジェクト実施に必要な予算を確保している。

<p>5. 周辺地域の環境・社会への影響に配慮したビエンチャン国際空港の長期改善計画を立案する</p> <p>5-1 滑走路容量の増加に係る比較検討を行う</p> <p>5-2 各改善策の概要、配置計画、実施機関等を含む空港施設の長期改善計画を作成する</p> <p>5-3 事業実施スケジュールと費用を見積もる</p> <p>6. ビエンチャン国際空港の長期改善計画の経済財務分析を行う</p> <p>6-1 長期改善計画の経済分析を行う</p> <p>6-2 長期改善計画の財務分析を行う</p> <p>6-3 長期改善計画の資金調達計画を検討する</p>			
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付属書 4 : R/D、M/M、JCC 議事録 (コピー)

RECORD OF DISCUSSIONS
FOR
THE PROJECT FOR TECHNICAL SUPPORT ON
CONTINUOUS IMPROVEMENT OF
VIENTIANE INTERNATIONAL AIRPORT
AGREED UPON BETWEEN
DEPARTMENT OF CIVIL AVIATION, MINISTRY OF PUBLIC WORKS
AND TRANSPORT
OF
THE LAO PEOPLE'S DEMOCRATIC REPUBLIC
AND
JAPAN INTERNATIONAL COOPERATION AGENCY

Dated 10th June 2020



Based on the minutes of meetings on the Detailed Planning Survey for The Project for Technical Support on Continuous Improvement of Vientiane International Airport (hereinafter referred to as "the Project") signed on 7 February 2020 between the Department of Civil Aviation, Ministry of Public Works and Transport of the Lao People's Democratic Republic (hereinafter referred to as "the Counterpart") and the Japan International Cooperation Agency (hereinafter referred to as "JICA"), JICA held a series of discussions with the Counterpart and relevant organizations to develop a detailed plan of the Project.

The purpose of this record of discussions (hereinafter referred to as "the R/D") is to establish a mutual agreement for its implementation by both parties and to agree on the detailed plan of the Project as described in the followings and the Annexes, which will be implemented within the framework of the Agreement on Technical Cooperation signed on 12 December 2003 (hereinafter referred to as "the Agreement") and the Note Verbales exchanged on 21 May 2020 between the Government of Japan and the Government of the Lao People's Democratic Republic.

The Counterpart will be responsible for the implementation of the Project in cooperation with JICA, coordinate with other relevant organizations and ensure that the self-reliant operation of the Project is sustained during and after the implementation period in order to contribute toward social and economic development of the Lao People's Democratic Republic.

Both parties also agreed that the Project will be implemented in accordance with the "Basic Principles for Technical Cooperation" published in December 2016 (hereinafter referred to as "the BP"), unless other arrangements are agreed in the R/D.

The R/D is delivered at Vientiane as of the day and year first above written. The R/D may be amended by a minutes of meetings between both parties, except the plan of operation to be modified in monitoring sheets. The minutes of meetings will be signed by authorized persons of each side who may be different from the signers of the R/D.



Yoshiharu Yoneyama
Chief Representative
Laos Office
Japan International Cooperation Agency



Vanpheng Chanthaphone
Director General
Department of Civil Aviation,
Ministry of Public Works and Transport

- Annex 1 Main Points Discussed
- Annex 2 Project Design Matrix (PDM)
- Annex 3 Plan of Operation (PO)
- Annex 4 Implementation Structure
- Annex 5 List of Proposed Members of Joint Coordinating Committee
- Annex 6 Basic Principles for Technical Cooperation, December 2016

MAIN POINTS DISCUSSED

I. The Project Title

Both sides agreed that the title of the Project is "The Project for Technical Support on Continuous Improvement of Vientiane International Airport".

II. Airport Improvement Committee

DCA will organize Airport Improvement Committee. The purpose of the Committee is to plan and realize continuous improvement of Vientiane International Airport, and act as the counterpart of this Project. It will be chaired by the Project Director and composed of members from DCA, Wattay International Airport under Airports of Laos (AOL), Lao Air Navigation Services (LANS), Lao-Japan Airport Terminal Services (L-JATS) and Airport Terminal Service (ATS).



Annex 2

Project Design Matrix

Project Title: The Project for Technical Support on Continuous Improvement of Vientiane International Airport
Implementing Agency: Department of Civil Aviation, Ministry of Public Works and Transport (DCA)
Target Group: Airport Improvement Committee (DCA/AOL/LANS/L-JATS/ATS)
Project Site: Vientiane International Airport

Version 0.0
Date: 10 June 2020
Period of the Project: 9 months

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<p>Overall Goal Usability, efficiency and safety of Vientiane International Airport have been improved to meet growing air traffic demand.</p>	<ol style="list-style-type: none"> Immediate improvement of Vientiane International Airport has been undertaken. Funding plan for long-term improvement plan for Vientiane International Airport has been decided by DCA. 	Survey	
<p>Project Purpose DCA's capacities relevant to continuous improvement of Vientiane International Airport have been developed.</p>	<p>A report compiling all the outputs of the Project has been produced.</p>	Project Completion Report (Final Report)	<ul style="list-style-type: none"> Budget necessary for immediate improvement of Vientiane International Airport is secured. MPWT instructs the implementation of long-term improvement plan of Vientiane International Airport.
<p>Outputs</p> <ol style="list-style-type: none"> Current situation of Vientiane International Airport has been understood. Air traffic demand forecasts up to year 2050 of Vientiane International Airport have been conducted. Current facilities and services at Vientiane International Airport have been evaluated. Immediate improvement needs of Vientiane International Airport have been identified. 	<p>A report on current situation of Vientiane International Airport has been produced.</p> <p>A report on air traffic demand forecasts up to year 2050 of Vientiane International Airport has been produced.</p> <p>A report on current facilities and services at Vientiane International Airport has been produced.</p> <p>A report on immediate improvement needs of Vientiane International Airport has been produced.</p>	Monitoring Report (Progress Report) Monitoring Report (Progress Report) Monitoring Report (Progress Report) Monitoring Report (Progress Report)	

<p>5. Long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas has been developed.</p> <p>6. Economic and financial analyses on the long-term improvement plan of Vientiane International Airport have been conducted.</p>	<p>A report on long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas has been produced.</p> <p>A report on economic and financial analyses on the long-term improvement plan of Vientiane International Airport has been produced.</p>	<p>Draft Project Completion Report (Draft Final Report)</p> <p>Draft Project Completion Report (Draft Final Report)</p>	
Activities			
<p>1. To understand current situation of Vientiane International Airport</p> <p>1-1 Socio-economic conditions</p> <p>1-2 Air traffic demand growth trend</p> <p>1-3 Related organizations – government, airlines, airport operators and others</p> <p>1-4 Government policy on airport development</p> <p>1-5 Vientiane International Airport facilities</p> <p>1-6 Airport access to Vientiane International Airport</p> <p>1-7 Past studies on airport development for Vientiane International Airport</p> <p>1-8 Environmental laws and regulations</p>	<p>Japanese Side</p> <p>Experts:</p> <ul style="list-style-type: none"> - Chief Advisor/Airport Planner - Air Traffic Demand Forecast Expert - Runway/ATC Capacity Analysis Expert - Airspace and Flight Procedure Planner - Airport Civil Engineering Facility Planner - Airport Terminal Facility Planner - Air Navigation System Planner - Environmental Impact Expert - Project Cost Estimation Expert - Economic/Financial Analysis Expert - Others as necessary 	<p>Lao Side</p> <p>Counterparts:</p> <ul style="list-style-type: none"> - Project Director - Project Manager - Airport Improvement Committee Members <p>Project Office:</p> <ul style="list-style-type: none"> - Office in the DCA headquarters (with desks/chairs) <p>Data and Information related to the Project</p> <p>Running Cost:</p> <ul style="list-style-type: none"> - Operation and maintenance of Project Office - Supply or replacement of machinery, equipment and materials necessary for the Project other than provided by JICA - In-country travel expenses per diem of DCA counterpart personnel 	<p>Counterparts involve in the Project throughout the project period.</p> <ul style="list-style-type: none"> - Counterparts implement the Project with sufficient ownership.
<p>2. To conduct air traffic demand forecasts up to year 2050 of Vientiane International Airport</p> <p>2-1 Projection of future socio-economic framework</p> <p>2-2 Annual passenger, cargo and aircraft movement forecasts</p> <p>2-3 Peak hour forecasts</p> <p>2-4 Airport access traffic forecast</p>			<p>Pro-conditions</p> <ul style="list-style-type: none"> - Ministry of Public Works and Transport supports the implementation of the Project. - DCA secures budget necessary for the implementation of the Project.
<p>3. To evaluate current facilities and services of Vientiane International Airport with respect to current and future requirements</p> <p>3-1 Runway, instrument flight procedures and ATC procedures</p>			

