カンボジア、ラオス、
マレーシア、ミャンマー、タイ、
ベトナムにおける家畜疾病防除計画
地域協力プロジェクト(フェーズ2)
終了時評価調査報告書

平成23年3月
（2011年）

独立行政法人国際協力機構
農村開発部

農 村
ＪＲ
11-031

カンボジア、ラオス、
マレーシア、ミャンマー、タイ、
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序　　文

独立行政法人国際協力機構は、カンボジア王国、ラオス人民民主共和国、マレーシア、ミャンマー連邦、タイ王国、ベトナム社会主義共和国各国と締結した討議議事録（R/D）に基づき、技術協力プロジェクト「カンボジア、ラオス、マレーシア、ミャンマー、タイ、ベトナムにおける家畜疾病防除計画地域協力プロジェクト（フェーズ 2）」を 2008 年 2 月から 2011 年 2 月までの計画で実施しました。

当機構は、本プロジェクトが活動を終えるのに先立ち、プロジェクトの成果を確認し、今後のプロジェクトに関する提言と教訓を得るべく、2010 年 12 月 5 日から 2011 年 1 月 14 日まで JICA 国際協力専門員　多田融右を団長/総括とする終了時評価調査団を同国に派遣しました。

調査団は、本プロジェクトの実績、実施プロセス、評価 5 項目に関する情報を各国ごとに収集・分析し、評価結果を取りまとめ、調査に関するミニッツに署名しました。本報告書は、今回の終了時評価調査の結果を取りまとめるとともに、今後の協力の更なる発展の指針となることを目的にしています。

終わりに、プロジェクトの実施にご協力とご支援を頂いた両国関係者の皆さまに、心から感謝の意を表します。

平成 23 年 3 月

独立行政法人国際協力機構
農村開発部長　**熊代　輝義**

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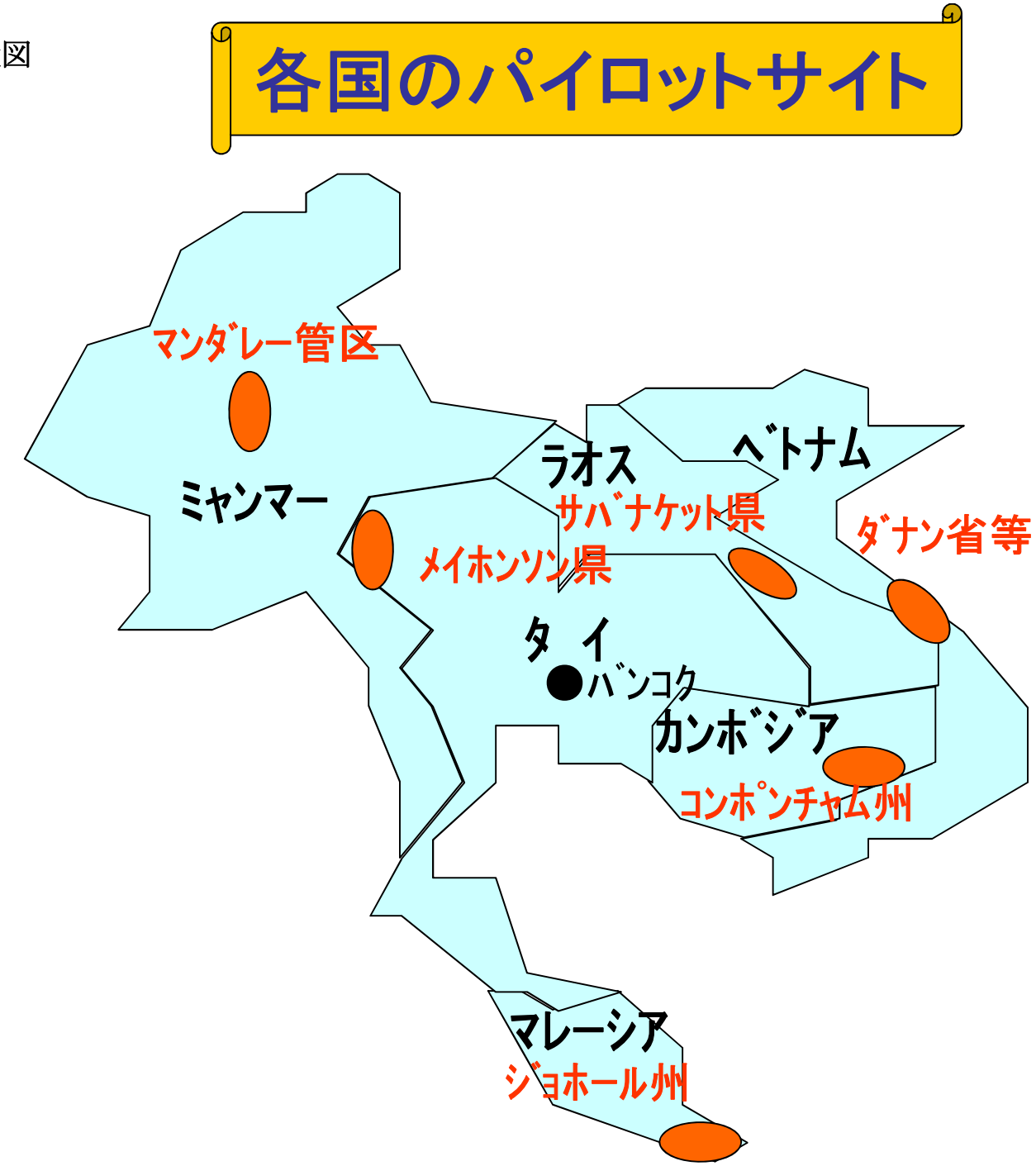
各国のパイロットサイト
マンダレー管区
ミャンマー
ラオス
ベトナム
サバナケット県
メイホンソン県
ダナン省等
タイ
バンコク
カンボジア
コンポンチャム州
マレーシア
ジョホール州

略　語　表

ADC-2	Project for Animal Disease Control among Cambodia, Lao P.D.R, Malaysia, Myanmar, Thailand and Vietnam Phase 2	カンボジア、ラオス、マレーシア、ミャンマー、タイ、ベトナムにおける家畜疾病防除計画地域協力プロジェクト　フェーズ 2
AHPISA	Animal Health Production Information System for ASESAN	アセアン家畜衛生生産情報システム
AI	Avian Influenza	鳥インフルエンザ
AQS	Animal Quarantine Station(s)	動物検疫ステーション
ARAHIS	ASEAN Regional Animal Health Information System	アセアン地域家畜衛生情報システム
CLMV	Cambodia, Lao PDR, Myanmar and Vietnam	カンボジア、ラオス、ミャンマー、ベトナム
C/P	Counterpart(s)	カウンターパート
CSF	Classical Swine Fever 〔= Hog Cholera (HC)〕	ブタコレラ
EI	Egg Inoculation	発育鶏卵接種
ELISA	Enzyme-Linked Immuno-sorbent Assay	エライザ（酸素免疫測定法）
EPI	Epidemiology (Epidemiological)	疫学（疫学的）
FAO	Food and Agriculture Organization of the United Nations	国連食糧農業機関
FMD	Foot and Mouth Disease	口蹄疫
GMT	Geometrical Mean Titer	幾何学平均力価
HPAI	Highly Pathogenic Avian Influenza	高病原性鳥インフルエンザ
HS	Haemoragic Septiceamia	出血性敗血症
MTCP	Malaysia Technical Cooperation Program	マレーシア技術協力プログラム
M/M	Minutes of Meeting	ミニッツ（協議議事録）
NC	National Coordinators	ナショナルコーディネーター
ND	Newcastle Disease	ニューカッスル病
NJCC	National Joint Coordinating Committee	国別合同調整委員会
NPD	National Project Director	ナショナル・プロジェクト・ダイレクター
NPM	National Project Manager	ナショナル・プロジェクト・マネジャー
OIE	Office International des Epizooties	国際獣疫事務局
OJT	On-the-Job Training	オンザジョブ・トレーニング（実地訓練）

PCM	Project Cycle Management	プロジェクト・サイクル・マネジメント
PCR	Polymerase Chain Reaction	ポリメラーゼ連鎖反応
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PI	Pathogenic Index	病原性指標
PO	Plan of Operations	活動計画
PRRS	Porcine Reproductive and Respiratory Syndrome	ブタ呼吸器繁殖器症候群
RC	Regional Coordinator	リージョナルコーディネーター
R/D	Record of Discussions	討議議事録
RJCC	Regional Joint Coordinating Committee	域内合同調整委員会
RPS	Regional Project Secretariat	地域プロジェクト事務局
TB	Tuberculosis	結　核
WAHIS	World Animal Health Information System	世界家畜衛生情報システム

<Cambodia>

DAHP	Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries	農林水産省家畜衛生生産局
DAHPO	District Animal Health and Production Office	郡家畜衛生生産事務所
MAFF	Ministry of Agriculture, Forestry and Fisheries	農林水産省
NaVRI	National Veterinary Research Institute	国立獣医学研究所　（旧国立家畜衛生生産研究センター）
PAHPO	Provincial Animal Health and Production Office	県家畜衛生生産事務所
VAHW	Village Animal Health Worker	村落家畜衛生ワーカー

<Lao P.D.R.>

AVPC	Animal Vaccine Production Center	ワクチン製造センター
DAFEO / DAFO	District Agriculture and Forestry Extension Office	郡農林事務所
DLF	Department of Livestock and Fisheries, Ministry of Agriculture and Forestry	農林省畜水産局
NAHC	National Animal Health Center	国立家畜衛生センター
PAFO	Provincial Agriculture & Forestry Office	県農林事務所

<Malaysia>

DVO	District Veterinary Office	郡獣医事務所
DVS	Department of Veterinary Services	農業省獣医サービス局
ＥＰＵ	Economic Planning Unit	首相府経済企画院
RVL-JB	Regional Veterinary Laboratory - Johore Bharu	ジョホールバル地域獣医研究所
SVS	State Veterinary Services	州立獣医サービス
VRI	Veterinary Research Institute	国立獣医学研究所

<Myanmar>

AHW	Animal Health Workers	家畜衛生ワーカー
DLBV	Department of Breeding and Livestock Veterinary	畜水産省家畜改良獣医局
LBVD	Livestock Breeding and Veterinary Department = Department of Breeding and Livestock Veterinary (DLBV)	畜水産省家畜改良獣医局（上に同じ）
MLF	Ministry of Livestock and Fisheries	畜水産省
RVL-Mdl	Regional Veterinary Laboratory Mandalay	マンダレー地域診断ラボラトリー
T/S	Township	タウンシップ
VDC	Veterinary Drug Cabinet	獣医医薬品キャビネット
VDL-Mdl	Veterinary Diagnostic Laboratory Mandalay = RVL-Mdl	マンダレー地域診断ラボラトリー
VL Central (Yangon)	Veterinary Diagnostic Laboratory Yangon	ヤンゴン（中央）診断ラボラトリー

<Thailand>

DLD	Department of Livestock Development	農業・協同組合省畜産振興局
MHS-AQS	Mae Hong Son Animal Quarantine Station	メーホンソン動物検疫ステーション
NIAH	National Institute of Animal Health	国立家畜衛生研究所
RRL-FMD	Regional Reference Laboratory - Foot and Mouth Disease	口蹄疫地域参考検査室
RVRDC	Regional Veterinary Research and Development Center	獣医調査開発地域センター
TICA	Thailand International Cooperation Agency	タイ国際協力庁

<Vietnam>

DAH	Department of Animal Health	農業農村開発省家畜衛生局
DVS	District Veterinary Services	ベトナム郡獣医サービス事務所
NCVD	National Center for Veterinary Diagnosis	国立獣医診断センター
RAHO	Regional Animal Health Office	家畜衛生地域事務所
SDAH-QN	State Department of Animal Health - Quang Nam	クアンナム省家畜衛生局

評価調査結果要約表

<table>
<tr><td colspan="3">１．案件の概要</td></tr>
<tr><td colspan="2">国　　名：カンボジア王国、ラオス人民民主共和国、マレーシア、ミャンマー連邦、タイ王国、ベトナム社会主義共和国</td><td>案件名：カンボジア、ラオス、マレーシア、ミャンマー、タイ、ベトナムにおける家畜疾病防除計画地域協力プロジェクト　フェーズ 2（ADC-2）</td></tr>
<tr><td colspan="2">分　　野：家畜衛生</td><td>支援形態：技術協力プロジェクト</td></tr>
<tr><td colspan="2">所轄部署：農村開発部</td><td>協力金額（評価時点）：3 億 8,000 万円</td></tr>
<tr><td rowspan="3">協力期間</td><td rowspan="3">2008.2.13～2011.2.12</td><td>先方関係機関：カンボジア王国〔農林水産省家畜衛生生産局（DAHP)〕、ラオス人民民主共和国〔農林省畜水産局（DLF)〕、マレーシア〔農業省獣医サービス局（DVS)〕、ミャンマー連邦〔畜水産省家畜改良獣医局（LBVD)〕、タイ王国〔農業・協同組合省畜産振興局（DLD)〕、ベトナム社会主義共和国〔農業農村開発省家畜衛生局（DAH)〕</td></tr>
<tr><td>日本側協力機関：農林水産省</td></tr>
<tr><td>他の関連機関：なし</td></tr>
</table>