Yue

<ul style="list-style-type: none">3-2 Taxiways and aircraft stands3-3 Passenger terminal facilities3-4 Cargo terminal facilities3-5 Rescue and firefighting facilities3-6 Aeronautical ground lighting systems3-7 Air navigation and meteorological systems3-8 Fuel supply facilities3-9 Airport access3-10 Airport utility systems3-11 Drainage3-12 Others <p>4. To identify immediate improvement needs at Vientiane International Airport</p> <ul style="list-style-type: none">4-1 Improvement of facilities4-2 Improvement of services <p>5. To develop long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas</p> <ul style="list-style-type: none">5-1. To conduct alternative study to enhance runway capacity5-2. To formulate long-term improvement plan for airport facilities including descriptions of each improvement, general layout plan, implementing organization, etc.5-3. To estimate project implementation schedule and costs <p>6. To conduct economic and financial analyses on the long-term improvement plan of Vientiane International Airport</p> <ul style="list-style-type: none">6-1. To conduct economic analysis of the long-term improvement plan6-2. To conduct financial analysis on the long-term improvement plan6-3. To examine funding plan for the long-term			
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Chen

improvement plan

km

km

PLAN OF OPERATION (PO)

Version 0.0
Date: 10 June 2020

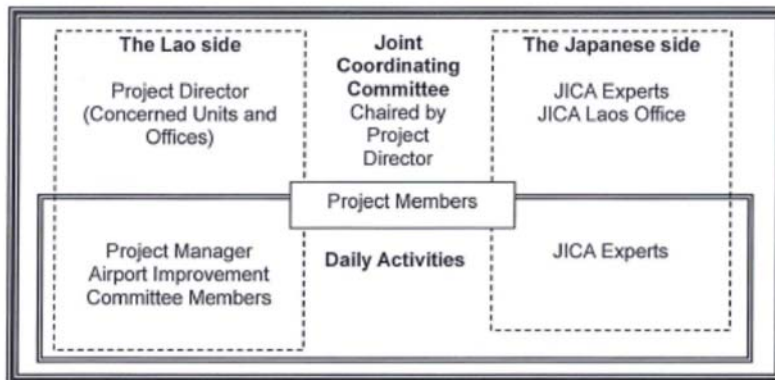
Project Title: The Project for Technical Support on Continuous Improvement of Vientiane International Airport

Year/Month	2020			2021								
	10	11	12	1	2	3	4	5	6	7	8	9
Japanese Experts												
1. Chief Advisor/Airport Planner	■	■	■	■	■	■	■	■	■	■	■	■
2. Air Traffic Demand Forecast Expert	■	■	■	■	■	■	■	■	■	■	■	■
3. Runway/ATC Capacity Analysis Expert	■	■	■	■	■	■	■	■	■	■	■	■
4. Airspace and Flight Procedure Planner	■	■	■	■	■	■	■	■	■	■	■	■
5. Airport Civil Engineering Facility Planner	■	■	■	■	■	■	■	■	■	■	■	■
6. Airport Terminal Facility Planner	■	■	■	■	■	■	■	■	■	■	■	■
7. Air Navigation System Planner	■	■	■	■	■	■	■	■	■	■	■	■
8. Environmental Impact Expert	■	■	■	■	■	■	■	■	■	■	■	■
9. Project Cost Estimation Expert	■	■	■	■	■	■	■	■	■	■	■	■
10. Economic/Financial Analysis Expert	■	■	■	■	■	■	■	■	■	■	■	■
Activities												
1. To understand current situation of Vientiane International Airport												
1-1 Socio-economic conditions												
1-2 Air traffic demand growth trend												
1-3 Related organizations – government, airlines, airport operators and others												
1-4 Government policy on airport development												
1-5 Vientiane International Airport facilities												
1-6 Airport access to Vientiane International Airport												
1-7 Post studies on airport development for Vientiane International Airport												
1-8 Environmental laws and regulations												
2. To conduct air traffic demand forecasts up to year 2030 of Vientiane International Airport												
2-1 Projection of future socio-economic framework												
2-2 Annual passenger, cargo and aircraft movement forecasts												
2-3 Peak hour forecasts												
2-4 Airport access traffic forecast												
3. To evaluate current facilities and services of Vientiane International Airport with respect to current and future requirements												
3-1 Runway, instrument flight procedures and ATC procedures												
3-2 Taxiways and aircraft stands												
3-3 Passenger terminal facilities												
3-4 Cargo terminal facilities												
3-5 Rescue and fire-fighting facilities												
3-6 Aeronautical ground lighting systems												
3-7 Air navigation and meteorological systems												
3-8 Fuel supply facilities												
3-9 Airport access												
3-10 Airport utility systems												
3-11 Drainage												
3-12 Others												
4. To identify immediate improvement needs at Vientiane International Airport												
4-1 Improvement of facilities												
4-2 Improvement of services												
5. To develop long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas												
5-1 To conduct alternative study to enhance runway capacity												
5-2 To formulate long-term development plan for airport facilities including descriptions of each improvement, general layout plan, implementing organization, etc.												
5-3 To estimate project implementation schedule and costs												
6. To conduct economic and financial analyses on the long-term development plan of Vientiane International Airport												
6-1 To conduct economic analysis of the long-term development plan												
6-2 To conduct financial analysis on the long-term development plan												
6-3 To examine funding plan for the long-term development plan												
Monitoring Plan												
1. Work Plan (Inception Report)	▲											
2. Monitoring Report (Progress Report)				▲								
3. Project Completion Report (Final Report)								▲ (Draft)	▲			
4. JOC	▲			▲				▲				

Legend
■ Work in Lao PDR
□ Work in Japan

**IMPLEMENTATION STRUCTURE OF
THE PROJECT FOR TECHNICAL SUPPORT ON CONTINUOUS IMPROVEMENT
OF VIENTIANE INTERNATIONAL AIRPORT**

The Project will be implemented by Department of Civil Aviation, Ministry of Public Works and Transport (DCA) in cooperation with JICA. The Project Organization Chart indicating joint implementation structure is shown below:



(1) DCA

(a) Project Director

Director General of DCA will be responsible for overall administration and implementation of the Project.

(b) Project Manager

Deputy Director of Aerodrome Safety and Standard Division of DCA will be responsible for the administration, implementation and management of the Project.

(c) Airport Improvement Committee Members

Airport Improvement Committee Members including representatives from AOL, LANS, L-JATS and ATS will be responsible for the operational matters of the Project.

(2) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to DCA on any matters pertaining to the implementation of the Project.

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**PROPOSED MEMBERS OF JOINT COORDINATING COMMITTEE FOR
THE PROJECT FOR TECHNICAL SUPPORT ON CONTINUOUS IMPROVEMENT
OF VIENTIANE INTERNATIONAL AIRPORT**

1. Composition

- (1) Project Team
 - 1) Project Director, Director General of DCA
 - 2) Project Manager, Deputy Director of Aerodrome Safety and Standard Division of DCA
 - 3) Airport Improvement Committee Members
 - 4) JICA Experts
 - 5) Representatives and staff of JICA Laos Office
 - 6) Others whom are to be agreed by the Counterpart and JICA

- (2) Other members from the Lao side, if necessary:
 - 1) Cooperation partners,
 - 2) Other persons that the Lao side might consider necessary (consultants, technicians, etc.)

- (3) Other members from Japanese side, if necessary:
 - 1) Staff from JICA Headquarters, other national and foreign offices
 - 2) Staff from the Embassy of Japan
 - 3) Other persons that Japanese side might consider necessary



**BASIC PRINCIPLES
FOR
TECHNICAL COOPERATION**

December, 2016

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)



Basic Principles for Technical Cooperation
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Basic Principles for Technical Cooperation

I. Introduction

Section 1.1 Introduction

The purpose of the Basic Principles for Technical Cooperation (hereinafter referred to as "the BP") is to set forth the basic principles generally applicable to Technical Cooperation Project and Technical Cooperation for Development Planning implemented jointly by the Japan International Cooperation Agency and the implementing agency of the recipient country (hereinafter referred to as "Technical Cooperation"), which consists of the record of discussions (hereinafter referred to as "the R/D") agreed upon between the Japan International Cooperation Agency (hereinafter referred to as "JICA") and the implementing agency of the recipient country (hereinafter referred to as "the Counterpart").

Section 1.2 Inconsistency with the R/D

If any contents of the BP is inconsistent with any contents of the R/D, such contents of the R/D will prevail.

II. Definition of Technical Cooperation

Section 2.1 Technical Cooperation

Technical Cooperation supports human resource development, research and development, technology dissemination and the development of institutional frameworks essential for the development of economies and societies in the recipient country.

Section 2.2 Technical Cooperation Project

Technical Cooperation Project refers to a systematic and comprehensive project implementation to attain certain outcomes within certain time period, in which input includes, but not limited to, the dispatch of members of JICA missions and/or JICA experts, acceptance of training participants, and/or provision of equipment from JICA.

Section 2.3 Technical Cooperation for Development Planning

In Technical Cooperation for Development Planning, JICA conducts necessary studies to support the recipient country to formulate policies and master plans, by dispatching members of JICA missions. Based on the results of this cooperation, the recipient country is expected to formulate plans for sector/regional development or rehabilitation/reconstruction by utilizing the results, to implement plans by raising funds from international organizations and others, and/or to carry out the recommended organizational/institutional reforms and other proposed activities.