１－１　プロジェクトの背景と概要

タイ王国（以下、「タイ」と記す）及びその周辺国、カンボジア王国（以下、「カンボジア」と記す)、ラオス人民民主共和国（以下、「ラオス」と記す)、マレーシア、ミャンマー連邦（以下、「ミャンマー」と記す)、ベトナム社会主義共和国（以下、「ベトナム」と記す）では、流通の改善により国境を越えた家畜の移動の増加が生じ、技術的にも体制的にも域内の疾病拡大を調整・管理する機能が未整備であったため、家畜衛生に関する状況が悪化することになった。各国は域内での疾病拡大を未然に防ぐ必要から家畜衛生技術の改善、地域的な防除戦略の確立の重要性を認識し、わが国に対し、技術支援を要請した。

JICA は、2001 年 12 月～2006 年 12 月まで当該地域における家畜疾病防除技術の改善を目的とする広域技術協力プロジェクト「タイ王国及び周辺国における家畜疾病防除計画」(以下、「フェーズ 1」と記す）を実施した。一方、フェーズ 1 の後半に当該地域で鳥インフルエンザ（Avian Influenza：AI）が発生したこともあり、各国の疾病防除技術の更なる強化に加え、域内及び国内における疾病監視体制の強化が急務となった。

このような背景の下、JICA は 2008 年 2 月に「疾病監視体制整備のための人材育成」「域内情報ネットワークの整備」「国内疾病連絡網の整備」「各種疾病技術の定着」を目的とした同プロジェクトのフェーズ 2〔カンボジア、ラオス、マレーシア、ミャンマー、タイ、ベトナムにおける家畜疾病防除計画地域協力プロジェクト　フェーズ 2（Project for Animal Disease Control among Cambodia, Lao P.D.R, Malaysia, Myanmar, Thailand and Vietnam Phase 2 : ADC-2)〕を 3 年間の予定で開始した。

本プロジェクトは、6 カ国を対象とする広域技術協力プロジェクトであり、3 名の長期専門家

（チーフアドバイザー、家畜疾病防除、業務調整）が、タイ農業・共同組合省畜産振興局（Department of Livestock Development : DLD）を拠点に、各国のカウンターパート（Counterpart : C/P）機関によるパイロットプロジェクト及びタイ、マレーシア、ベトナムを中心とした域内での活動に関し、技術指導を実施してきた。

１－２　協力内容

(1) 上位目標

地域（6 カ国）レベルにおいて越境性家畜疾病の監視体制が構築される

(2) プロジェクト目標

現場（パイロットサイト）、地方、中央レベルにおいて越境性家畜疾病の監視体制が構築される

(3) 成　果

1　家畜疾病監視技術が定着する
2　家畜疾病監視情報に係る体制が整備される
3　家畜疾病監視に係る地域（6 カ国）レベルの枠組みが構築される

(4) 投入　（2010 年 1 月の中間レビュー時点）

【日本側】

長期専門家派遣	3	機材供与*	2,900 万円
短期専門家派遣	55 カ月	ローカルコスト負担	1 億 4,300 万円
研修員受入	7 名		

* 現地調達その他を含む

【各国側】

カンボジア	C/P 配置：5 名	ローカルコスト負担: －
	第 5 回域内合同調整委員会（Regional Joint Coordinating Committee：RJCC）開催	
ラオス	C/P 配置：4 名	ローカルコスト負担： 2,500US ドル
	第 6 回 RJCC 開催	
マレーシア	C/P 配置：8 名	ローカルコスト負担： 1 万 6,399 US ドル
	第 2 回 RJCC 開催、マレーシア人専門家の派遣	
	ラボ検査技術域内研修、家畜疾病診断研修ほか、開催	
ミャンマー	C/P 配置：11 名	ローカルコスト負担： 2,271 万 1,150 KYATS
	第 4 回 RJCC 開催	
タイ	C/P 配置：9 名	ローカルコスト負担：352 万 5,000 THB
	第 1、7 回 RJCC 開催、タイ人専門家の派遣	
	動物検疫域内研修、疫学（Epidemiology：EPI）調査モデルワークショップほか、開催	
	専門家執務室	

ベトナム	C/P 配置：8 名　　ローカルコスト負担: 2 万 2,400 US ドル 第 3 回 RJCC 開催、ベトナム人専門家の派遣 ブタ呼吸器繁殖器症候群（Porcine Reproductive and Respiratory Syndrome：PRRS）診断域内研修

２．評価調査団の概要

調査団	団長/総括　多田　融右　JICA 国際協力専門員 家畜疾病防除　窪田　宣之　独立行政法人動物衛生研究所 協力企画　日高　弘　JICA 水田地帯第一課 企画役 評価分析（マレーシア､ベトナム､ミャンマー）奥田　浩之　合同会社 適材適所 評価分析（カンボジア、ラオス）藤本　抄越理　合同会社 適材適所 評価分析（タイ、広域）井田　光泰　合同会社 適材適所	
調査期間	2010 年 12 月 5 日～2011 年 1 月 14 日	評価種類：終了時評価

３．評価結果の概要

３－１　実績の確認

(1) プロジェクト目標の達成度

指標１：家畜疾病監視能力を十分有する人員の数〔現場・郡・地方（一部中央)〕

家畜疾病監視の研修を受講し､新たに疾病監視能力の知見を得た職員数は下表のとおり。

[単位：人]

国名	地方（一部中央）	郡	現場
カンボジア	7 / 4	7 / 23	87 / 176
ラオス	21 / 3	31 / 40	121 / 162
マレーシア	51 / 2	65 / 11	296 / 202
ミャンマー	47 / 35	67 / 12	85 / 49
タイ	－	－	3 / 4
ベトナム	8 / 8	40 / 40	40 / 152

達成値/目標値

（目標値はプロジェクトで実施したモニタリング調査の結果に基づく）

指標２：収集・分析された疫学データの数

各国で収集・分析された疫学データの数

国	データの種類(数)
カンボジア	内部寄生虫、出血性敗血症（Haemoragic Septiceamia：HS）（２）
ラオス	ウシ及び水牛の寄生虫、HS（２）
マレーシア	ニューカッスル病（Newcastle Disease：ND）（１）
ミャンマー	結核（Tuberculosis：TB)、ブルセラ病（２）
タイ	輸入牛・水牛の口蹄疫（Foot and Mouth Disease：FMD）（１）
ベトナム	ブタコレラ（Classical Swine Fever：CSF）（１）

(2) 上位目標の達成度

指標：地域（6 カ国）レベルにおいて越境性家畜疾病の監視体制が構築される

本プロジェクトが主導して、各国の局長レベル会議で、家畜移動の管理システムの調和に向けた方向性と優先度の確認を行った。今後、メンバー国間でシステムの調整や共通化が促進されることが期待される。ただし、具体的な成果を上げていくためには、地域内の包括的な政策的枠組み、各国の強いコミットメントとリソースの提供など具体的な措置が必要である。

(3) 成果の達成度

1) カンボジア

成果１：家畜疾病の診断技術の定着

研修及び短期専門家の指導によりコンポンチャム県ラボラトリー職員が寄生虫検査と細菌検査の基礎診断技術を習得し、更に供与機材を活用し、ラボラトリーの機能が強化された。

成果２：通報連絡体制の整備

既存の連絡体制があるもののその質・精度に問題があった。県、郡、村落家畜衛生ワーカー（Village Animal Health Worker：VAHM）等の研修を通じて、より正確な情報が現場から提供されるようになった。

2) ラオス

成果１：家畜疾病の診断技術の定着

サバナケット県のラボラトリー職員が、寄生虫、細菌診断研修をビエンチャンの国立家畜衛生センター（National Animal Health Center：NAHC）において受講し、更に NAHC 職員が県ラボラトリーに赴き現地で指導するとともに、日本人短期専門家による指導が行われた。県ラボラトリーにおける確定診断について今のところ不可能であるが、基本的細菌診断、基本的細菌検査については可能となった。

成果２：連絡通報体制の整備

村、郡、県、中央レベル間の既存の家畜疾病情報システムが確認されているが、適切に機能していない。現在、2 つのラインの情報システムが存在しており、1 つは村長、郡長、県知事のラインであり、もう 1 つは、村落獣医、郡農林局、県農林局のラインである。情報を管理し、疾病の発生に対して迅速に対応するために獣医法にのっとった後者のラインによる情報システムが促進されるべきである。

3) マレーシア

成果１：家畜疾病の診断技術の定着

ND 診断技術は、国立獣医学研究所（Veterinary Research Institute：VRI）において、既に確立されており、本プロジェクトでは、VRI からジョホールバル地域獣医研究所（Regional Veterinary Laboratory-Johore Bharu：RVL-JB）への技術移転を図り、RVL-JB に

おいて確定診断ができるようになった。また、短期専門家の指導により組織培養によるウイルス分離が可能となった。養鶏農家及び生産者への指導・助言についても RVL-JB が独自に取り組んでいる。

成果２：連絡通報体制の整備

農業省獣医サービス局（Department of Veterinary Services：DVS）は、家畜疾病通報のための情報ネットワークシステムのモデル化を進めてきた。併せて、国家家畜疾病防除計画の下、ND のサーベイを定期的に行っており、これまでのところパイロットサイトで ND は発生していない。今後は、情報・データの解析を行い、それを報告として DVS で取りまとめ、郡においても共有し、ND の防除対策に貢献することが求められている。

4) ミャンマー

成果１：家畜疾病の診断技術の定着

マンダレー地域診断ラボラトリー（Regional Veterinary Laboratory Mandalay:RVL-Mdl）職員は、ブルセラ凝集試験、寄生虫検査等について診断可能であり、通常業務として定着している。

タウンシップ（Township：T/S）職員のワクチン接種や治療の能力が強化され、畜産農家との信頼関係の構築が図ることができた。

成果２：連絡通報体制の整備

RVL-Mdl と中央行政機関の間の疾病監視通報ネットワークは、RVL-Mdl の能力強化により向上した。畜水産省家畜改良獣医局（Livestock Breeding and Veterinary Department：LBVD）は RVL-Mdl からマンダレー地域の家畜疾病に関する情報・通報を以前より多数受け取るようになった。

5) タイ

成果１：家畜疾病診断技術の定着

メーホンソン動物検疫ステーション（Mae Hong Son Animal Quarantine Station：MHS-AQS）、動物検疫所ラボにおいて FMD のエライザ（酸素免疫測定法）（Enzyme-Linked Immuno-sorbent Assay：ELISA）診断が可能となった。今までのところ診断項目は、ブルセラ病と FMD の 2 つであるが、今後、ELISA による診断が可能な対象疾病についても検討されることとなった。

成果２：通報連絡体制の整備

農家、郡、県、DLD 間の通報体制は確立しているが、動物検疫所のデータを DLD のみでなく県、郡の畜産事務所とも共有する一環したデータシステムの構築が期待されている。

6) ベトナム

成果１：家畜疾病診断技術の定着

家畜衛生地域事務所 No.4（Regional Animal Health Office：RAHO4）は、短期専門家の投入により、組織培養によるウイルス診断、その他各種細菌診断が可能となった。省家畜衛生局（State Department of Animal Health：SDAH）ラボは機材の投入、職員のラボ技術研修を RAHO4 において実施するとともに、短期専門家の指導により、基本的細菌検査、寄生虫検査等が可能となった。

成果２：連絡通報体制の整備

通報体制の仕組みは、既に構築されていたが、プロジェクトの活動を通して、臨床診断、レポート作成、通報の迅速さといった点で、既存の通報体制の向上が確認された。現場の家畜衛生ワーカー（Animal Health Workers：AHW）は、家畜疾病の症状とその通報の重要性を認識するようになった。

7) 域内協力（マレーシア、タイ、ベトナム）

成果３：域内における家畜疾病監視の枠組み構築

① レーシア

DVS、VRI が 3 回の研修・視察域内プログラム（ラボ検査技術、動物検疫、家畜疾病調査）を実施するとともに研修のフォローアップとして、VRI 職員が参加各国のプロジェクトサイトで実地研修を行っている。これにより、講師、受講者間における協力関係が構築されることになり、VRI が今後、継続的にメンバー国への技術支援をするための基礎が形成されたと考えられる。

② タイ

動物検疫に係るワークショップ/スタディ・ツアー、動物検疫に係る実務研修、動物検疫調和会議及び EPI ワークショップ等、8 つの域内活動のホスト国となった。動物検疫は二国間だけでなく、第三国を経由して輸入されるものが増加している状況で 2 回にわたる動物検疫調和会議は、検疫政策における意味があり、また成果として共同声明文を採択して継続的に本調和会議をつづけることを同意することになった。

動物検疫実務研修においては、マレーシア同様、フォローアップ研修を行い、実務者レベルの情報共有及び関係が構築された。

③ ベトナム

PRRS の経験・知見を基に、農業農村開発省家畜衛生局（Department of Animal Health：DAH）/国立獣医診断センター（National Center for Veterinary Diagnosis：NCVD）はプロジェクトと合同で、2010 年 9 月に PRRS に関する研修ワークショップをハノイで開催した。近年のラオス、カンボジア、ベトナム、中国、フィリピンでの PRRS の発生もあって、各国からの参加者からはワークショップで共有された情報や知見について、高い評価があった。

３－２　評価結果の要約

(1)　妥当性：高い

各国の政策文書等に明示されてはいないものの、域内協力を通した越境性の疾病防除の重要性はメンバー国内で強く認識されている。本プロジェクトが主催した 2009、2010 年の 2 回にわたる各国の局長レベル会議で、家畜移動の管理システムの調和に向けた合同声明が採択されたことからも、課題対応の重要性への認識が高いことが分かる。

タイと日本のパートナーシップで第三国を支援することは、タイに対する日本政府の重要な援助計画のひとつである。また、マレーシアに対する日本政府の援助計画でも域内協力が重視されている。この点から、本域内協力プロジェクトは日本の援助方針と整合性がある。

(2)　有効性：高い

①　ロジェクト目標の達成度はある程度高いと判断される。

各国の現場、地方、中央レベルにおいて、各国にばらつきはあるものの、相当数の職員が家畜疾病監視に関する研修を受け、技術力が向上したとの報告がなされている。また、域内においては、メンバー国の中央研究所間の所長会議の開催を主導した。これまでに 2 回、同会議が開催され、域内の中央研究所間のネットワーク構築と診断方法や手続きの共通化に向けた協議が開始された。この枠組みは技術面で域内のハーモナイゼーションを促進するうえで有効である。

②　成果のプロジェクト目標への達成への貢献度も大きいと考えられる。

RJCC での協議や域内ワークショップの場で域内協力の枠組みづくりの重要性が議論され、その結果を受けて、プロジェクトが主催して 2 回の家畜衛生関連部局の局長級会議を開催した。また、上述したとおり各国技術者の能力の向上、家畜疾病発生時の情報システムの構築・改善が、家畜疾病監視体制の構築に貢献したものと考えられる。

(3)　効率性：中程度

本プロジェクトでは、DLD は潜在的なドナーとしての役割を果たすことが期待されていた。DLD は本プロジェクトのフェーズ 1 での近隣国支援、タイ国際協力庁（Thailand International Cooperation Agency : TICA）の研修プログラムの実施、国連食糧農業機関（Food and Agriculture Organization : FAO）/国際獣疫事務局（Office International des Epizooties : OIE）プロジェクトでの専門家派遣などの経験を有しており、効率的に研修、ワークショップ、専門家派遣等を実施してきている。ただし、2009 年は金融危機の影響から緊縮予算となり、タイでの幾つかの活動をキャンセルするなど影響が出た。

評価調査団による質問票調査によれば、日本からの短期専門家、タイ・マレーシアの域内専門家の役割は受入国・機関からおおむね高く評価されており、人的投入の有効性は高かった。

6 カ国を包括する域内協力プロジェクトという性格から、6 カ国の実施機関、研究機関、パイロットサイトの関係者、各国の専門家、JICA 現地事務所など関係者が多く、膨大な調整業務が発生し、タイのプロジェクト域内事務局と各国のナショナルコーディネーター（National Coordinators : NC）への負担が大きくなった。このため、技術面以外のそうした

業務に多大な時間と労力を必要とした。また、特にプロジェクトの初期段階で、各国 JICA 事務所の会計ルールが異なるため、各国との調整が必要となった。こうした要因から本プロジェクトでは調整業務・手続き面の非効率さが大きな阻害要因となった。

(4) インパクト：中程度

本プロジェクトが主導して、各国の局長レベル会議で、家畜移動の管理システムの調和に向けた方向性と優先度の確認を行った。これにより、上位目標である地域レベルでの監視体制の礎ができたものと考える。今後、メンバー国間でシステムの調整や共通化が促進されることが期待される。ただし、具体的な成果を上げていくためには、地域内の包括的な政策的枠組み、各国の強いコミットメントとリソースの提供など具体的な措置が必要である。

(5) 自立発展性：中程度

① 各国レベルでの防疫体制の強化

マレーシア、タイについては、国別プログラムの持続性は、政治的・制度的・財政的・技術的の各観点からみて高い。特にマレーシアでは、ND を家畜衛生管理プログラムのなかでも高い優先度を与えられており、政策的・予算的な取り組みの拡大が期待される。また、両国は、プロジェクトにおいては域内活動を牽引してきた。

ベトナムについては、RAHO4 が地域のリファレンス・ラボであることから、その機能と役割は明確にされており、予算もそれに従って継続的に配分される予定である。また、クアンナム省家畜衛生局（State Department of Animal Health-Quang Nam：SDAH-QN）については、AHW や農家からの要請や材料の持ち込みが増え、ラボ職員が今後より多くの鑑定を行い、寄生虫・細菌の診断に係る検査技術を継続的に向上させていくものと見込まれる。

ミャンマーについては、プロジェクトによって供与された診断のための備品は簡便で高価なものではなく、RVL-Mdl で消耗品、薬品、試薬を補充できる。マンダレー管区の家畜疾病管理は政府にとっても優先度が高いことから、LBVD から RVL-Mdl への政策的・予算的支援も期待される。

ラオス、カンボジアについては、中央レベルにおいて家畜疾病防除に関する政策は継続される見込みである。また、県ラボラトリー職員の寄生虫検査における診断技術はトレーニング及び EPI 調査による習得した技術の応用が図られ、技術力もある程度は継続する見込みである。しかしながら、寄生虫検査等の診断については、予算が限られていることからパイロットサイトにおけるサーベイの実施が難しく、その自立発展性は確保されていない。

② 地域レベルでの連携体制の強化

DLD と DVS は組織的にも職員レベルでも、域内協力のための職員派遣や研修実施など通して主導的な役割を果たすことに積極的であり、協力の枠組みや予算が確保されれば、プロジェクト後も継続して域内協力を進めたいとの意向をもっている。

本プロジェクトで設立を支援したメンバー国の中央研究所長会議は、技術交換を通したメンバー国間の連携とハーモナイゼーションを技術面から支援するものとして期待される。このように技術面での継続性はある程度確保されることが見込まれる。

なお、家畜移動の管理システムのハーモナイゼーションについては共同声明が出され、プロジェクト終了後は、FAO/OIE がサポートすることを表明しているが、各国においてはその活動を担う制度・組織面の裏付けがなく、予算確保も困難なため、継続性は高くないと考えられる。

３－３　効果発現に貢献した要因

(1) 計画内容に関すること

対象 6 カ国のそれぞれの国と討議議事録（Record of Discussions：R/D）を締結したことから、タイ、マレーシアをリーディングカントリーとみなしつつも、各国が対等な関係で広域協力に参加する形を取ることができた。また、統一のプロジェクト・デザイン・マトリックス（Project Design Matrix：PDM）の下、地域としての共通課題、共通目標を掲げることができた。

(2) 実施プロセスに関すること

プロジェクト期間中、ラオス、カンボジア、ベトナム、中国、フィリピンで PRRS の集団感染が発生したため、メンバー国の関心が高まり、PRRS を域内活動のひとつのテーマとして追加した。特にベトナムが積極的にこの課題への対応を表明し、ワークショップの開催や EPI 調査の実施面で協力を行った。また、この課題では、タイ、マレーシアの専門家だけでなく、ベトナムもカンボジア、ラオスへ専門家を派遣し、実施機関の能力向上に貢献することができた。

３－４　問題点及び問題を惹起した要因

(1) 実施プロセスに関すること

パイロットプロジェクトのサイトは、各国とも国境に近いということから比較的首都から離れた地域に設定されることになった。6 カ国の更に地方部までに及ぶ広域協力をタイに拠点を置いてプロジェクトの運営管理やモニタリングを行うことに、多大な労力を要した。

３－５　結　論

対象 6 カ国の地理的条件、経済的条件の違いからプロジェクトで求められている技術は異なっているが、「地域を通じた検疫システムの構築」「疫学手法の導入」「個別診断技術の向上」については、各国国内プログラムの実施を通じ、各国の状況に応じた体制がある程度整備できたと考える。

また、域内においては、中央ラボ所長会議、動物検疫フォローアップ研修、疫学ワークショップ等の実施を通じ、タイ、マレーシア、ベトナムの専門家が域内専門家として各国のニーズに見合った技術指導を行うことができたことは、域内協力の成果のひよつとして評価できるものと考える。したがって、本プロジェクトの成果を踏まえ、プロジェクト目標はおおむね達成されていることから、2011 年 2 月をもって、本プロジェクトを終了することが妥当であると判断した。

３－６　提　言

(1) カンボジア

県ラボラトリーを効果的に活用するため､1)県ラボラトリーのサービスと機能の明確化、2）県ラボラトリーの広報、3）県ラボラトリーでの検査実施促進が重要である。そのため、VAHW の継続したキャパシティ強化が重要である。また、家畜疾病監視体制の確立のためには畜産農家の理解が必要不可欠であり、農家の意識向上、家畜のサンプル採取への協力などの促進のために VAHW が果たす役割は大きい。

(2) ラオス

カンボジア同様、県ラボラトリーの効果的な活用のため、1）県ラボラトリーのサービスと機能の明確化、2）県ラボラトリーの広報、3）県ラボラトリーでの検査実施促進が重要である。

既存の情報システムの改善点を関係者間で協議、共有し、取り組みを進めることが必要である。家畜疾病防除に関する情報の管理と活用のためには、村落獣医官（VVW)、郡農林事務所（District Agriculture and Forestry Extension Office : DAFO)、県農林事務所（Provincial Agriculture and Forestry Office：PAFO）の情報ラインが十分に機能することが必要である。

(3) マレーシア

ND の監視技術と監視通報体制については、引き続き ND の早期発見と早期対処が適切に実施されることが必要である。プロジェクトサイトであるポンティアン郡の監視能力の強化は、達成されたとはいえ、プロジェクト後も、RVL-JB、州立獣医サービス（State Veterinary Services:SVS)、郡獣医事務所（District Veterinary Office：DVO)、農家・養鶏業者の各レベルで、継続的な努力として取り組まれていく必要がある。

(4) ミャンマー

ブルセラ病と TB のアクティブサーベイランスについては、公衆衛生の観点から、小規模酪農家だけでなく今後は商業業者も含めていく必要がある。

また、疾病管理体制の継続的強化に向けては、LBVD はミャンマー家畜協会との協働を模索してくべきである。

(5) タイ

DLD は北タイの家畜輸入の傾向をモニタリングし、検疫検査の量が大きく低減した場合は MHS-AQS のラボ機能（機材と職員）をよりニーズの高い検疫ステーションに移すなど柔軟に対応し、プロジェクトの提供したインプットの効率的な運用に努めることが重要である。

DLD は、MHS-AQS における FMD のリスク分析調査の結果を論文にまとめて DLD の職員が参照できるようにすることが必要である。また、DLD は他の検疫ステーションもメーホンソンの経験をベースに、同様の調査を実施するよう推奨するべきである。

(6) ベトナム

DAH、RAHO4 は、基礎的な試験が可能となった SDAH-QN に対し、実地研修の場の提供や予算に関する省政府との調整など、SDAH ラボ支援の役割を継続して果たすことが重要。また、SDAH-QN は検査に必要な DAH からの認証取得、ラボラトリー強化の詳細計画作成、ワクチン接種、治療等の業務実施からの収入確保の検討、AHW の資格更新の機会を利用したリフレッシュ研修提供を行うことが重要である。

３－７　教　訓

- 地域協力プロジェクトでは、さまざまな関係者が複数国から参加するため、プロジェクト・マネジメントについて共通理解を得ることが重要になる。特に、各国のキー・パーソンに対しては PCM の考え方、PDM、活動計画（Plan of Operation：PO）の作成方法などについてプロジェクトの初期段階で十分な理解を得るための研修を提供することが重要である。
- 各国における調達や会計の手続きについて、プロジェクト開始前に各事務所と十分協議して、合理化を図ることが重要である。
- 本プロジェクトでは現場でのオペレーションへの支援が不十分であったため、実施を前進させるのに長い時間がかかった。現場活動の円滑化を図るためには、相手国側の現場での実施能力等について、プロジェクト開始時に十分情報を収集し、適切な人材配置を検討することが非常に重要である。
- 本プロジェクトでは域内活動だけでなく各国がパイロット事業にも取り組んだ。地域協力プロジェクトで同様の事業コンポーネントをもつ場合、実施機関の現場活動に対するサポート度合い、現場での事業量について、プロジェクト開始時に十分情報を収集し、必要があれば現場でのマネジメントの補強についても検討することが重要である。

３－８　フォローアップ状況

- JICA のシニア海外ボランティアが 2011 年 1 月にビエンチャンにある NAHC に配置される。ボランティアの協力によってプロジェクトの成果が持続、活用されることが期待できる。