III. Implementation Structure

Section 3.1 Project Team

Project team will work together for implementing Technical Cooperation. Its members include, but not limited to, Project Director, Project Manager, personnel from the Counterpart, members of JICA missions, JICA experts, and/or other members to be determined by both parties (hereinafter referred to as "the Project Team"). Details are described in the R/D.

Section 3.2 Roles of Project Team Members

General roles of members of the Project Team are as follows. Roles for other members will be determined by both parties for specific Technical Cooperation.

(1) Project Director

The project director, appointed from the Counterpart, will be responsible for the overall implementation and coordination of Technical Cooperation.

(2) Project Manager

The project manager, appointed from the Counterpart, will manage Technical Cooperation on a regular basis, and be responsible for administrative and technical matters of Technical Cooperation.

(3) Members of JICA Missions

The members of JICA missions will conduct studies regarding Technical Cooperation in cooperation with the Counterpart.

(4) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to the Counterpart on any matters pertaining to the implementation of Technical Cooperation.

Section 3.3 Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to manage Technical Cooperation, and its proposed members are listed in the R/D. JCC will be held at least once a year and whenever deems it necessary and plays vital roles for implementing Technical Cooperation as follows.

(1) JCC for Technical Cooperation Project

Main tasks are 1) to review the progress, 2) to revise the overall plan when necessary, 3) to approve an annual work plan, 4) to suggest modifications of the framework (including the Project Design Matrix (hereinafter referred to as "PDM") and the Plan of Operation (hereinafter referred to as "PO") for Technical Cooperation Project), 5) to conduct evaluation of Technical Cooperation Project, and 6) to exchange opinions on major issues that arise during the implementation of Technical Cooperation Project.

(2) JCC for Technical Cooperation for Development Planning



Main tasks are to discuss on the progress and major issues that arise during the implementation of Technical Cooperation for Development Planning.

IV. Undertakings of the Counterpart

Section 4.1 Grant of Privileges, Exemptions, Benefits to JICA, the members of JICA missions and the JICA experts

The Counterpart and the government of the recipient country will take necessary measures to grant JICA, the members of JICA missions and the JICA experts privileges, exemptions and benefits in accordance with international agreements concluded between the government of Japan and the government of the recipient country.

Section 4.2 Provision of Conveniences for the members of JICA missions and the JICA experts

The Counterpart and the government of the recipient country will take necessary measures to provide conveniences listed hereto at its own expense;

- (1) Information as well as support in acquiring suitable furnished accommodation for the JICA experts and their families;
- (2) Information as well as support in obtaining medical service for the members of JICA missions, the JICA experts and their families; and
- (3) Credentials or identification cards as necessary to the members of JICA missions and the JICA experts.

Section 4.3 Provision of Services, Facilities and Local-Cost Bearing for the Technical Cooperation

The Counterpart and the government of the recipient country will take necessary measures to provide services, facilities and local-cost bearing listed hereto at its own expense;

- (1) Services of the Counterpart's personnel;
- (2) Suitable office space for the Project Team with necessary equipment;
- (3) Running expenses necessary for the implementation of Technical Cooperation;
- (4) Expenses necessary for transportation within the recipient country of the equipment provided by JICA for Technical Cooperation Project as well as for the installation, operation and maintenance thereof;
- (5) Supply or replacement of machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of Technical Cooperation other than those prepared and provided by JICA;
- (6) Travel allowances for the Project Team for official travel within the recipient country; and
- (7) Available data (including maps and photographs) and information

related to Technical Cooperation.

V. Reporting

Section 5.1 Reporting for Technical Cooperation Project

The Project Team will prepare the Project Completion Report three (3) months before the completion of Technical Cooperation Project.

Section 5.2 Reporting for Technical Cooperation for Development Planning

The Project Team will prepare and submit the following reports to the Counterpart. Details, such as the language of the reports, will be determined based on mutual consultation.

- (1) Inception Report at the commencement of the work period in the recipient country
- (2) Interim Report at the middle of the work period in the recipient country
- (3) Draft Final Report at the end of the work period in the recipient country
- (4) Final Report within one (1) month after the receipt of the comments on the Draft Final Report

VI. Monitoring and Evaluation

Section 6.1 Regular Monitoring and Evaluation for Technical Cooperation Project

The Project Team will jointly and regularly monitor the progress of Technical Cooperation Project through the monitoring sheets based on PDM and PO every six (6) months, while JCC will conduct overall evaluations of Technical Cooperation Project.

Section 6.2 Ex-post Evaluations

JICA will conduct the following ex-post evaluations and surveys to verify sustainability and impact of Technical Cooperation and draw lessons. The Counterpart will make best efforts to provide necessary support for them.

- (1) Ex-post evaluation three (3) years after the completion of Technical Cooperation, in principle
- (2) Follow-up surveys, as necessary



VII. Ownership of Equipment, Machinery, and Materials

Section 7.1 Equipment, Machinery, and Materials provided by JICA

The equipment, machinery and materials provided by JICA will become the property of the Counterpart or competent authorities of the recipient country upon being delivered to the Counterpart or the authorities.

Section 7.2 Equipment, Machinery, and Materials owned by JICA

The equipment, machinery and materials prepared by JICA for the performance of duties of the members of JICA missions and the JICA experts will remain the property of JICA unless a separate arrangement is agreed between JICA and the Counterpart or competent authorities of the recipient country.

VIII. Construction of Pilot Facility

Section 8.1 Ownership of Pilot Facility

When a pilot facility is constructed in Technical Cooperation, based on a separate arrangement to be agreed between the relevant parties, JICA will provide necessary services for constructing the pilot facility for Technical Cooperation throughout the implementation period. Upon the completion of the construction, the pilot facility will become a property of the Counterpart or competent authorities of the recipient country. The Counterpart or the authorities will ensure proper and effective operation and maintenance of the pilot facility.

Section 8.2 Safety Management of Construction

JICA and the Counterpart will assure safety management of the construction in accordance with 'the Guidance for the Management of Safety for Construction Works in Japanese ODA Projects'.

IX. Public Relations

Section 9.1 Promotion of Public Support

For the purpose of promoting support for Technical Cooperation, JICA and the Counterpart will take appropriate measures to make Technical Cooperation widely known to the people of Japan and the recipient country.



X. Environmental and Social Considerations

Section 10.1 Policy

JICA and the Counterpart abide by 'JICA Guidelines for Environmental and Social Considerations (April, 2010)' in order to ensure that appropriate considerations will be made for the environmental and social impacts of Technical Cooperation.

XI. Miscellaneous

Section 11.1 Misconduct

All related personnel and organizations will keep the highest ethics and prevent any corrupt or fraudulent practices in the implementation of Technical Cooperation.

If JICA or the Counterpart receives information related to suspected corrupt or fraudulent practices in the implementation of Technical Cooperation, JICA and the Counterpart will cooperate to take appropriate measures against such practices and provide the other party with such information as the other party may reasonably request, including information related to any concerned personnel of the contractor, consultant, government and/or public organizations.

JICA and the Counterpart will not, unfairly or unfavorably treat the person and/or organization which provided the information related to suspected corrupt or fraudulent practices in the implementation of Technical Cooperation.

Section 11.2 Mutual Consultation

JICA and the Counterpart will consult each other whenever any issues arise in the course of implementation of Technical Cooperation.



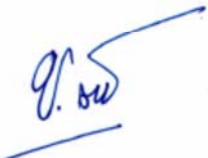
MINUTES OF THE MEETING
PRE JOINT COORDINATING COMMITTEE
FOR
THE PROJECT FOR TECHNICAL SUPPORT ON CONTINUOUS IMPROVEMENT
OF
VIENTIANE INTERNATIONAL AIRPORT
BETWEEN
THE GOVERNMENT OF LAO PEOPLE'S DEMOCRATIC REPUBLIC
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

The Pre Joint Coordinating Committee (hereinafter referred to as "Pre JCC") for the Project for Technical Support on Continuous Improvement of Vientiane International Airport (hereinafter referred to as the "Project") was held on 17th February, 2021.

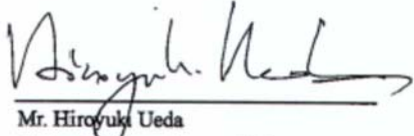
The meeting was chaired by Mr. Bountaeng Symoon, the Deputy Director General from Department of Civil Aviation (hereinafter referred to as "DCA"), the Government of Lao People's Democratic Republic. Others in attendance are listed in Attachment-1.

As a result of the discussions, both sides agreed to the matters in the documents attached as Attachment-2.