Summary of the the Evaluation

<table>
<tr><td colspan="3">1． Outline of the Project</td></tr>
<tr><td>Countries:</td><td>Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam</td><td>Project Name: Regional Cooperation Project for Animal Disease Control Among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam Phase 2</td></tr>
<tr><td>Sector:</td><td>Animal health</td><td>Type of Cooperation: Technical Cooperation Project</td></tr>
<tr><td>Department in-Charge:</td><td>Paddy Field Based Area Group, Rural Development Department</td><td>Amount (At the time of Review):3.8 billion yen</td></tr>
<tr><td rowspan="4">Period of Cooperation</td><td>(R/D): 13 Feb 2008- 12 Feb 2011</td><td>Cooperating Agencies of Japanese Side: Ministry of Agriculture, Forestry and Fisheries</td></tr>
<tr><td>(Extension):</td><td>Other Related Cooperation: None</td></tr>
<tr><td>(F/U):</td><td rowspan="2"></td></tr>
<tr><td>(E/N):</td></tr>
<tr><td colspan="3">C/P Agencies:</td></tr>
<tr><td>Cambodia</td><td>Dept. of Animal Health and Production,</td><td>Ministry of Agriculture, Forestry and Fisheries</td></tr>
<tr><td>Lao P.D.R.</td><td>Dept. of Livestock and Fisheries,</td><td>Ministry of Agriculture and Forestry</td></tr>
<tr><td>Malaysia</td><td>Dept. of Veterinary Services,</td><td>Ministry of Agriculture and Agro-Based Industry</td></tr>
<tr><td>Myanmar</td><td>Livestock Breeding and Veterinary Department,</td><td>Ministry of Livestock and Fisheries</td></tr>
<tr><td>Thailand</td><td>Department of Livestock Development,</td><td>Ministry of Agriculture and Cooperatives</td></tr>
<tr><td>Vietnam</td><td>Department of Animal Health,</td><td>Ministry of Agriculture and Rural Development</td></tr>
<tr><td colspan="3">1-1 Background of the Project
Recently, political and economic situation in member countries has become stabilized and improved, and the distribution of agricultural products across the border has been promoted. Particularly, cross-border movements of livestock have been increasing, and the condition of animal health has been threatened with insufficient organizational and technical system to manage and control the spreading of animal diseases in these areas. Therefore, Japan-Thailand Technical Cooperation Project for Animal Disease Control in Thailand and neighboring countries</td></tr>
</table>

(hereinafter referred to as "the ADC-1 Project") had been implemented from December 2001 to December 2006.

As a result of the ADC-1 project, regional cooperation system and resources for animal disease control were strengthened, and the technologies of animal disease control were improved. At the same time, it was confirmed that member countries had an intention to commonly enhance the surveillance capacity as a next step.

Based on the above background, the member countries made a new request to the Government of Japan for the next phase of the project, the Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam (hereinafter referred to as "the ADC-2 project") aimed at strengthening the surveillance capacity for animal diseases.

1-2 Summary of the Project

(1) Overall Goal

The surveillance structure for animal diseases is established among member countries.

(2) Project Purpose

The surveillance structure for animal diseases is established between field (pilot site), local and central level in each member country.

(3) Expected Outputs

1 Surveillance techniques for animal diseases are strengthened in each member country.

2 Surveillance information system for animal diseases is strengthened in each member country.

3 Regional structure for animal disease surveillance is built among member countries.

(4) Inputs (At the Time of the Review, Jan 2010)

<Japanese Side>

Long-term Experts	3 Experts	Provision of Equipment*	29,000 thousand yen
Short-term Experts	55 months	Local Cost	143,000 thousand yen
Training in Japan	7 persons		

* including local procurement and others

<Member Countries>

Cambodia	Allocation of C/P: 5 persons	Counterpart Funding: ―
	-Hosting Regional Meetings, Training (incl. workshops): 1 time (5th RJCC)	
Lao P.D.R.	Allocation of C/P: 4 persons	Counterpart Funding: US$2,500
Malaysia	Allocation of C/P: 8 persons	Counterpart Funding: US$16,399
	-Hosting Regional Meetings, Trainings (incl. workshops): 5 times	
	-Dispatch of Regional Experts on laboratory related diagnosis techniques	

	to the member countries	
Myanmar	Allocation of C/P: 11 persons	Counterpart Funding: 22,711,150KYATS
	-Hosting Regional Meetings, Training (incl. workshops): 1 time (4th RJCC)	
Thailand	Allocation of C/P: 9 persons	Counterpart Funding: 3,525,000THB
	-Hosting Regional Meetings, Trainings (incl. workshops): 8 times	
Vietnam	Allocation of C/P: 8 persons	Counterpart Funding: US$22,400
	-Hosting Regional Meetings, Trainings and Workshops: 1 time (3rd RJCC)	
	-Dispatch of Regional Experts on EPI study models and animal quarantine to the member countries	

２．Outline of the Mid-Term Review Team

Members of the Study Team:

Title	Name	Position
Team Leader	Dr. Yusuke TADA	Senior Advisor, JICA
Animal Disease Control	Dr. Takayuki KUBOTA	National Institute of Animal Health, National Agriculture and Food Research Organization
Planning Management	Mr. Hiroshi HIDAKA	Advisor, Paddy Field Based Farming Area Division 1, Rural Development Department, JICA
Evaluation/Analysis 1	Mr. Hiroyuki OKUDA	Consultant, Inter-Works Co., Ltd
Evaluation/Analysis 2	Ms. Saori FUJIMOTO	Consultant, Inter-Works Co., Ltd
Evaluation/Analysis 3	Mr. Kaneyasu IDA	Consultant, Inter-Works Co., Ltd
Period of the Review:	5 Dec 2010 – 14 Jan 2011	**Type of Evaluation:** Terminal Evaluation

３．Summary of Evaluation

(1) Cambodia

The In-Country Program implemented for Cambodia were (1) to strengthen the capacity of the provincial laboratory and (2) to strengthen ani

mal disease surveillance system. The provincial laboratory has been strengthened in that the staff members acquired basic diagnostic techniques of parasitology and bacteriology through the provision of training and laboratory equipment. They are now able to apply such techniques for epidemiological study. Laboratory-based trainingcombined with actual epidemiological study was very effective to give staff members a clear understanding of parasitological examinations. The bacteriology unit was newly established and its staff members were well trained. Yet, they need to be further trained to fully utilize the acquired diagnostic techniques in practice. Measures should be also taken to increase the usage of the laboratory because it is a relatively new organization and the number of samples submitted by farmers is still low. In order to strengthen the animal disease surveillance system, epidemiological study was conducted by the staff of the PAHPO, the DAHPO and VAHWs. They have acquired good knowledge of epidemiological study as well as they have understood its importance.

They are now confident in how to conduct epidemiological study as they have already conducted such a study and presented its result at a epidemiology study model workshop organized by the project in Bangkok. The continuity of epidemiological study after the project duration will depend on external assistance due to budgetary constraints of the Government.

(2) Laos

The ICP for Laos was very much similar to that of Cambodia in terms of its objectives, the scope and the method of assistance and organizational and institutional settings. The In-Country Program implemented for Laos were (1) to strengthen the capacity of the provincial laboratory and (2) to strengthen animal disease surveillance system. The provincial laboratory has been strengthened in that the staff members acquired basic diagnostic techniques of parasitology and bacteriology through the provision of training and laboratory equipment. Measures should be also taken to increase the usage of the laboratory because it is a relatively new organization and the number of samples submitted by farmers is still low. In this context, the PAFO has submitted a proposal to a donor agency for a livestock development project with a component to utilize the improved functions of the laboratory. The PAFO has also developed plans to utilize the laboratory for collaborative activities with other line agencies. It is expected that sustainability will be secured when any of these proposal/plans is accepted. In order to strengthen the animal disease surveillance system, epidemiological study was conducted by the staff of the PAFO, the DAFo and VVWs. They have acquired good knowledge of epidemiological study as well as they have understood its importance. They are now confident in how to conduct epidemiological study as they have already conducted such a study and presented its result at a epidemiology study model workshop organized by the project in Bangkok. The continuity of epidemiological study after the project duration will depend on external assistance due to budgetary constraints of the Government.

(3) Malaysia

The In-country program for Malaysia aimed at strengthening the surveillance capacity on ND (the Newcastle Disease) between Pontian DVO (District Veterinary Office), Johor SVS (State Veterinary Services), RVL-JB (Regional Veterinary Laboratory of Johore Bharu) and DVS (Department of Veterinary Services). With the assistance of short-term experts, RVL-JB has been capacitated with new diagnostic techniques on ND. Active surveillance regularly conducted by DVO and SVS has been improved due to the development of standardized forms, organized plan and sampling procedures, and deepened understanding on surveillance by staff through training. The online database “Avian Disease Information System (ADIS)” was set up in October 2010 and the information network among DVO/SVS/RVL-JB/DVS is strengthened as field investigation and laboratory findings are compiled and coordinated on the system. Findings from the active surveillance makes DVS consider the revision of current ND vaccination program. The Veterinary Research Institute (VRI) has advanced ASEAN contribution on animal disease by hosting regional workshops and dispatching follow-up trainers to other member countries. These attainments of the project will be sustained because of a strong commitment of DVS. Recommendations include the continuous strengthening of surveillance

techniques and surveillance information system and capacity review of DVD/SVS for active surveillance.

(4) Myanmar

The In-country program for Myanmar aimed at 1) strengthening veterinary services for small-scale dairy farmers in Amarapura and Pyin Po Lwin Township (T/S), and 2) improving disease information network from villages to Mandalay division and central administration. Clinical diagnostic skills on Brucellosis and Tuberculosis as well as other general diseases such as sub-clinical mastitis and reproductive disturbances were introduced by short-term experts to the T/S office where a mini-laboratory and the Veterinary Drug Cabinet (VDC) were established. Veterinary officers of the T/S sustain the VDC by creating a revolving fund and provide improved veterinary services to small-scale dairy farmers. The Regional Veterinary Laboratory in Mandalay (RVL-Mdl) are equipped with new diagnostic techniques on Brucellosis and Tuberculosis. Active surveillance on the two infectious diseases was conducted by RVL-Mdl and T.S offices. Therefore, the surveillance system has also been strengthened with the relationship built and improved between T/S officers and AHW/farmers through project activities. Yet, it is difficult to continue active surveillance with their own budget as such a surveillance requires considerable financial and human resources. The evaluation team recommended that active surveillance on Brucellosis and Tuberculosis should be extended to commercial farms in collaboration with Myanmar Livestock Federation. Third country training should be also organized for continual development of diagnostic skills. The team also recommended that the improved functions of the mini-lab should be publicized and promoted to potential users.

(5) Thailand

The In-Country Program implemented for Thailand were (1) to strengthen diagnostic capacity and animal disease surveillance of Mae Hong Son (MHS) Animal Quarantine Station (AQS) and (2) to pilot study qualitative risk assessment of the introduction of Foot and Mouth Disease (FMD) by the importation of cattle and buffalos at MHS-AQS. A mini-laboratory was established in the MHS-AQS so that the MHS-AQS would be able to efficiently diagnose imported cattle and buffalos instead of sending samples to a regional laboratory. Regional laboratories trained the MHS-AQS laboratory staff to diagnose Brucellosis, Tuberculosis and FMD while JICA provided laboratory equipment. As a result, the MHS-AQS has been able to detect these animal diseases at entry points. Given the magnitude of animal importation, Northern Thailand is still the most focused region by DLD. The MHS-AQS laboratory developed under the Project is seen by DLD as the model to establish seven to eight laboratories in the Northern region in due course. Progress in the risk assessment study was slow paced because it took some time to determine the scope and the method of study. Yet, the DLD counterparts successfully completed the study in the final year of the project duration, assisted by regional and Japanese experts in epidemiology. The result of the study was presented at the third regional epidemiology workshop and also presented to traders as well as other DLD staff at the MHS-AQS. The study will also serve as the model study for other stations. It is expected, when such a

study is periodically conducted, the animal quarantine stations will be able to identify important measures to prevent animal diseases at entry points in a systematic manner.

(6) Vietnam

The In-country program for Vietnam aims at strengthening diagnostic skills and the surveillance information system for animal diseases in two districts in Quang Nam province. The technical capacity of the Regional Animal Health Office No.4 (RAHO4) has been strengthened with the assistance of short-term expert who introduced a number of new diagnostic techniques. The new laboratory has become operational at Sub-Department of Animal Health in Quang Nam (SDAH-QN) to conduct basic parasitological and bacteriological diagnosis in its jurisdiction. Communication devices have been introduced to the District Veterinary Services (DVS), and clinical knowledge of staff and AHW has been improved through training. The surveillance information system among RAHO4, SDAH-QN and DVS has been improved due to the developed capacities at each level. Active surveillance on CSF proved to be effective in that it had raised awareness of staff, but at present its impact and sustainability is viewed as low because the study is not yet complete. The active surveillance on PRRS, an add-on to the project's epidemiology survey on CSF, yielded its findings, but its impact for PRRS control and warning is still limited. The continuity of active surveillance after the project duration is not high; however, the other outputs of the project will be sustained, taking advantage of the existing institutional structure for surveillance information system. The evaluation team recommended that the SDAH-QN should obtain accreditations for some examinations, and prepare a detailed development plan of the laboratory and generate revenue form its services. The team also recommended that refresher training should be provided to AHWs when they renew their license.