Vientiane, 17th February, 2021



Mr. Bountaeng Symoon
Project Director
Director of Civil Aviation
the Government of Lao People's
Democratic Republic



Mr. Hiroyuki Ueda
Senior Transport Sector Advisor
Japan International Cooperation Agency

Attachment-1: List of Participants

Date: 17th February, 2021
Time: 9:00 - 10:30 (Lao PDR Time)
11:00 - 12:30 (Japan Time)
Venue: DCA conference room (Vientiane, Lao PDR)
JICA Headquarters (Tokyo, Japan)
Consultant Office (Japan)

Attendance:

DCA

Deputy Director General:	Mr.Bountaeng Symoon
Deputy Director ASSD:	Mr.Sengsangouane Chanthavong
Officer:	Mr.Kingsakda Muongmany
Officer:	Mr.Anoosin Liengxay

LANS

AIS Officer:	Ms.Inseelee Bouapao
Deputy Director of Technical Division:	Mr.Somphavanh Kingsada

DCAL

Deputy Director of Air Transport Division:	Mrs.Pikeo Vongviseth
Director of ANSD:	Mr.Sohnsaksit Khamkeo
Director of ASSD:	Mr.Sackda Sourisack
Deputy Director Aviation Security:	Ms.Thienthong Sopha

AOL

Deputy Director of Airport Safety Division:	Mr.Phantha Pemphanith
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WIA

Director of WIA:	Mr.Keosouli Noufongsamouth
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JICA Headquarters

Senior Transport Sector Advisor: Mr. Hiroyuki Ueda
Deputy Assistant Director: Ms. Shiori Kondo

JICA Lao Office

Senior Program Officer: Mr. Phouthaphone Vorabouth

JICA Experts

Chief Advisor/Airport Planner/ Runway/ATC Capacity Analysis Expert (2): Mr. Takao Yamaguchi
Air Traffic Demand Forecast Expert Mr. Hideo Arikawa
Runway/ATC Capacity Analysis Expert (1) Mr. Atsushi Miwa
Airspace and Flight Procedure Planner Mr. Shinji Hara
Airport Civil Engineering Facility Planner Mr. Keisuke Mizukami
Airport Terminal Facility Planner Mr. Kimihiko Ogihara
Air Navigation System Planner Mr. Hiroshi Mizumasa
Environmental Impact Expert Mr. Norikazu Yamazaki
Project Cost Estimation Expert Ms. Marie Iokawa
Economic/Financial Analysis Expert Ms. Kinuyo Fukuda
Local Consultant: Mr. Khamlek Chintavong

Attachment-2: Matters Discussed

1) Opening and Introduction of Participants

- Mr. Bountaeng Symoon (BS) welcomed the meeting participants and expressed his gratitude and appreciation to the Japanese Government and JICA for the continued support to the Lao PDR, as well as the DCA in improving civil aviation infrastructure and capacity building.
- Mr. Hiroyuki Ueda (HU) briefed the purpose of the Pre JCC and the importance of this project. And Mr. Ueda added that the cooperation of the Lao government was essential for the success of this project.
- All participants introduced themselves

2) Presentations & Discussions

Mr. Takao Yamaguchi (TY) made a presentation about Inception Report. He shared the background, purpose and outputs of this project.

3) Question & Answer

1. BS asked if DCA could assign some staffs outside Airport Improvement Committee as counterparts.
HU answered that DCA could assign the related persons from outside.
2. BS asked that he needed to hear clarification from experts regarding the existing system of PANADES which the license is already expired.
Mr. Shinji Hara (SH) answered that the situation was not simple. He would like to have a separate meeting on this matter.
3. BS said that if the project considered the Airport Collaborative Decision-Making (ACDM) and Air Traffic Flow Management (ATFM), it might be efficient for the limited Vientiane airspace.
HU said that if the airspace above the downtown area and a part of Thai territory were usable, it would make aircraft departures and arrivals more efficient. However, coordination with Thai Civil Aviation Agency would be required to utilize the southern half of the airspace around Vientiane International Airport.

4) Actions to be Taken

1. Expert Acceptance Procedure: JICA Office to receive CVs of consultant teams and work with DCA for expert acceptance process with Ministry of Planning and Investment (MPI). Entry permit will need to be applied separately after acceptance procedure.
2. Questionnaires: related counterpart personnel to start working on the provided

questionnaires and consultant team to make contact with each staff in charge based on the email list provided in this Pre JCC.

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**MINUTES OF MEETINGS
 BETWEEN
 JAPAN INTERNATIONAL COOPERATION AGENCY
 AND
 DEPARTMENT OF CIVIL AVIATION, MINISTRY OF PUBLIC WORKS AND TRANSPORT
 OF
 THE LAO PEOPLE'S DEMOCRATIC REPUBLIC
 FOR AMENDMENT OF THE RECORD OF DISCUSSIONS
 ON
 THE PROJECT FOR TECHNICAL SUPPORT ON
 CONTINUOUS IMPROVEMENT OF
 VIENTIANE INTERNATIONAL AIRPORT**

The Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Department of Civil Aviation, Ministry of Public Works and Transport of the Lao People's Democratic Republic hereby agree that the Record of Discussions on The Project for Technical Support on Continuous Improvement of Vientiane International Airport signed on 10th June 2020 is amended as follows;

1. Annex 2 Project Design Matrix (PDM)

Before	Amended Version
The period of the Project will be 9 months. (Until the end of October 2021)	The period of the Project will be 14 months. (Until the end of March 2022)
Reason: Because of the global spread of the coronavirus disease 2019 (COVID-19), some of the project activities have been suspended/slowed. In order to achieve the project purpose, project duration needs to be extended. The duration may be further amended depending on the COVID-19 situation.	

Annex 1 : Record of Discussions (signed on 10th June 2020)

Annex 2 : Amended Project Design Matrix




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NAGASE Toshio
Chief Representative
Laos Office
Japan International Cooperation Agency



Vientiane, 30 September 2021

Viengxay SINGKHAM
Director General
Department of Civil Aviation,
Ministry of Public Works and Transport

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MINUTES OF THE MEETING
FIRST JOINT COORDINATING COMMITTEE
FOR
THE PROJECT FOR TECHNICAL SUPPORT ON CONTINUOUS IMPROVEMENT
OF
VIENTIANE INTERNATIONAL AIRPORT
BETWEEN
THE GOVERNMENT OF LAO PEOPLE'S DEMOCRATIC REPUBLIC
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

The First Joint Coordinating Committee (hereinafter referred to as "First JCC") for the Project for Technical Support on Continuous Improvement of Vientiane International Airport (hereinafter referred to as the "Project") was held on 2nd November, 2021.

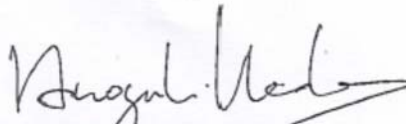
The meeting was chaired by Mr. Viengxay Singkham, the Director General from Department of Civil Aviation (hereinafter referred to as "DCA"), the Government of Lao People's Democratic Republic. Others in attendance are listed in Attachment-1.

As a result of the discussions, both sides agreed to the matters in the documents attached as Attachment-2.

Vientiane, 2nd November, 2021



Mr. Viengxay Singkham
Project Director
Director of Civil Aviation
the Government of Lao People's
Democratic Republic



Mr. Hiroyuki Ueda
Senior Transport Sector Advisor
Japan International Cooperation Agency

Attachment-1: List of Participants

Date: 2nd November, 2021
Time: 14:00 - 16:00 (Lao PDR Time)
16:00 - 18:00 (Japan Time)
Venue: DCA conference room (Vientiane, Lao PDR)
JICA Malawi Office (Lilongwe, Malawi)
Consultant Office (Japan)

Attendance:

DCAL

Director General:	Mr. Viengxay Singkham
Director of ASSD:	Mr. Sengsangouane Chanthavong
Deputy Director of ASD:	Ms. Thienthong Sopha
Civil Engineer of ASSD:	Mr. Komack Keochampa
Civil Engineer of ASSD:	Mr. Kingsackda Muongmany
Civil Engineer of ASSD:	Mr. Anoosin Lienxay
Director of ATD:	Mr. Soukxhongthong Voraphet
Director of ANSD:	Mr. Sohnsacksit Khamkeo
Deputy Director of ASSD:	Ms. Malaythong Phimmasone

AOL

Deputy Director of ASD:	Mr. Phantha Pemphanith
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LANS

Officer of LANS:	Ms. Inseelee Bouapao
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JICA Malawi Office

Senior Transport Sector Advisor:	Mr. Hiroyuki Ueda
Deputy Assistant Director:	Ms. Shiori Kondo

JICA Lao Office

Senior Representative	Ms. Sanada Akiko,
Senior Program Officer:	Mr. Phouthaphone Vorabouth

Program Officer

Mr. Saitavong Phommachack

JICA Experts

Chief Advisor/Airport Planner/ Runway/ATC Capacity Analysis Expert (2): Mr. Takao Yamaguchi

Runway/ATC Capacity Analysis Expert (1) Mr. Atsushi Miwa

Airspace and Flight Procedure Planner Mr. Shinji Hara

Airport Civil Engineering Facility Planner Mr. Keisuke Mizukami

Airport Terminal Facility Planner Mr. Kimihiko Ogihara

Air Navigation System Planner Mr. Hiroshi Mizumasa

Environmental Impact Expert Mr. Norikazu Yamazaki

Project Cost Estimation Expert Ms. Marie Iokawa

Economic/Financial Analysis Expert Ms. Kinuyo Fukuda

Local Consultant: Mr. Khamlek Chintavong

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Attachment-2: Matters Discussed

1) Opening and Introduction of Participants

- Mr. Viengxay Singkham(VS) welcomed the meeting participants and expressed his gratitude and appreciation to the Japanese Government and JICA for the continued support to the Lao PDR and the DCA in improving civil aviation infrastructure and capacity building.
- Mr. Hiroyuki Ueda (HU) briefed the purpose of the First JCC and the importance of this project. And Mr. Ueda added that the cooperation of the Lao government was essential for the success of this project.
- Group photo session.

2) Presentations & Discussions

Mr. Takao Yamaguchi (TY) made a presentation about Progress Report. He shared the understanding of current situations, air traffic forecast, evaluation of existing facilities and services, and study of runway capacity enhancement.

3) Question & Answer

1. Progress Report

DCA agreed on the contents of the Progress Report.

2. Obstacle Control measures (both existing and new obstacles).

Mr. Phantha Pemphanith (PP) commented that obstacles in the vicinity of the airport are an issue and requested advice from JICA Experts on controlling obstacles.

TY explained it is necessary to put an obstacle light on the existing obstacle and coordinate with the city development plan to control the future obstacles. Mr. Shinji Hara (SH) explained there are three measures to maintain obstacles, 1) to publish the obstacles in AIP, 2) to install lights on the obstacles, and 3) to assess the existing obstacles.

3. Terminal Management / Restructure:

3.1 Check-in area

Mr.Soukhhongthong Voraphet (SV) commented check-in area would be congested because the size of aircraft will become larger such as B787 will be operated more frequently.

TY explained it is difficult to expand the area, but introducing a self-check-in system in the airport is one of the measures to reduce congestion.

3.2 Security Checkpoint

SV commented expansion of security checkpoint area would be necessary. TY explained utilization of the space before entering the checkpoint will be studied.

3.3 Departure Lounge

SV commented that the utilization of space in the area could be possible, and if the proposed expansion is a three-story structure, it would be better because the third floor would be increased. TY explained that the JICA Experts would study the necessity of the third floor and the future terminal building expansion plan.

4. Technical Training

Mr. Sengsangouane Chanthavong (SC) explained it is difficult to complete the airport certificate system this year and face difficulty on human resources. SC requested JICA to assist aerodrome certificate and obstacle control.

4) Actions to be Taken

1. JICA Experts will explain 1) the expansion plan of the security area, 2) a detailed plan of expansion of the departure lounge, and 3) long term development plan with DCA when they complete these plans.
2. DCA and JICA will discuss the possibility of further technical cooperation on 1) obstacle control and 2) aerodrome certificate.

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MINUTES OF THE MEETING
SECOND JOINT COORDINATING COMMITTEE
FOR
THE PROJECT FOR TECHNICAL SUPPORT ON CONTINUOUS IMPROVEMENT
OF
VIENTIANE INTERNATIONAL AIRPORT
BETWEEN
THE GOVERNMENT OF LAO PEOPLE'S DEMOCRATIC REPUBLIC
AND
THE JAPAN INTERNATIONAL COOPERATION AGENCY

The Second Joint Coordinating Committee (hereinafter referred to as "Second JCC") for the Project for Technical Support on Continuous Improvement of Vientiane International Airport (hereinafter referred to as the "Project") was held on 31st March 2022.

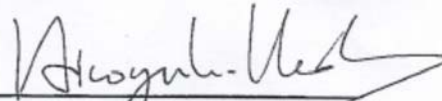
The meeting was chaired by Mr. Viengxay Singkham, the Director General from Department of Civil Aviation (hereinafter referred to as "DCA"), the Government of Lao People's Democratic Republic. Others in attendance are listed in Attachment-1.

As a result of the discussions, both sides agreed to the matters in the documents attached as Attachment-2.

Vientiane, 6th April 2022



Mr. Viengxay Singkham
Project Director
Director of Civil Aviation
the Government of Lao People's
Democratic Republic



Mr. Hiroyuki Ueda
Senior Transport Sector Advisor
Japan International Cooperation Agency

Attachment-1: List of Participants

Date: 31st March 2022
Time: 14:00 - 15:30 (Lao PDR Time)
16:00 - 17:30 (Japan Time)
Venue: DCA conference room (Vientiane, Lao PDR)
JICA Headquarters (Japan)
Consultant Office (Japan)

Attendance:

DCAL

Director General:	Mr. Viengxay Singkham
Director of ASSD:	Mr. Sengsangouane Chanthavong
Deputy Director of ASSD:	Ms. Thienthong Sopha
Civil Engineer of ASSD:	Mr. Komack Keochampa
Civil Engineer of ASSD:	Mr. Kingsackda Muongmany
Civil Engineer of ASSD:	Mr. Anosin Lienxay
Deputy Director of ATD:	Ms. Pikeo Vongviseth

AOL

Deputy Director of AOL:	Mr. Khamsavanh Sysomboun
Deputy Director of ASD:	Mr. Phantha Pemphanith

LANS

Deputy Director of AIS:	Ms. Davone Vilayseng
Officer of LANS:	Mr. Sompasong Tannavong

L-JATS

Director of Administration Department:	Ms. Chanpheng Nanthavong
Officer of Security Service Department:	Mr. Detharounh Chanthavong

JICA Headquarters

Senior Transport Sector Advisor:	Mr. Hiroyuki Ueda
Deputy Assistant Director:	Ms. Shiori Kondo
Senior Assistant Director:	Mr. Katsuji Miyata

JICA Laos Office

Senior Representative	Mr. Koji Ohikiri
Representative	Mr. Tsuyoshi Yamamoto
Senior Program Officer:	Mr. Phouthaphone Vorabouth
Program Officer	Mr. Saitavong Phommachack

JICA Experts

Chief Advisor/Airport Planner/ Runway/ATC Capacity Analysis Expert (2):	Mr. Takao Yamaguchi
Runway/ATC Capacity Analysis Expert (1)	Mr. Atsushi Miwa
Airspace and Flight Procedure Planner	Mr. Shinji Hara
Airport Civil Engineering Facility Planner	Mr. Keisuke Mizukami
Airport Terminal Facility Planner	Mr. Kimihiko Ogihara
Air Navigation System Planner	Mr. Hiroshi Mizumasa
Environmental Impact Expert	Mr. Norikazu Yamazaki
Project Cost Estimation Expert	Ms. Marie Iokawa
Economic/Financial Analysis Expert	Ms. Kinuyo Fukuda
Local Consultant:	Mr. Khamlek Chintavong

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Attachment-2: Matters Discussed

1) Opening and Introduction of Participants

Mr. Viengxay Singkham welcomed the meeting participants and expressed his gratitude and appreciation to the Japanese Government and JICA for the continued support to the Lao PDR and the DCA in improving civil aviation infrastructure and capacity building.

2) Presentations & Discussions

Mr. Takao Yamaguchi gave a presentation on the Draft Final Report and Draft Project Completion Report. He explained the outcomes of the study, including the evaluation of the condition and capacity of existing infrastructures, facilities and services, air traffic demand forecasts, immediate improvement needs, and long-term development plans.

3) Question & Answer

1. Draft Final Report

DCA agreed in principle on the overall results presented in the Draft Final Report.

2. Air Traffic Demand Forecast

Mr. Koji Ohikiri requested additional explanations on the approaches and factors applied in the analysis of the forecast of air traffic demand.

Mr. Yamaguchi explained that the linear regression model was applied in the correlation analysis between previous GDP values and annual passengers for both international and domestic passengers. In addition, the forecast of GDP for Lao PDR up to 2027, published by the IMF, and the long-term GDP projections of OECD countries from 2027 to 2050 were also taken into account.

Mr. Phouthaphone Vorabouth asked whether the air traffic forecast was conducted separately for international and domestic demand. He also expressed concern based on his observation about the shift in domestic travel from air transport to rail, which could contribute to the lower demand for domestic air traffic in the future.

Mr. Yamaguchi responded that the demand for domestic and international air traffic was estimated separately. The competition between air transport and rail in the domestic market was not taken into account in the forecast since impact of express rail transport is uncertain.

3. Airline Survey

Mr. Tsuyoshi Yamamoto asked whether the future plans were considered in the forecast.

Mr. Yamaguchi explained that interview survey with airlines in Lao PDR were conducted in which future fleet and route expansion plans were also analyzed in the forecast.

付属書 5: Monitoring Sheet (copy)

PROJECT MONITORING SHEET

Project Title : THE PROJECT FOR TECHNICAL SUPPORT ON CONTINUOUS
IMPROVEMENT OF VIENTIANE INTERNATIONAL AIRPORT

Version of the Sheet: Ver.2 (Term: 18 January 2021 - 30 September 2021)

Name: Takao Yamaguchi

Title: Chief Advisor

Submission Date: 8 October 2021

I. Summary : Table of Contents

1 Progress

- 1-1. Progress of Inputs
- 1-2. Progress of Activities
- 1-3. Achievement of Output
- 1-4. Achievement of the Project Purpose
- 1-5. Changes of Risks and Actions for Mitigation
- 1-6. Progress of Actions undertaken by JICA
- 1-7. Progress of Actions undertaken by Gov. of Lao
- 1-8. Progress of Environmental and Social Considerations (if applicable)
- 1-9. Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)
- 1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

2 Delay of Work Schedule and/or Problems (if any)

- 2-1. Detail
- 2-2. Cause
- 2-3. Action to be taken
- 2-4. Roles of Responsible Persons/Organization (JICA, Gov. of Lao, etc.)