(7) Regional cooperation

A salient feature of this project was to facilitate project activities through extensive use of regional resources from the six member countries. Malaysia (DVS and RVL-JB) was committed to assist the other countries in improving diagnostic capacity. Thailand (DLD and NIAH) supported epidemiology and the improvement of quarantine systems of the member countries. The project significantly contributed to the strengthening of formal and informal networks and communication channels among the relevant organizations. This is an important asset for the six countries in effectively tacking large-scaled, trans-boundary outbreaks of animal diseases. The project helped the six countries periodically organize the central laboratory directors' meeting and also facilitated the signing of joint statements by the six countries for the harmonization of animal movement system. Therefore, we can say that the project helped institutionalize regional cooperation in the field of animal disease control. The prospect of sustainability of the central laboratory directors' meeting is positive as the FAO and OIE are committed to support the member countries after the project duration. The sustainability of the efforts towards the harmonization of animal movement management system initiated by this project is low as either an institutional or financial arrangement is not in place. It is assumed that regional cooperation activities, particularly technical cooperation would be sustained based on the existing bilateral and multilateral agreements among the member countries.

第１章　終了時評価調査の概要

１－１　終了時評価調査団派遣の目的

(1) 技術協力の開始から終了までの実績の確認（活動、投入)、実施プロセスの検証
(2) プロジェクト目標と成果の達成状況、貢献要因・阻害要因の分析
(3) 上記を踏まえて、評価５項目（妥当性、有効性、効率性、インパクト及び自立発展性）の観点から総合的に評価
(4) プロジェクト終了時までに行うべきこと、並びにプロジェクト終了後に先方が行うべきことについての提言
(5) 類似プロジェクトのための教訓抽出

１－２　評価調査団の構成

団長／総括	多田　融右	JICA 国際協力専門員
家畜疾病防除	窪田　宜之	独立行政法人動物衛生研究所
協力企画	日高　弘	JICA 水田地帯第一課 企画役
評価分析①	奥田　浩之	（マレーシア、ベトナム、ミャンマー）合同会社 適材適所
評価分析②	藤本　抄越理	（カンボジア、ラオス）合同会社 適材適所
評価分析③	井田　光泰	（タイ広域）合同会社 適材適所

なお、プロジェクトから井上専門家がベトナム社会主義共和国（以下、「ベトナム」と記す)、要田専門員がカンボジア王国（以下、「カンボジア」と記す)、ラオス人民民主共和国（以下、「ラオス」と記す)、ミャンマー連邦（以下、「ミャンマー」と記す)、チャンタニー域内コーディネーターがマレーシア、西野専門家がタイ王国（以下、「タイ」と記す）に同行。

１－３　調査日程（詳細日程は付属資料１「日程」のとおり）

2010 年 12 月 5～25 日（マレーシア、ベトナム、ミャンマー）
2010 年 12 月 5～18 日（カンボジア、ラオス）
2011 年 1 月 2～15 日（タイ）

１－４　終了時評価の方法

(1) 各国実施機関関係者、タイ域内プロジェクト事務局、長期専門家からの情報に基づき、各国の「進捗と達成状況の要約表」の更新を行い、基礎資料を作成する。
(2) 評価項目は妥当性、有効性、効率性、インパクト、自立発展性の５項目とする。
(3) 各国 NC 等、関係者との協議を通じ、評価分析団員が中心となり現地調査結果（実績、実施プロセス、5 項目評価、提言等）の案を取りまとめる。評価結果案については、評価分析団員及び各国 JICA 事務所関係者が国別合同調整委員会（National Joint Coordinating Committee：NJCC）に説明を行い、先方からおおよその合意を得る。
(4) 評価分析団員①、②は、本調査結果を JICA 本部に持ち帰り、官団員、評価分析団員③（評価分析団員総括）が内容を確認する。

(5) 官団員及び評価分析団員③によるタイの現地調査時に、地域プロジェクト事務局（Regional Project Secretariat：RPS）と協議し、合意が得られたのち、各国に評価レポート最終案を含むミニッツ（Minutes of Meeting：M/M）を送付し、NJCC 代表者に最終確認を行う。その後、各国代表者が出席する RJCC において、評価レポートを含む M/M に署名を取り付けることとする。

第２章　プロジェクトの概要

２－１　プロジェクト実施の背景

タイ及びその周辺国、カンボジア、ラオス、マレーシア、ミャンマー、ベトナムでは、国境を越えた家畜の移動の増加等に伴い、家畜衛生に関する状況が悪化することになった。各国は域内での疾病拡大を未然に防ぐ必要から家畜衛生技術の改善、地域的な防除戦略の確立の重要性を認識し、わが国に対し、技術支援を要請した。

JICA は、2001 年 12 月～2006 年 12 月まで当該地域における家畜疾病防除技術の改善を目的とする広域技術協力プロジェクト「タイ王国及び周辺国における家畜疾病防除計画」（以下、「フェーズ 1」と記す）を実施した。一方、フェーズ 1 の後半に当該地域で AI が発生したこともあり、各国の疾病防除技術の更なる強化に加え、域内及び国内における疾病監視体制の強化が急務となった。

このような背景の下、JICA は 2008 年 2 月に「疾病監視体制整備のための人材育成」「域内情報ネットワークの整備」「国内疾病連絡網の整備」「各種疾病技術の定着」を目的とした同プロジェクトの ADC-2 を 3 年間の予定で開始した。

本プロジェクトは、6 カ国を対象とする広域技術協力プロジェクトであり、3 名の長期専門家（チーフアドバイザー、家畜疾病防除、業務調整）が、タイ DLD を拠点に、各国の C/P 機関によるパイロットプロジェクト及びタイ､マレーシア､ベトナムを中心とした域内での活動に関し、技術指導を実施している。

２－２　プロジェクト概要

(1) 上位目標

地域（6 カ国）レベルにおいて越境性家畜疾病の監視体制が構築される

(2) プロジェクト目標

現場（パイロットサイト）、地方、中央レベルにおいて越境性家畜疾病の監視体制が構築される

(3) 成　果

成果 1　家畜疾病監視技術が定着する

成果 2　家畜疾病監視情報に係る体制が整備される

成果 3　家畜疾病監視に係る地域（6 カ国）レベルの枠組みが構築される

２－３　プロジェクトの実施体制の特徴

対象 6 カ国のそれぞれの国と R/D を締結したことから、タイ、マレーシアをリーディングカントリーとみなしつつも、各国が対等な関係で広域協力に参加する形を取ることができた。また、統一の PDM の下、地域としての共通課題、共通目標を掲げることができた。

第３章　国別プログラムの評価

３－１　カンボジア

３－１－１　プロジェクトの実績

(1) 投　入

＜日本側＞

- 専門家の派遣：付属資料２「AnnexⅡ」
- 本邦研修：付属資料２「AnnexⅢ」
- 現地業務費、供与機材：付属資料２「AnnexⅣ」
- 機材リスト：付属資料２「AnnexⅤ」

＜カンボジア側＞

- 域内活動と域内専門家の派遣：付属資料２「AnnexⅥ」
- プロジェクトディレクター、プロジェクトマネジャー、NC、サイトマネジャーの配置：付属資料２「AnnexⅦ」
- 2008、2009、2010 年の C/P 経費の総額：付属資料２「AnnexⅣ」

(2) 活動レベルの実績

カンボジアの国別プログラムの進捗状況と実績は付属資料２「AnnexⅧ」のとおり。

(3) 国別プログラムの主要な実績

国別プログラムの目標：家畜衛生分野の職員の能力、家畜疾病のサーベイランスと、現場から中央までの家畜疾病情報システムが強化される

指標 1：家畜疾病監視に関して十分なキャパシティを有する職員の数
家畜疾病監視に関してトレーニングを受けた職員の数は以下の表のとおり。

国　名	域内 ・ 中央	郡	現　場
カンボジア	7 / 4	27 / 23	87 / 176

達成値/目標値

指標 2：各国で収集、分析された EPI データの数：2
内部寄生虫の EPI 調査と HS が疑わしいケース

３－１－２　実施プロセス

- カンボジアの国別プログラムは、家畜衛生分野の職員の能力強化、家畜疾病のサーベイランスと、現場から中央までの家畜疾病情報システムの強化である。コンポンチャム県プレイチョー郡がパイロットサイトとして選ばれており、コンポンチャム県のラボラトリーと国立獣医学研究所（旧国立家畜衛生生産研究センター）（National Veterinary Research Institute：NaVRI）が C/P 機関としてプロジェクトに携わっている。

- NJCC は 3 回実施されている。NC が国別プログラムの活動を進めており、パイロットサイトでの活動は、コンポンチャム県の県家畜衛生生産事務所（Provincial Animal Health and Production Office：PAHPO）のサイトマネジャーによって進められている。

３－１－３　5 項目評価結果

(1) 妥当性：高い

- 農林水産省家畜衛生生産局（Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries：DAHP）は、2007 年 6 月に「家畜と家畜衛生政策と DAHP の開発枠組み」を発行した。カンボジアの国別プログラムは、このなかの「家畜の罹患率と死亡率の削減」の項の「家畜疾病診断と疾病調査と伝染性疾病の防除のプログラム」に沿っている。本プロジェクトのカンボジア政府の政策に対する妥当性は高い。
- 近年、タイとベトナムで AI 及び PRRS が頻繁に発生している。これらの国から感染した家畜がカンボジアに入国する可能性もあり、カンボジアにおいて家畜疾病防除のニーズはあるといえる。また、カンボジア政府はベトナムと政府二国間協議を実施しており、家畜の移動や家畜疾病防除その他家畜衛生に関して協議を重ねている。本プロジェクトはカンボジア政府のこのような方向性を支援しており、ニーズに合っているといえる。
- カンボジアでは、コンポンチャム県のラボラトリーが地方で唯一のラボラトリーであり、将来は地域ラボラトリーとして発展させる計画である。県ラボラトリーは、ウシと水牛の内部寄生虫に関する EPI 調査も実施しており、更に、コンポンチャム農業カレッジの学生たちに実習の場を提供している。このような状況から、コンポンチャム県のみならずカンボジアの家畜衛生分野において、同ラボラトリーは重要な役割を果たしている。さらに、コンポンチャム県はベトナムとの国境沿いにおいて多くの家畜の移動があり、コンポンチャム県において県ラボラトリーの診断技術と家畜疾病情報システムの強化に対するニーズは高い。

(2) 有効性：中程度

- 国別プログラムのプロジェクト目標は「家畜衛生分野の職員の能力強化、家畜疾病のサーベイランスと、現場から中央までの家畜疾病情報システムの強化」であり、プロジェクト目標を達成する基盤は整備されたといえる。家畜衛生分野の職員の診断技術はある程度向上し、家畜疾病情報システムを強化するための活動も実施され、更に EPI 調査の実施を通じて疾病監視の知識と技術が習得された。一方で、県ラボラトリーは機能を開始したばかりで、また畜産農家から提出されるサンプル数も十分ではなく、すべてのレベル（現場、郡、県、中央）を通じた家畜疾病サーベイランスシステムは十分機能しているとはいえない。
- 県ラボラトリー職員の技術は改善されたが、パッシブサーベイランスを実施するシステムが確立されていないため、それらの技術が実務で継続的に活用されるか不確定である。パッシブサーベイランス実施の重要性について、畜産農家に対する啓発活動は実施されているものの、提出されたサンプルから伝染病が発見された際に、当該家畜

の殺処分について農家への賠償が政府によって確約されていないなど、畜産農家が疾病に関する情報を適切に通報することを促進する仕組みが弱く、実際に農家が確実に通報するか不確実である。結果として、県ラボラトリーの活用は、農家と食肉工場から自主的に提出されたサンプルの数に頼らざるを得ない状況である。パッシブサーベイランスを含めた家畜疾病情報システムは、県ラボラトリーの活用とともに十分機能すべきである。

(3) 効率性：中程度

1) 成果の達成度

（成果 1）診断技術と知識が強化される

- 県ラボラトリー職員の診断技術はトレーニングを通じて強化され、プロジェクトによって新しい診断技術が導入された。HS に関する細菌学検査の知識と技術が習得され、細菌学ユニットが県ラボラトリーに新設された。HS の病性鑑定や炭疽菌同定技術は高度なスキルを要し、県ラボラトリー職員が実務で活用するのは容易ではないため、技術を確実にするために繰り返し練習を行うことの重要性が日本人短期専門家によって指導された。
- 寄生虫の診断技術も浮遊法（floatation）、 沈殿法（sedimentation）、マックマスター（Mac Master）の習得によって強化された。 職員はトレーニングを通じて寄生虫の診断技術を習得し、EPI 調査でこれらの技術を応用している。トレーニングと EPI 調査の組み合わせは、職員の寄生虫学への理解を深めたといえる。一方で、畜産農家のラボでの検査に対するニーズが限定的であり、寄生虫検査を実施する機会は限られている。
- パイロットサイトの VAHW のうち、半数が 2 日間のトレーニングを 1 回受け、ウシ、ブタ、家禽からのサンプル採取方法、臨床的診断、検視を習得した。パイロットサイトの VAHW のトレーニング受講経験は、ドナーの支援による一時的なトレーニングに限られており、リフレッシュトレーニングも実施されていない。したがって、プロジェクトによって VAHW に対する実用的なトレーニングが実施されたことは、VAHW から好評を得ている。サイトマネジャーによると、トレーニングに参加した VAHW は、トレーニング未受講の VAHW と比較してサンプル採取方法が適切であるとの成果が得られている。

（成果 2）家畜疾病情報システムが強化される

- 中間レビュー時に村、郡、県、中央レベル間の既存の家畜疾病情報システムの存在が確認されている。プロジェクトによる VAHW へのトレーニングはレポートスキルが含まれており、トレーニングを受けた VAHW は、提出期限までに、より正確な情報を提供することができるようになったとの変化が確認された。
- EPI 調査の実施により、PAHPO 職員、郡家畜衛生生産事務所（District Animal Health and Production Office：DAHPO）職員、VAHW の EPI 調査の重要性に対する理解が深まり、特に VAHW は糞便サンプルの採取方法も習得した。VAHW へのインタビューによると、外部からの技術的な支援を受けずに自分でサンプルが採取できるようになったとの回答が得られた。一方で、畜産農家にはサーベイランスや診断への

理解不足により家畜の血液サンプルを提供することを拒む者もいる。そのため、VAHW のサンプル採取技術を活用し、EPI 調査を実施するためには、畜産農家への啓発活動の強化が必要である。2010 年 11 月 8～13 日にタイで実施された第 3 回 EPI 調査モデルワークショップでは、カンボジアの EPI チームから質の高い報告がなされており、EPI 調査とワークショップでのプレゼンテーション実施の経験は、C/P が自分たちの方向性について自信をもちながら家畜疾病防除に関する活動を実施することを促進したといえる。

- EPI 調査の結果に関する畜産農家へのフィードバックのワークショップが 2010 年 12 月に予定されている。調査結果のリーフレットと駆虫剤が用意され、参加した VAHW に配布される。サンプル収集、診断、診断結果の農家へのフィードバックというサイクルの構築は、VAHW と畜産農家に対する、県ラボラトリーでの診断の重要性や家畜疾病防除強化への理解促進のために、必要不可欠であるといえる。

2) 投　入

- 日本人長期専門家がバンコクに駐在していたことにより、きめ細やかな支援は限定的であったといえる。C/P 機関によるプロジェクト活動実施のキャパシティが不十分であることから、国別プログラムの継続的で円滑な活動実施のためには、カンボジアの C/P 機関へのより長期でより頻繁な訪問と助言が必要であったといえる。
- 県ラボラトリーへの機材設置が遅れたものの、日本人短期専門家が派遣され、HS の原因菌の培養・同定技術の指導とともに機材が適切に設置された。県ラボラトリーが機能していることは確認されたものの、終了時評価時点では、機材設置の遅れにより機材の活用度合いについては確認できなかった。

(4) インパクト：低い

- パイロットサイトにおいて基本的な監視体制はあり、プロジェクトは上位目標達成の方向に進んでいるものの、上位目標の達成見込みは高いとはいえない。カンボジア国内の他地域へ家畜疾病の監視体制を普及させるためには、国別プログラムがモデルとしての成果をあげるために十分機能することが必要不可欠である。
- カンボジアでは、プロジェクトによって実施された、家畜疾病発生に関する域内ワークショップによって理解と意識が高まったことにより、全国レベルでの動物検疫所のトレーニングプログラムの実施につながった。カンボジアで、同分野に関するトレーニングが全国レベルで実施されたのは初めてのことであり、プロジェクトによるインパクトといえる。
- コンポンチャム県のラボラトリーは、地方で唯一のラボラトリーであり、今後、3 県でラボラトリーを新設する予定であり、DAHP はコンポンチャム県ラボラトリーを他県のモデルとして活用していく方向性を打ち出している。

(5) 自立発展性：低い

- 中央レベルにおいて家畜疾病防除に関する政策は継続される見込みである。県レベルにおいても県ラボラトリーの方向性について、その計画や戦略は具体化されていない

ものの、NaVRI と PAHPO の支援によって地域ラボラトリーとして発展させる計画がある。

- 県ラボラトリー職員の寄生虫検査における診断技術はトレーニング及び習得した技術の応用の機会となった EPI 調査によって強化された。しかし、寄生虫検査における診断技術については、予算が限られていることからパイロットサイトにおけるサーベイランスの実施が難しく、その自立発展性は確保されていない。また、HS の細菌学検査は高度なスキルを要するため、それらの技術を実務で活用するのは容易ではない。細菌学ユニットを機能させるためには、より実用的なトレーニングを通じて体系的な細菌学検査を導入することが必要である。しかし、そのような指導が可能な人材は中央レベルにおいても限られている。
- PAHPO、県ラボラトリーの職員と VAHW はウシと水牛の内部寄生虫に関する EPI 調査を通じてアクティブサーベイランスの方法を習得した。さらに、EPI 調査の実施と EPI 調査モデルワークショップでのプレゼンテーションは、C/P の努力によって成功を収めており、これらの経験は C/P による活動の継続を促進したといえる。しかしながら、アクティブサーベイランス実施の自立発展性は、財政的側面から外部からの支援に依存せざるを得ない。
- PAHPO はコンポンチャム県ラボラトリーの機材を独自予算でアップグレードしている。県ラボラトリー利用の拡大についても確約しており、政策面、財政面での支援が期待できる。

３－１－４　提　言

- 県ラボラトリーの利用を拡大するために次の取り組みが必要である。1) 県ラボラトリーのサービスと機能の明確化、2)県ラボラトリーの広報、そして 3)県ラボラトリーでの検査実施促進のための VAHW に対する啓発活動、が挙げられる。
- VAHW のキャパシティ強化のための継続的な活動実施が重要である。家畜疾病監視体制の確立のためには畜産農家の理解が必要不可欠であり、農家の意識向上、家畜のサンプル採取への協力などの促進のために VAHW が果たす役割は大きい。
- 中央レベルとパイロットサイト間の家畜情報システムは存在しており、既存の情報システムの改善点を関係者間で協議、共有し、取り組みを進めることが必要である。
- 県ラボラトリーの持続と向上のために、県ラボラトリーへの外部による継続的な支援が望ましい。DAHP と PAHPO はプロジェクトの成果を村落開発に取り組んでいるドナーに対して広報することを提言する。例えば、2011 年 1 月に予定されているアジア開発銀行による「Agriculture Extension Expo」への参加などの広報活動は、協力相手を見つける機会となる可能性がある。

３－１－５　教　訓

- カンボジアではローカルリソースや国内での経験が限られているため、外部支援への依存度が高い。特に、県レベルのパイロット事業を行う場合には、中央レベルの事業に比べて更に外部からの集中的な支援が必要である。

- 地方ラボラトリー設置による検査体制の構築は政策的に推進されたものだが、畜産農家の意識が低く検査依頼も少ないため、ラボラトリーで通常業務として検査を行うほどのニーズはなく、移転技術が活用される見込みは高くない。特にカンボジアの地方での検査技術の構築といった課題においては、プロジェクトによって導入、強化される技術の活用の仕組みをどのように構築すべきか、プロジェクトの計画～実施段階で十分に検討することが肝要である。

３－２　ラオス

３－２－１　プロジェクトの実績

(1) 投　入

＜日本側＞

- 専門家の派遣：付属資料２「AnnexⅡ」
- 本邦研修：付属資料２「AnnexⅢ」
- 現地業務費、供与機材：付属資料２「AnnexⅣ」
- 機材リスト：付属資料２「AnnexⅤ」

＜ラオス側＞

- 域内活動と域内専門家の派遣：付属資料２「AnnexⅥ」
- プロジェクトディレクター、プロジェクトマネジャー、NC、サイトマネジャーの配置：付属資料２「AnnexⅦ」
- 2008、2009、2010 年の C/P 経費の総額：付属資料２「AnnexⅣ」

(2) 活動レベルの実績

ラオスの国別プログラムの進捗状況と実績は付属資料２「AnnexⅧ」のとおり。

(3) 国別プログラムの主要な実績

国別プログラムの目標：パイロットサイト、地方、中央レベルで主要な家畜疾病に対する監視体制が強化される

指標 1：家畜疾病監視に関して十分なキャパシティを有する職員の数

家畜疾病監視に関してトレーニングを受けた職員の数は以下の表のとおり。

国　名	域内 ・ 中央	郡	現　場
ラオス	21 / 3	31 / 40	121 / 162

達成値/目標値

指標 2：各国で収集、分析された EPI データの数：2

ウシ及び水牛の寄生虫調査とカイソン・ポンビハン郡とソンコン郡での HS の EPI 調査

３－２－２　実施プロセス

- ラオスの国別プログラムは、パイロットサイト、地方、中央レベルでの主要な家畜疾病に

対する監視体制の強化である。サバナケット県のカイソン・ポンビハン郡とソンコン郡がパイロットサイトとして選択された。また、サバナケット県のラボラトリーと NAHC が主にプロジェクトに携わっている。

- NJCC は 4 回開催された。NC が国別プログラムの活動を進め、サバナケット県の PAFO のサイトマネジャーが現場での活動実施を担当した。

３－２－３　5 項目評価結果

(1) 妥当性：高い

- 農林省畜水産局（Department of Livestock and Fisheries, Ministry of Agriculture and Forestry : DLF）の 5 カ年計画（2011～2015 年）で、次のような戦略や計画が策定されている。1) （サバナケットを含む）6 県のラボラトリーの診断技術の強化、2) 県ラボラトリーへの基礎インフラ整備と家畜疾病診断に対する技術支援、3) VVW の増員（1 村当たり 1 名から 2、3 名へ増員）、4) 家畜疾病防除とワクチン接種に関する畜産農家への啓発活動の強化、5) 家畜の移動のモニタリング、6) 家畜の増産、が挙げられている。国別プログラムは、5 カ年計画の県ラボラトリーの強化と畜産農家への啓発活動という戦略に沿っている。本プロジェクトのラオス政策との整合性は高いといえる。
- 近年、タイとベトナムで AI 及び PRRS が頻繁に発生している。これらの国から感染した家畜がラオスに入国する可能性もあり、ラオスにおいて家畜疾病防除のニーズが強いといえる。また、ラオス政府はベトナム、タイと政府二国間協議を実施しており、家畜の移動や家畜疾病防除、その他家畜衛生に関して協議を重ねている。本プロジェクトはラオス政府のこのような方向性を支援しており、ニーズに合っているといえる。
- サバナケット県はタイ、ベトナムと国境を接している。特に、ソンコン郡とカイソン・ポンビハン郡はタイと国境を接しており、家畜疾病防除への取り組みに対してニーズが高い。さらに、サバナケット県の農業カレッジの学生たちに実習の場を提供している。これらの状況から、同県の家畜衛生分野において、県ラボラトリーは重要な役割を果たしているといえる。

(2) 有効性：中程度

- 国別プログラムのプロジェクト目標は「パイロットサイト、地方、中央における主要な家畜疾病の監視体制が強化される」であり、プロジェクトの意義は、幾つかの疾病の基礎診断技術が可能になったことと機材が供与されたことにより県ラボラトリーが機能し始めたことである。プロジェクト開始前は診断のためにビエンチャンの NAHC にサンプルを送る必要があったが、現在は、ある程度の疾病についてはサバナケットの県ラボラトリーで診断が可能となった。サバナケット県の家畜衛生セクターの職員は EPI 調査を通じてサーベイランスの知識と技術を習得し、プロジェクト目標達成の基盤は整備されたといえる。一方で、県ラボラトリーは機能を開始したばかりで、畜産農家から提出されるサンプルの数も十分とはいえない。パッシブサーベイランスを含んだ家畜疾病情報システムは、県ラボラトリーの活用とともに十分機能すべきである。

(3) 効率性：中程度

1) 成果の達成度

（成果 1）診断技術が強化される

- 県ラボラトリー職員の診断技術はトレーニングを通じて強化され、プロジェクトによって新しい診断技術が導入された。細菌学と寄生虫学の基礎知識と技術が職員によって習得された。トレーニングの内容は県ラボラトリー職員の知識と技術レベルを反映させたものとなっており、NAHC で 6 週間のトレーニングと 2 週間のトレーニングが実施され、また県ラボラトリーにて 1 週間のオンサイトトレーニングが 3 回実施された。さらに、細菌学のトレーニングが日本人短期専門家によって実施されている。しかしながら、県ラボラトリー職員へのインタビューによると、実務での体系的な家畜疾病診断のためには更なるトレーニングが必要との意見が聞かれた。ラオスに家畜衛生分野の高等教育機関がないため、職員の専門教育レベルは限られている。そのため、県ラボラトリー職員の知識や技術レベルに適切な包括的なトレーニングプログラムを開発する必要がある。
- パイロットサイトの 162 名の VVW のうち 121 名の VVW が 4 日間のトレーニングに参加し、ウシ、ブタ、家禽からのサンプル採取技術と臨床的診断を習得した。パイロットサイトのコーディネーターによると、トレーニングに参加した VVW と参加していない VVW では、ワクチン接種技術や VVW の役割と責務に対する理解度に相違がみられるとのことである。さらに、トレーニング参加者は VVW として自信と誇りをもち任務にあたっている。VVW の知識と技術が改善したことにより、村人も彼らを信頼するようになったとのことである。