3 Modification of the Project Implementation Plan

- 3-1. PO:
- 3-2. Other modifications on detailed implementation plan

4 Preparation of Gov. of Lao PDR toward after completion of the Project

II. Project Monitoring Sheet I & II (Version 2.0) as attached

1. Progress

1-1 Progress of Inputs

(1) Input from Japanese Side

Dispatch of Japanese Experts

Ten JICA Experts have been assigned to the Projects. A list of JICA Experts and their total assignment period up to 30 September 2021 is shown in Table 1-1-1.

Table 1-1-1 Inputs of JICA Experts

Experts	Name	Work in Lao PDR (Days)	Work in Japan (Days)	Total (P/M)
1. Chief Advisor/Airport Planner/Runway/ATC Capacity Analysis Expert (2)	Mr. Takao Yamaguchi	0	55	2.75
2. Air Traffic Demand Forecast Expert	Mr. Hideo Arikawa	0	44	2.20
3. Runway/ATC Capacity Analysis Expert (1)	Mr. Atsushi Miwa	0	53	2.65
4. Airspace and Flight Procedure Planner	Mr. Shinji Hara	30	29	2.45
5. Airport Civil Engineering Facility Planner	Mr. Keisuke Mizukami	0	40	2.00
6. Airport Terminal Facility Planner	Mr. Kimihiko Ogihara	55	10	2.33
7. Air Navigation System Planner	Mr. Hiroshi Mizumasa	40	21	2.38
8. Environmental Impact Expert	Mr. Norikazu Yamazaki	0	37	1.85
9. Project Cost Estimation Expert	Ms. Marie Iokawa	0	5	0.25
10. Economic/Financial Analysis Expert	Ms. Kinuyo Fukuda	0	19	0.95
Total		125 (4.17P/M)	313 (15.65P/M)	19.82 P/M

Note: Person/Month (P/M) is calculated as 30 days per 1 month for Work in Lao PDR and 20 days for 1 month for Work in Japan.

As of 30th September 2021, the total number of person-months (P/M) of JICA Experts is 19.82, which is equivalent to 71.3% of the planned total P/M of 27.80. JICA Expert team has dispatched only three Experts from June to September 2021. This dispatch becomes the first visit to Lao PDR due to the restrictions under COVID-19 situation, and two of them are extending their stay up to the middle of the October.

Local Staff

A local staff has been employed since February 2021 in order to facilitate works for correcting necessary data of Vientiane International Airport and for coordinating required communications between JICA Experts and Airport Improvement Committee Members.

(2) Inputs from Lao PDR Side

Assignment of Counterpart Personnel

Table 1-1-2 shows a list of Counterpart personnel who attended to Pre-Joint Coordinating Committee (pre-JCC) held on 17th February 2021. Those personnel have helped to organize the task-specified working teams as presented in Table 1-1-3 in order for the effective conduct of the Project. Figure 1-1-1 shows the current implementation structure of the Project of Lao side at the time of this version of monitoring sheet in September 2021.

Table 1-1-2 Counterpart Personnel (February 2021)

Organization	Position	Name
DCA	Deputy Director General:	Mr.Bountaeng Symoon
	Deputy Director, Aerodrome Safety and Standard Division (ASSD)	Mr.Sengsangouane Chanthavong
	Officer, ASSD	Mr.Kingsakda Muongmany
	Officer, ASSD	Mr.Anoosin Liengxay
	Deputy Director, Air Transport Division (ATD)	Mrs.Pikeo Vongviseth
	Director, Air Navigation Standards Division (ANSD)	Mr.Sohnsacksit Khamkeo
	Director, ASSD	Mr.Sackda Sourisack
	Deputy Director, Aviation Security	Ms.Thienthong Sopha
LANS	AIS Officer / Flight Procedure Designer	Ms.Inseelee Bouapao
	Deputy Director, Technical Division	Mr.Somphavanh Kingsada
AOL	Deputy Director, Airport Safety Division	Mr.Phantha Pemphanith
WIA	Director, Wattay International Airport	Mr.Keosouli Noufongsamouth

Tele-meetings of the task-specified working Teams have been organized as required. Coordinators of both sides supported to set up those periodical meetings.

Office Space and Equipment

Lao Counterpart provided an air-conditioned office with necessary equipment for JICA Experts in the DCA office building and a desk in AIS Office of LANS.

Equipment

Automated Flight Procedure Design System, PANADES, which was implemented under the JICA grant aid project in 2013, has been restored for the normal operations with the support from JICA Expert. PANADES, which was installed at AIS Office of LANS for the regular works, has been fully utilized for the concerned works related to this Project, such as the development of Instrument Flight Procedures (IFPs) and obstacle assessment of Obstacle Limitation Surfaces (OLS) of Vientiane International Airport. PANADES consists of the following equipment and software, which has not been updated since 2016:

- (a) 1 desktop PC with 2 external displays
- (b) Flight procedure design software (PANADES), database software, map display software, office software, and virus protection software.

Table 1-1-3 Members of Task Specific Working Teams (March 2021)

Team	JICA side		Counterpart side	
	Name	Position	Name	Position
Air traffic demand forecast				
	Mr. Hideo Arikawa	Air Traffic Demand Forecast Expert	Mr. Soukhhongthong VORAPHET	Director, ATD
	Mr. Takao Yamaguchi	Airport Planner	Mrs. Pikeo VONGVISETH	Deputy Director, ATD
Air navigation and air traffic control				
	Mr. Shinji Hara	Airspace and Flight Procedure Planner	Mr. Sohnsacksit KHAMKEO	Director, ANSD
	Mr. Atsushi Miwa	Runway/ATC Capacity Analysis Expert (1)	Mr. Somphavanh KINGSADA	Deputy Director, Technical Division, LANS
	Mr. Hiroshi Mizumasa	Air Navigation System Planner	Ms. Inseelee BOUPAPO	Flight Procedure Designer, LANS
	Mr. Takao Yamaguchi	Runway/ATC Capacity Analysis Expert (2)		
Airport facilities				
	Mr. Takao Yamaguchi	Airport Planner	Mr. Komack KEOCHAMPA	Civil Engineer, ASSD
	Mr. Keisuke Mizukami	Airport Civil Engineering Facility Planner	Mr. Kingsakda MUONGMANY	Civil Engineer, ASSD
	Mr. Kimihiko Ogihara	Airport Terminal Facility Planner	Mr. Anoosin LIENGXAY	Civil Engineer, ASSD
	Mr. Hiroshi Mizumasa	Air Navigation System Planner	Mr. Sengsangouane CHANTHAVONG	Deputy Director, ASSD
	Ms. Marie Iokawa	Cost Estimate		
Airport operation				
	Mr. Takao Yamaguchi	Airport Planner	Mr. Phantha PEMPHANITH	Deputy Director, Airport Safety Division (AOL)
	Mr. Atsushi Miwa	Runway/ATC Capacity Analysis Expert (1)	Mr. Bounthavy SOMSANITH	Director, Security Division (L-Jats)
	Mr. Shinji Hara	Airspace and Flight Procedure Planner		
	Ms. Kinuyo Fukuda	Economic/ Financial Analysis		
Environment				
	Mr. Norikazu Yamazaki	Environmental Impact	Mrs. Malaythong PHIMMASONE	Deputy Director, ASSD
			Ms. Thienthong SOPHA	Deputy Director, Security Division
Economic and Financial Analysis				
	Ms. Kinuyo Fukuda	Economic/ Financial Analysis	Mr. Soukhhongthong VORAPHET	Director, ATD
			Mrs. Manilay KEOVORACHACK	Human Resource and Administration Division
Coordinator				
	Mr. Khamlek Chintavong	Local staff	Mr. Sengsangouane CHANTHAVONG	Deputy Director, ASSD
			Ms. Thienthong SOPHA	Deputy Director, Security Division

<u>Concerned Units and Offices</u>		
1	Mr. Viengxay SINGKHAM	Project Director
2	Mr. Sengsangouane CHANTHAVONG	Deputy Project Director
3	Ms. Thienthong SOPHA	Member
4	Mrs. Pikeo VONGVISETH	Member

<u>Project Management Unit</u>		
1	Mr. Komack KEOCHAMPA	Project Manager
2	Mr. Kingsackda MUONGMANY	Deputy Project Manager
3	Mr. Anoosin LIENGXAY	Member
4	Mrs. Manylay KEOVORRACHACK	Member

<u>Airport Improvement Committee Members</u>		
1	Mr. Mr. Sohnsacksit KHAMKEO	Director
2	Mrs. Malaythong PHIMMASONE	Deputy Director
3	Mr. Phantha PEMPHANITH	Member
4	Ms. Inseelee BOUAPAO	Member
5	Mr. Keosouli NOUFONGSAMOUTH	Member
6	Mr. Bounthavy SOMSANITH	Member
7	Mr. Somphavanh KINGSADA	Member

List of Parties Concerned in the Project of Lao side

1.	Mr. Viengxay SINGKHAM	Director General, DCA
2.	Mr. Sengsangouane CHANTHAVONG	Aerodrome Safety and Standards
	Division	
3.	Mr. Komack KEOCHAMPA	Aerodrome Safety and Standards
	Division	
4.	Mrs. Malaythong PHIMMASONE	Aerodrome Safety and Standards
	Division	
5.	Mr. Kingsackda MUONGMANY	Aerodrome Safety and Standards
	Division	
6.	MR. Anoosin LIENGXAY	Aerodrome Safety and Standards
	Division	
7.	Mr. Sohnsacksit KHAMKEO	Air Navigation Standards Division
8.	Ms. Thienthong SOPHA	Security Standards Division
9.	Mrs. Pikeo VONGVISETH	Air Transport Division
10.	Mrs. Manylay KEOVORRACHACK	Human Resource and Administration
	Division	
11.	Mr. Phantha PEMPHANITH	Airport of Laos
12.	Ms. Inseelee BOUAPAO	Lao Air Navigation Service
13.	Mr. Keosouli NOUFONGSAMOUTH	Wattay International Airport
14.	Mr. Bounthavy SOMSANITH	Lao-Japan Airport Terminal Service
15.	Mr. Somphavanh KINGSADA	Airport Terminal Service

Figure 1-1-1 Implementation Structure of Lao side for the Project (September 2021)

1-2 Progress of Activities

The current status of Activities of the Project is summarized in Table 1-2-1. The rate of the progress and remarks of each activity as of September 2021 is shown in the table.