（成果 2）監視情報システムが強化される

- 中間レビュー時に村、郡、県、中央レベル間の既存の家畜疾病情報システムが確認されているが、適切に機能していない。2 つのラインの情報システムが存在しており、1 つは村長、郡長、県知事のラインであり、もう 1 つは、VVW、DAFO、PAFO のラインである。情報を管理し疾病の発生に対して迅速に対応するために、獣医法にのっとった後者のラインによる情報システムが促進されるべきである。
- 中間レビューにおいて、関係者間の「家畜疾病発生前のサーベイランス」に対する共通理解の不足が指摘されていたが、その後 EPI 調査が実施され、PAFO 及び DAFO の職員と VVW がサーベイランスについて理解を深めた。さらに、VVW が EPI 調査の重要性を理解し、糞便サンプルの採取技術を習得した。DAFO へのインタビューによると、VVW は外部からの技術支援なしにサンプル採取ができるようになったとの回答が得られた。2010 年 11 月 8～13 日にタイで実施された第 3 回 EPI 調査モデルワークショップでは、ラオスの EPI チームから質の高い報告がなされており、EPI 調査とワークショップでのプレゼンテーション実施の経験は、C/P が自分たちの方向性について自信をもちながら家畜疾病防除に関する活動を実施することを促進したといえる。

2) 投　入

- NC は計画どおりにプロジェクト活動を実施すべく努力し、RPS もロジスティクス

業務面で NC を支援した。しかしながら、C/P 機関のキャパシティが不十分であることから、国別プログラムの継続的で円滑な活動実施のためには、ラオスの C/P 機関へのよりきめ細やかで、より長期、頻繁な訪問と助言が必要であったといえる。また、国別プログラムを実施するにあたり、C/P による活動費の立て替えが必要で困難であったとの意見が聞かれた。

- 県ラボラトリーへの機材が電圧の関係で設置が遅れたものの、C/P が独自予算で問題を解決した。機材は適切に設置され、機能していることが確認されている。

3) 実施体制

- 本プロジェクトの実施体制は、主に NC が、国別プログラム及び域内活動のマネジメントに携わった。なお、NC は、NAHC での課長としての通常業務に加えて、本プロジェクトを含む 3 つのドナープロジェクトを担当しており、負担が集中した側面もみられた。

(4) インパクト：中程度

- パイロットサイトにおいて基本的な監視体制はあり、プロジェクトは上位目標達成の方向に進んでいるものの、上位目標の達成見込みは高いとはいえない。ラオス国内の他地域へ家畜疾病の監視体制を普及させるためには、国別プログラムがモデルとしての成果を上げるために十分に機能することが必要である。
- ラオスには 6 つの県ラボラトリーのうち主要な県ラボラトリーが 4 つあり、サバナケット県ラボラトリーは最も進んでおり機材も有することから、DLF は、サバナケット県ラボラトリーを他の 3 県（チャンパサック県、ウドムサイ県、ルアンパバン県）に対するモデルとして機能させる計画である。

(5) 自立発展性：中程度

- DLF の 5 カ年計画にあるとおり、中央レベルの家畜疾病防除に関する政策は継続される見込みである。県ラボラトリーに新しい職員を雇用した実績もあり、DLF と PAFO による県ラボラトリー強化のための努力は継続される見込みである。
- 県ラボラトリー職員は、基礎的な細菌検査及び寄生虫検査の知識及び技術を習得したものの、彼らの技術の確立とその自立発展性を確保するためには、更なるトレーニングが必要である。しかし、トレーニング実施に係る予算はドナーからの支援に依存しており、また専門技術のトレーナーとなる人材は中央レベルにおいても限られている。
- PAFO は、IFAD/ADB に対して、県ラボラトリーと DAFO の職員、VVW に対するトレーニング実施と検査、サンプリング実施への支援に関するプロポーザルを提出した。プロポーザルが承認されれば、本プロジェクトの成果が持続されると考えられる。
- PAFO は、次のような他セクターとの連携を計画している。1）人への感染の可能性がある 5 つの疾病に関して県の保健セクターと連携した取り組み、2）食肉処理場や輸出入業者による県ラボラトリーでの食肉製品検査を通じた食品安全の強化、3）プライベートセクターの動物クリニックによるワクチン接種前の県ラボラトリーでのサンプル検査、が挙げられる。これらのシステムは、財政面及び技術面において県ラボラトリーの持続、活用に有効であるといえる。

- PAFO、県ラボラトリーの職員と VVW はウシ、水牛の内部寄生虫に関する EPI 調査を通じてアクティブサーベイランスの方法を習得した。さらに、EPI 調査の実施と EPI 調査モデルワークショップでのプレゼンテーションは、C/P の努力によって成功を収めており、これらの経験は C/P による活動の継続を促進したといえる。しかしながら、アクティブサーベイランス実施の自立発展性は、財政的側面から外部からの支援に依存せざるを得ない。
- JICA のシニア海外ボランティアが 2011 年 1 月に NAHC に配置される。ボランティアの協力によってプロジェクトの成果が持続、活用されることが期待できる。

３－２－４　提　言

- 県ラボラトリーを活用するために次の取り組みが必要である。1) 県ラボラトリーのサービスと機能の明確化、2)県ラボラトリーの広報、そして 3)県ラボラトリーでの検査促進のための VVW に対する啓発活動、が挙げられる。
- VVW のキャパシティ強化のための継続的な活動実施が重要である。家畜疾病監視体制の確立のためには畜産農家の理解と協力が必要不可欠であり、農家の意識向上、家畜のサンプル採取への協力などの促進のために VVW が果たす役割は大きい。相互信頼に基づいた連携は、県ラボラトリーへ提出されるサンプル数の増加につながる。
- 既存の情報システムの改善点を関係者間で協議、共有し、取り組みを進めることが必要である。家畜疾病防除に関する情報の管理と活用のためには、VVW、DAFO、PAFO の情報ラインが十分に機能することが必要である。
- プロジェクトの成果の継続及び発展のために、外部からの県ラボラトリーへの継続的な支援が望ましい。DLF と PAFO はプロジェクトの成果を村落開発に取り組んでいるドナーに対して広報することを提言する。

３－２－５　教　訓

- ラオスではローカルリソースや国内での経験が限られているため、外部支援への依存度が高い。特に、県レベルのパイロット事業を行う場合には、中央レベルの事業に比べて更に外部からの集中的な支援が必要である。
- タイ人専門家によるトレーニングは、言語と家畜衛生分野の発展の歴史（タイの経験がラオスに生かせるという意味で）が類似していることから、ラオスの参加者から好評を得ている。タイ人専門家の活用はラオスでは有効であろう。

３－３　マレーシア

３－３－１　プロジェクトの実績

(1) 投　入

＜日本側＞

- 専門家の派遣：付属資料２「AnnexⅡ」
- 本邦研修：付属資料２「AnnexⅢ」
- 現地業務費、供与機材：付属資料２「AnnexⅣ」
- 機材リスト：付属資料２「AnnexⅤ」

＜マレーシア側＞

- 域内活動と域内専門家の派遣：付属資料２「AnnexⅥ」
- プロジェクトディレクター、プロジェクトマネジャー、NC、サイトマネジャーの配置：付属資料２「AnnexⅦ」
- 2008、2009、2010 年の C/P 経費の総額：付属資料２「AnnexⅣ」

(2) 活動レベルでの実績

終了時評価時点でのマレーシア国別プログラムの進展と実績は付属資料２「AnnexⅧ」のとおり。

(3) 国別プログラムの主な実績

国別プログラム目標：ポンティアン郡 DVO、ジョホール州 SVS、プトラジャヤの DVS EPI・監視部の間の家畜疾病に対する監視能力が強化される。

指標 1：家畜疾病監視能力を有する人員の数

国　名	中央―地方	州―郡	現　場
マレーシア	51/2	65/11	296/202

研修を受けた人員の数/人員の目標数

指標 2：収集・分析された EPI データの数：1

ペングカラン・ラジャ、ジェラム・バツにおける ND の EPI 研究モデル

３－３－２　実施プロセス

- マレーシアの国別プログラムの目的は、ポンティアン郡 DVO、ジョホール州 SVS、プトラジャヤの DVS EPI・監視部の間の家畜疾病に対する監視能力の強化である。毎年開催される NJCC において、前年度のプロジェクト進捗のレビューと当年度の活動計画の承認が行われた。プロジェクト活動の調整は、NC が中央から現場レベルまで行った。
- DVS、RVL-JB、ジョホール州 SVS、ポンティアン郡 DVO が国別プログラムの主な実施主体である。VRI は、中央ラボレベルにおける域内協力を疾病監視の分野で実施した。
- パイロットサイトとして、ポンティアン郡のなかでも養鶏が盛んなペングカラン・ラジャ、ジェラム・バツの 2 つのサブ・ディストリクトが選ばれている。パイロットサイト内には、全部で 49 の登録済みの商業養鶏場と 120 の養鶏農家が存在し、これらが国別プログラムの現場レベルにおけるターゲットである。養鶏を行っているすべての業者・農家は DVO に登録されている。
- 国別プログムへの投入・リソースは、主に DVS の経常予算と家畜衛生管理プログラムの予算から支出された。プロジェクトへの主な投入は、診断・監視のための資機材供与、2 人の短期専門家の派遣、研修実施のための専門家派遣と実施コストの負担、監視情報体制強化のための知見・専門知識の提供である。これらによって既存のアクティブサーベイランスの向上、オンライン・データベースの導入も図られた。

- DVS と VRI については、他のメンバー国のプロジェクト担当者や関係職員が参加する域内研修・ワークショップをマレーシアで主催した。また、こうした域内研修のフォローアップとして、VRI の研修講師が域内トレーナーとしてカンボジア、ラオス、ミャンマー、ベトナム（Cambodia, Lao PDR, Myanmar and Vietnam：CLMV）に 2009、2010 年と巡回指導を行った。

３－３－３　5 項目評価結果

(1) 妥当性：高い

- 国別プログラムは、ポンティアン郡内の 2 つのサブ・ディストリクトを対象に実施された。ポンティアン郡では、OIE の基準に基づく「ND フリーゾーン」宣言に向けて、2006 年 9 月から「ND 管理プログラム」が取り組まれている。この地域で ND が発生すれば、隣国シンガポールへのニワトリ・鶏肉加工品の輸出が大きく損なわれるおそれがあるためである。
- ND は家畜疾病防除の国家プログラムの対象病害の 1 つとなっている。
- JICA の国別援助計画では、家畜疾病対策の強化が域内協力で取り組むべき課題として挙げられており、ADC-2 の国別プログラムは日本の ODA 政策とも合致している。

(2) 有効性：高い

- RVL-JB の検査能力は、プロジェクトで派遣された 2 人の短期専門家の指導により大きく向上した。新たに ND 診断のための EEI、PA、HI、ポリメラーゼ連鎖反応（Polymerase Chain Reaction：PCR）、幾何学平均力価（Geometrical Mean Titer：GMT）、CK 培養、HA テストが可能となり、2009 年 9 月～2010 年 10 月の間に血清とクローカル・スワッブのおのおの 1,981 件の検査を実施した。RVL-JB は 2010 年 11 月にはマレーシア地域ラボの連携セミナーを主催し、他の地域獣医研究所（Regional Veterinary Laboratory：RVL）、クルアンの DVS ミニラボ、サバの獣医ラボの職員に対して ND 診断の研修を提供するまでになった。
- ND に対するアクティブサーベイランスについては、ポンティアン郡では既に 2006 年 9 月より「ND 管理プログラム」の一環として実施されてきた。プロジェクトでは、2009 年 9 月～2010 年 10 月にかけて、日本・タイの EPI 専門家による SVS/DVO 職員への研修・ワークショップの実施、詳細な実施計画の策定、資材供与ののち、パイロットサイトで ND に対するアクティブサーベイランスが実施された。また、その結果を入力するためのオンライン・データベース「鳥類疾患情報システム（ADIS）」がプロジェクトにより構築され、2010 年 10 月から機能している。ADIS にデータ入力するための、フィールド調査、ラボ診断結果、疾病対応行動の標準化された記入様式も作成された。アクティブサーベイランスにより集められたサンプルの検査結果は ADIS に集積され、その成果・分析は、2010 年 11 月の第 3 回 EPI 調査モデルワークショップで発表された。
- SVS と DVO の職員の ND アクティブサーベイランスに関する知識・技術の向上は、国別プログラムや域内活動で研修を受けたことに加え、プロジェクトにおいて自らアクティブサーベイランスの計画を立て、実施した経験によるところが大きい。また、