Table 1-2-1 Progress Rate of Activities

Activities	Progress Rate (%)	Remarks
1: To understand current situation of Vientiane International Airport		
1.1. Socio-economic conditions	100	The necessary information and data of the airport have been corrected and summarized in the Progress Report.
1.2. Air traffic demand growth trend	100	ditto
1.3. Related organizations – government, airport operators, airlines, and others	100	ditto
1.4. Government policy on airport development	100	ditto
1.5. Facilities at Vientiane International Airport	100	ditto
1.6. Airport access to Vientiane International Airport	100	ditto
1.7. Past studies on development of Vientiane International Airport	100	ditto
1.8. Environmental laws and regulations	100	ditto
2: To conduct air traffic demand forecasts up to year 2050 of Vientiane International Airport		
2.1. Projection of future socio-economic framework	100	The expected future socio-economic framework has been projected and summarized in the Progress Report.
2.2. Forecast of annual passengers, aircraft movement and cargos	100	The forecast of annual passengers, aircraft movement and cargos has been conducted and summarized in the Progress Report.
2.3. Peak hour forecasts	100	The forecast of peak hour passengers and aircraft movement has been conducted and summarized in the Progress Report.
2.4. Airport access traffic forecast	100	The forecast of airport access traffic has been conducted and summarized in the Progress Report.
3: To evaluate current facilities and services of Vientiane International Airport with respect to current and future requirements		
3.1. Runway, instrument flight methods and ATC procedures	100	The current facilities and services of the airport have been assessed. The results have been summarized in the Progress Report.
3.2. Taxiways and aircraft stands	100	The current facilities and their service level have been evaluated. The results are summarized in the Progress Report.
3.3. Passenger terminal facilities	100	The current PTB facilities, both international and domestic, have been evaluated. The results are summarized in the Progress Report.

3.4. Cargo terminal facilities	100	The current cargo facilities have been evaluated and the results are summarized in the Progress Report.
3.5. Rescue and firefighting facilities	100	The current use of R&F facilities has been assessed. The results are summarized in the Progress Report.
3.6. Aeronautical ground lighting systems	100	The current aeronautical ground lighting systems have been evaluated. The results are summarized in the Progress Report.
3.7. Air navigation and meteorological systems	100	The current status air navigation and meteorological systems have been evaluated. The results are summarized in the Progress Report.
3.8. Fuel supply facilities	100	The current situation of concerned facilities has been assessed. The results are summarized in the Progress Report.
3.9. Airport access	100	The current situation of airport access, in particular, of parking lots has been evaluated. The results are summarized in the Progress Report.
3.10. Airport utility systems	100	The current situation of concerned facilities has been assessed. The results are summarized in the Progress Report.
3.11. Drainage	100	The current situation of drainage system and its facilities have been assessed. The results are summarized in the Progress Report.
3.12. Others	100	The current situation of other utility facilities has been assessed. The results are summarized in the Progress Report.
4: To identify immediate improvement needs at Vientiane International Airport		
4.1. Improvement of facilities	80	The short-term needs of improvement of facilities in order to conduct expected airport operations that aims to prolong the airport capability have been assessed and explained in the Progress Report. The priority of those needs, however, is still under considerations.
4.2. Improvement of services	80	The possible improvement of services that accommodate forecasted traffic for short to long term has been assessed and explained in the Progress Report. However, the level of services to be achieved and needs of required improvement of the services would vary depending on the expected timing of improvement as the implementation scheme should be coordinated with the improvement of facilities
5: To develop long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas		
5.1. To conduct alternative study to enhance runway capacity	70	The improvement scheme of runway capacity in terms of runway operation mode has been developed based on the evaluation of current airport and runway operations. The implementation of expected runway operation mode should be coordinated with improvement of facilities as well as services.
5.2. To formulate long-term improvement plan for airport facilities including descriptions of each improvement, general layout plan, implementing organization, etc.	10	The formulation of long-term improvement plan is on-going. The ultimate operation mode of airport services has not been agreed, and therefore the needs of the required facilities as components for those improvements are under the process of selection and prioritization The details of such improvement will be finalized and summarized in the Draft Project Completion Report.

5.3. To estimate project implementation schedule and costs	10	This item will be discussed, calculated and summarized after Activities of 5.1 and 5.2 are finalized. So far, related and necessary environmental information has been collected.
6: To conduct economic and financial analyses of the long-term improvement plan of Vientiane International Airport		
6.1. To conduct economic analysis of the long-term improvement plan	10	The required financial information has been collected. Missing and further information will be gathered once long-term improvement plan is formulated.
6.2. To conduct financial analysis of the long-term improvement plan	0	Financial analysis will be conducted once the long-term improvement plan is finalized.
6.3. To examine funding plan for the long-term improvement plan	0	Examination of funding plan will be conducted along with financial analysis after the long-term improvement plan is finalized.

1-3 Achievement of Outputs

The current achievement status of Outputs for the Project is summarized in Table 1-3-1. The rate of the achievement and remarks of each output as of September 2021 is shown in the table.

Table 1-3-1 Achievement Rate of Outputs

Outputs	Achievement Rate (%)	Remarks
1. Current situation of Vientiane International Airport has been understood.	100	Completed. The results can be found in the Progress report.
2. Air traffic demand forecasts up to year 2050 of Vientiane International Airport have been conducted.	100	Completed. The results can be found in the Progress report.
3. Current facilities and services at Vientiane International Airport have been evaluated.	100	Completed. The results can be found in the Progress report.
4. Immediate improvement needs of Vientiane International Airport have been identified.	80	The results can be found in the Progress report. However, the contents of the immediate improvement may be modified depending on the formulation of long-term improvement plan.
5. Long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas has been developed.	30	The improvement scheme of runway capacity in terms of runway operation mode has been developed. The required components of long-term improvement plan that accommodates the intended runway operation mode will be formulated. The influences of social and environmental impacts will also be assessed in the formulation process.
6. Economic and financial analyses of the long-term improvement plan of Vientiane International Airport has been conducted.	10	Economic analysis will be conducted analysis after the long-term improvement plan is finalized

1-4 Achievement of the Project Purpose

The purpose of the Project is “DCA’s capacities relevant to continuous improvement of Vientiane International Airport have been developed”. Objectively verifiable indicator for the achievement is “A report compiling all the outputs of the Project has been produced”. The approximate progress status of the report, which is still under the development, is 70% as shown in 1-3 above.

1-5 Changes of Risks and Actions for Mitigation

In order to conduct the expected activities under the Project smoothly, the following actions are considered crucial and necessary:

(1) Schedule management to implement the Project

From the start of the Project, the risk of COVID-19 has been identified, and the Project has been trying to minimize its influence, which has been and will be unpredictable.

The Project has been struggled with the communication between JICA Experts and counterparts: the first site visit had been postponed almost 5 months in the early stage of the Project and the first visit was finally made in June but with only limited number of Experts as it was found difficult to dispatch full of ten JICA Experts on site.

The first dispatch of JICA Expert Team was made with three members, two from June and one from July. At the time of this monitoring sheet, two of those dispatched Experts continues their

works on site in order to conduct necessarily tasks for their own fields as well as to cover all the specific fields of other JICA Experts, who could not be dispatched to Lao PDR.

This situation made schedule management of the Project more crucial for overall progress, but it has been found difficult to conduct the works on site as expected since on site works also affected and restricted under the COVID-19 situation. As a result, the stay of dispatched Experts has been extended from the originally expected duration.

(2) Direct Communications between JICA Experts and Counterparts

In order to implement the Project efficiently with sufficient communication among the Project members, task-specific working teams has been formulated. These teams are relatively small and considered effective to facilitate the intended communications.

Such team-based communications had intended to facilitate the communications among Project members, however, has not been found effective as much as expected. This ended to some delay in the progress of the Project while the dispatched Experts and local staff has tried such communications as much as possible. Details are described in Part 2 “Delay of Work Schedule and/or Problems”.

1-6 Progress of Actions undertaken by JICA

While JICA has tried to input the JICA Expert team based on the consultant contract, the implementation schedule of the Project has to be modified with various operational restrictions of both countries to dispatch those Experts. In September 2021, JICA and Lao side have agreed to extend the Project period up to March 2022, but still continue to monitor the situation as there is still a possibility of further extension of the Project.

1-7 Progress of Actions undertaken by Government of Lao

DCA, an executing agency under Ministry of Public Works and Transport (MPWT), has successively organized Airport Improvement Committee as well as the task-specific working teams at the early stage of the Project in order to conduct the Project Activities as mentioned in the paragraph 1.1 (2). DCA has also been trying to coordinate and secure necessary human resources from not only DCA but other member organizations such as LANS, AOL and L-JATS for the Project.

1-8 Progress of Environmental and Social Considerations (if applicable)

Not Applicable at this version of the monitoring sheet. The influences of social and environmental impacts will be assessed in the formulation process of Draft Final Report (DFR).

1-9 Progress of Considerations on Gender/Peace Building/Poverty Reduction (if applicable)

Not Applicable.

1-10 Other remarkable/considerable issues related/affect to the project (such as other JICA's projects, activities of counterparts, other donors, private sectors, NGOs etc.)

Possible delay of the overall Project influenced by COVID-19 situation would be the most remarkable issue that has been and will impact the implementation of the Project. This issue is further described in Part 2 of this document.

2. Delay of Work Schedule and/or Problems (if any)

2-1 Details (Discussions in Pre-Joint Coordinating Committee (Pre-JCC))

Pre-JCC was held on 17 February 2021, and both Lao and Japan sides shared the necessity of high level of flexibility regarding the implementation schedule of the Project due to the COVID-19 situation that both countries had faced. With this common understanding, the timing of the first visit of JICA Experts to Lao PDR was temporarily set to be in April at the time of JCC, which had been already postponed from original schedule in January 2021.

JICA Experts requested setting-up of task-specific working teams in the Pre-JCC in order to facilitate the communications among the Project members in the remote environment, and Lao counterparts have agreed with it. The teams have been successfully set-up and some teams such as Air Navigation and Air Traffic Control team and Airport Facilities team have held some meetings on-line before the expected first visit.

However, efficiency and effectiveness for the progress of the Project have been a crucial issue. It has been found that the actual needs of communication in the early stage of the Project to establish close relationship among the Project members through daily-base interactions. That is, the set-up of task specific working teams could not make communication as active as expected without initiation of the communication by face to face basis.

Both sides had understood possibility of the extension of the Project period in the later stage at the time of Pre-JCC. Then, having the first visit of JICA Experts on site in June, both sides agreed in September 2021 to extend the project period to the end of March 2022 with a duration of total of 14-months. It is also mentioned in the agreement that this 14-month duration may be further extended depending on the COVID-19 situation.

2-2 Causes

- (1) The complexity of various restrictions and unpredictability of COVID-19 has been the major cause of the delay. The restrictions have been keeping JICA Experts away from on-site works and the Project members are left from face to face communication for a long time. The most effective improvement for the progress of the Project would be site visits of full members of JICA Experts, which is unrealistic under the current COVID-19 situation. The level of communication stays low unfortunately.
- (2) The Project Team recognizes the following two issues to be addressed for the formulation of immediate and long-term improvement plans:
 - (a) Differences in the level of understanding among specific fields
Three JICA Experts have been dispatched to Lao PDR from June 2021. The communication among Project members has been facilitated in particular for those three specific fields with the presence of JICA Experts. Consequently, the level of understanding of the current situation of the airport has been improved. Other specific fields, however, have left with less information while those three JICA Experts along with a local staff on site have been trying to cover up those other specific fields. Such differences in the level of works performed on site has become obvious in particular for data collection and communication with counterparts.
 - (b) Human resource development as a Technical Cooperation Project
In relation to the issue a) above, the low level of direct communication left some counterparts in the fields without JICA Experts on site less in the understanding of the Project activities. This situation may lead some specific fields with less sufficient human resources to follow the development of Vientiane International Airport during and after the Project. Some follow-up actions to secure qualified human resources may become necessary in order to keep the effectiveness of the Project as this Project supposes to be a technical cooperation project by which necessary human resources for the concerned issues can be developed.

2-3 Action to be taken

- (a) Actions for differences in the level of understanding among specific fields
There would not be effective actions in the course of the Project unless the presence of all JICA Experts on site. The JICA Expert team should simply try to have more direct communication on site and/or remote, in particular for those specific field with less interactions so far by utilizing the relationship already developed among Project members through the dispatchment of JICA Experts.
- (b) Actions for human resource development
The JICA Expert team could hold workshop sessions for each specific field at the end of the Project. While the explanation of the Draft Final Report (DFR) at the final dispatch of JICA Experts, some area specific workshops could be organized on-site or remote in order to follow up the overall activities in relation to the contents of this Project. This kind of additional activities would enhance the understanding of the counterparts regarding the future application of the project outputs and would also strengthen the relationship among members of task specific working teams.

2-4 Roles of Responsible Persons/Organization (JICA, Gov. of Lao PDR, etc.)

The JICA Expert team should discuss with Airport Improvement Committee members for the necessity of such actions mentioned in 2-3 above. Necessary coordination could be made through Joint Coordination Committee (JCC) with participation of Project Director from Lao side and JICA Lao Office as well as JICA HQs.

3. Modification of the Project Implementation Plan

3-1 PO

The Project Members have updated the Plan of Operation (PO) based on the PDM version 2.0, which was agreed and amendment on 30 September 2021. The updated PO, which will be Version 2.0, is presented as Project Monitoring Sheet II with necessary adjustments in assignment periods of JICA Experts, amount of Project activities on site and timing of those Project activities in accordance with the changes of PDM.

3-2 Other modifications on detailed implementation plan

The influence of COVID-19 has made the Project period extended as amended in PDM version 2.0, which is attached as Project Monitoring Sheet I. This change of the Project period has also led various modifications as mentioned in 3-1 above in PO Version 2, which is attached as Project Monitoring Sheet II.

Both PDM and PO may have to be amended further in case that the influence of COVID-19 stays around, and the Project implementation plan and related environment are affected by that.

4. Preparation of Gov. of Lao PDR toward after completion of the Project

To be discussed at a later stage.

Monitoring Sheet II

Plan of Operation (PO)

The Project for Technical Support on Continuous Improvement of Vientiane International Airport

Version 3.0
Date: 10 March, 2022

Year/Month	2021													
	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Japanese Experts														
1. Chief Advisor/Airport Planner/ Runway/ATC Capacity Analysis Expert (2)														
2. Air Traffic Demand Forecast Expert														
3. Runway/ATC Capacity Analysis Expert (1)														
4. Airspace and Flight Procedure Planner														
5. Airport Civil Engineering Facility Planner														
6. Airport Terminal Facility Planner														
7. Air Navigation System Planner														
8. Environmental Impact Expert														
9. Project Cost Estimation Expert														
10. Economic/Financial Analysis Expert														
Activities														
1. To understand current situation of Vientiane International Airport														
1-1 Socio-economic conditions	✓	✓												
1-2 Air traffic demand growth trend	✓	✓												
1-3 Related organizations – government, airlines, airport operators and others	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-4 Government policy on airport development	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-5 Vientiane International Airport facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-6 Airport access to Vientiane International Airport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-7 Past studies on airport development for Vientiane International Airport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-8 Environmental laws and regulations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. To conduct air traffic demand forecasts up to year 2050 of Vientiane International Airport														
2-1 Projection of future socio-economic framework	✓	✓												
2-2 Annual passenger, cargo and aircraft movement forecasts	✓	✓												
2-3 Peak hour forecasts	✓	✓												
2-4 Airport access traffic forecast	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. To evaluate current facilities and services of Vientiane International Airport with respect to current and future requirements														
3-1 Runway, instrument flight procedures and ATC procedures	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-2 Taxiways and aircraft stands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-3 Passenger terminal facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-4 Cargo terminal facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-5 Rescue and firefighting facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-6 Aeronautical ground lighting systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-7 Air navigation and meteorological systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-8 Fuel supply facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-9 Airport access	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-10 Airport utility systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-11 Drainage	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3-12 Others	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. To identify immediate improvement needs at Vientiane International Airport														
4-1 Improvement of facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4-2 Improvement of services	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. To develop long-term improvement plan of Vientiane International Airport in consideration of social and environmental impacts on the surrounding areas														
5-1 To conduct alternative study to enhance runway capacity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5-2 To formulate long-term development plan for airport facilities including descriptions of each improvement, general layout plan, implementing organization, etc.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5-3 To estimate project implementation schedule and costs	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. To conduct economic and financial analyses on the long-term development plan of Vientiane International Airport														
6-1 To conduct economic analysis of the long-term development plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6-2 To conduct financial analysis on the long-term development plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6-3 To examine funding plan for the long-term development plan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Monitoring Plan														
1. Work Plan (Inception Report)														
2. Progress Report														
3. Monitoring Report (Progress Report)														
4. Draft Final Report														
5. Project Completion Report (Final Report)														
6. JCC														

Legend

- Work in Lao PDR
- Work in Japan