アクティブサーベイランス自体についても、プロジェクトによる実施前と比べて大きな進展が認められる。具体的には、標準化された記入様式の使用、系統立った計画と実施手続き、採材から農家への結果共有までのサーベイランス・サイクルに対する職員の理解度の深まり等である。

- 養鶏業者と農家の ND に対する意識についても、プロジェクトによる集まりやアクティブサーベイランス、そして「ND 管理プログラム」下のワクチンプログラム等の活動を通して向上している。アクティブサーベイランスについては、2010 年 11 月に農家に検査結果が共有され、これによってサイクルも完結した。DVO 職員は、サーベイランスに対する理解が深まったことで、ND 予防の重要性について以前よりもうまく農家と話せるようになり、このおかげで、今後の EPI 調査とワクチン接種についても、農家からの協力が得られやすくなると期待している。
- 監視情報システムの強化に関し、今後は ADIS の研修を更に行い、ADIS のターン・アラウンド・タイムの短縮を図っていく必要がある。ADIS は 2010 年 10 月に機能を開始したところで、DVO 職員がパイロットサイトからデータを入力し、これは RVL-JB と DVS に直結しているが、このように強化された監視情報システムの実際の効果については、今後実証されていくことになる。
- RJCC や会議については、メンバー国間で議論と情報交換の場を提供した。DVS は 7 つの域内会議・ワークショップ・研修を主催したが、その準備とロジスティクスに関しては問題なく実施できた。こうした域内会議は、メンバー国の関係者の間でのやりとりやインフォーマルなコミュニケーションも促し、EPI 調査や監視のマレーシア国別プログラムにとっても有益であった。
- 家禽疾病の診断に係る域内研修のフォローアップとして、VRI より延べ 15 名の研修講師が域内トレーナーとして 2009、2010 年に各国のラボに派遣された。VRI の派遣された職員からは、こうした域内派遣は、援助国よりも周辺国の方が適正レベルのラボ技術を供与できることもあり、受入国にとっても大変有用であることが強調された。援助国からは時にメンテナンスが難しい高度なスペックの機材が供与されることがあるが、域内協力では、簡単・安価ではあるが、基礎的・有用な技術を提供することになる。また、プロジェクトによって域内トレーナーの機会が与えられたことで、トレーナー・受講者の関係も構築され、VRI の職員は域内支援を広げていくことの重要性と必要性を認識するようになった。
- 以上の点から、本プロジェクトの 2 つの成果、すなわち家畜疾病の監視技術の強化、監視通報体制の強化は達成されたと判断される。そしてこれらの成果の達成により、プロジェクト目標、すなわちポンティアン郡 DVO、ジョホール州 SVS、プトラジャヤの DVS EPI・監視部の間の動物疾病に対する監視能力も強化されたと判断される。プロジェクト目標に対して設定された 2 つの指標も、プロジェクト目標が達成されたことを示している。

(3) 効率性：中程度

- DVS は、JICA からの経費負担にほとんど頼ることなく、「ND 管理プログラム」に沿って国別プログラムを主体的に実施してきた。活動への投入については、C/P・プロ

ジェクト双方からのタイミング、量、質はおおむね適切であった。

- NC が中央から現場レベルまで、プロジェクト活動をモニタリングし調整してきたが、NC に求められる TOR や仕事量についての事前の指示が JICA からはなく、DVS は NC を専任にしなかったことから、NC はプロジェクト期間中も他の業務を抱えて非常に多忙であった。なお、NC が、JICA から PCM、指標設定、モニタリングに関する研修を受けることができていたなら、非常に有益であったと考えられる。

(4) イパクト：中程度

1) 上位目標達成の見込み

上位目標：地域（6 カ国）レベルにおいて越境性家畜疾病の監視体制が構築される

- 国別プログラムのプロジェクト目標、すなわち「ポンティアン郡 DVO、ジョホール州 SVS、プトラジャヤの DVS EPI・監視部の間の家畜疾病に対する監視能力が強化される」については達成された。これに加えて、中央ラボ所長会議が上位目標達成に向けたひとつの土台として新しく設立された。しかしながらメンバー国間の監視能力については依然大きな隔たりがあることから、上位目標達成に向けた見込みは中程度である。マレーシアにおいては、まずプロジェクトの成果が他の郡・州にも適用されていく必要がある。
- 標準化された研修教材・テクストの作成は、プロジェクト後のインパクト発現のために有効であるので、フィールド調査、アクティブサーベイランス、ND 診断方法、ADIS マニュアルについては、国内へのインパクトだけでなく、他のメンバー国への貢献としても完成されるべきである。

2) その他のインパクト

- プロジェクトが実施したアクティブサーベイランスによって、ワクチン接種を受けたほとんどのニワトリの抗体タイター量は抵抗力レベル以下であり、ND ワクチン接種プログラムは効果がないことが明らかとなった。ワクチン接種プログラムへの関与は、このプログラムのスコープ外であるが、プロジェクトによる EPI 調査は、ポンティアン郡の養鶏業は依然として ND に感染しやすいことを示している。ワクチン接種プログラムの弱さを DVS が認識したことは、プロジェクトの大きなインパクトである。ND 発生リスクが依然として存在するなか、監視技術と監視通報体制については、ND の早期発見と早期対処が可能・適切・効果的となるよう、プロジェクト後も引き続き強化されていく必要がある。
- 2010 年 12 月に開催されたマレーシア国家疾病管理委員会では、次の点が検討された。すなわち、第 10 次マレーシア計画では、ND フリーゾーンに向けた努力は、ポンディアン郡からジョホール州マチャップ・サブ・ディストリクトとメラカ州ジャシン・サブ・ディストリクトに拡大すること。ADC-2 期間中は、これらの地域で ND フリーの状態を維持できていたが、現在のワクチン投与法では免疫をつけることができないので、次の新フェーズでは飲料水でなく餌にまぜてワクチンを与えること。
- 目的・成果・活動・指標等を含むプロジェクトデザイン、計画・実施・評価のプロジェクト・サイクル・マネジメント（Project Cycle Management：PCM）など、国際

レベルにおけるプロジェクト管理の手法と重要性が DVS に認識された。

(5) 自立発展性：高い

- 国別プログラムの持続性は、政治的・制度的・財政的・技術的の各観点からみて高い。ND の管理は、国の家畜衛生管理プログラムのなかでも高い優先度を与えられており、政策的・予算的な取り組みの拡大が期待される。ジョホール州 SVS、ポンティアン郡 DVO の地方レベルにおいても、2012 年までのポンティアン郡「ND フリーゾーン」宣言をめざして ND 管理プログラムへの取り組みが今後増大すると見込まれる。RVR-JB の国の ND 対策に占める重要性はますます増加すると考えられ、VRI からの継続的な技術的支援も期待できることから、技術的な持続性も高い。
- 域内活動の持続性についても高いと判断される。DVS はアセアン協力を積極的に進めていくとしており、タイの DLD と同様、プロジェクトにおいては域内活動を牽引してきた。VRI の職員はプロジェクトで域内トレーナーとして派遣され、周辺国の C/P 支援に前向きである。マレーシア技術協力プログラム（Malaysia Technical Cooperation Program：MTCP）や JICA の第三国研修といった現在動いている域内協力の仕組みがあり、家畜疾病に関する域内研修を、これら 2 つのスキームによりプロジェクト後も提供していける可能性もある。
- アセアンレベルでは、SEACFMD、高病原性緊急疾病（HPED）の EU プロジェクト、FAO/OIE など、家畜疾病管理のための幾つかのプラットホームが存在している。アセアン協力の推進はマレーシア政府内の共通認識となっている。家畜疾病管理は域内の課題であり、そのための域内協力の推進を明示した政策文書はないものの、DVS はアセアン諸国への支援を継続・拡大していく意図である。マレーシアの南々協力を推進していく責任部署である経済計画ユニット（EPU）も、域内協力に向けた取り組みに対しては柔軟で前向きである。

３－３－４　提　言

- ND の監視技術と監視通報体制については、ND の早期発見と早期対処が可能・適切・効果的となるようプロジェクト後も引き続き強化していくことを提言する。ポンティアン郡の監視能力の強化は、国別プログラムにより達成されたとはいえ、プロジェクト後も、RVL-JB、SVS、DVO、農家・業者の各レベルで、継続的な努力として取り組まれていく必要がある。
- 2009 年 9 月～2010 年 10 月にかけてのアクティブサーベイランスについては、その実施のレビューを行って、計画の改善に生かすことを提言する。例えば、車両不足により計画されたサンプリング活動が影響を受けたとの認識が現場職員から示された。ADIS のターン・アラウンド・タイムの短縮に向けては、ADIS の研修が更に必要である。また DVO と SVS については、データを入力する一方で現場においてサンプリング行うことから、そのキャパシティ・レビューを行うことが望ましい。DVO と SVS のキャパシティ評価は、ND 発生時のための緊急プランの準備に向けては特に重要である。

３－３－５　教　訓

- プロジェクトのロジスティクスをサポートするため NC にアシスタントが任命されれば、プロジェクト実施もより効果的になったものと思われる。また、プロジェクト専門家と C/P 機関が、プロジェクトの開始前にロジスティクスと実施の支援について、JICA 現地事務所の合意を得ておくことも有用と思われる。

３－４　ミャンマー

３－４－１　プロジェクトの実績

(1) 投入

＜日本側＞

- 専門家の派遣：付属資料２「AnnexⅡ」
- 本邦研修：付属資料２「AnnexⅢ」
- 現地業務費、供与機材：付属資料２「AnnexⅣ」
- 機材リスト：付属資料２「AnnexⅤ」

＜ミャンマー側＞

- 域内活動と域内専門家の派遣：付属資料２「AnnexⅥ」
- プロジェクトディレクター、プロジェクトマネジャー、NC、サイトマネジャーの配置：付属資料２「AnnexⅦ」
- 2008、2009、2010 年の C/P 経費の総額：付属資料２「AnnexⅣ」

(2) 活動レベルの実績

終了時評価時点でのマレーシア国別プログラムの進展と実績は付属資料２「AnnexⅧ」のとおり。

(3) 国別プログラムの主な実績

国別プログラム目標：小規模農家への獣医サービスが強化され、村からマンダレー、LVBD 本部への疾病通報体制が強化される。

指標 1：家畜疾病監視能力を有する人員の数

国　名	地方	タウンシップ	現　場
ミャンマー	47/35	67/12	85/49

研修を受けた人員の数/人員の目標数

指標 2：収集・分析された EPI データの数：2

マンダレー管区の小規模酪農家における TB とブルセラ病の横断研究

３－４－２　実施プロセス

- ミャンマーの国別プログラムは、アマラプーラとピンウールインの 2 つの T/S における小規模酪農家への獣医サービス強化と、マンダレー管区と中央行政との間の疾病通報体制の強化である。プロジェクト活動は、LBVD のマンダレー管区事務所、RVL-Mdl、LVBD

の 2 つの T/S 事務所により実施された。

- NJCC が RJCC の前に開催され、2008/09 年度のプロジェクト進捗のレビューと当年の活動計画の承認が行われた。NC がアシスタント NC とともにプロジェクト全体の実施を調整した。現場レベルでは、2 つの T/S の 12 人の獣医官が、村の訪問やアクティブサーベイランス等のプロジェクト活動を実施した。獣医官による獣医サービスが小規模酪農家に届くよう、2 つの T/S の AHW も、登録がないので全体の人数は不明ではあるが、プロジェクト活動の対象である。
- プロジェクトの主要な投入は、RVL-Mdl と 2 つの T/S 事務所のミニラボへの資機材供与、国別・域内活動による研修とその経費負担、EPI、寄生虫学、細菌学のタイ・マレーシアからの域内専門家、臨床獣医学、獣医ラボの日本人短期専門家である。ヤンゴン（中央）診断ラボラトリー（Veterinary Diagnostic Laboratory Yangon：VL Central）も、RVL-Mdl に対して研修を実施した。
- ミャンマーは 2009 年 7 月に第 4 回 RJCC を開催したが、それ以外については、ミャンマーはプロジェクトの域内活動の受取国である。

３－４－３　5 項目評価結果

(1) 妥当性：高い

- LBVD は、家畜衛生促進法（1993 年）を所管しており、そこでは家畜疾病管理とその通報システムが明記されている。ADC-2 は、こうした LBVD の家畜疾病管理政策を支援して実施されたものであり、妥当性は高い。

疾病名	2009 年	2010 年
FMD	1,076 件（９州管区）	1,135 件（２州管区）
HS	86 件（３州管区）	105 件（２州管区）
気腫疽（Black Quarter）	91 件（４州管区）	85 件（３州管区）
炭疽（Anthrax）	61 件（３州管区）	11 件（２州管区）

情報提供：LVBD

- わが国の対ミャンマー経済協力方針に合致している。
- パイロットサイトはウシ・水牛の飼育密度が高い。これらの家畜は農家と農村の財産・収入源であることから、獣医サービスを提供する獣医官と AHW の能力資質強化を図る ADC-2 は、飼育農家と農村社会のニーズにも合っている。

(2) 有効性：高い

- RVL-Mdl と 2 つの T/S 事務所の診断技術は、プロジェクト活動を通して強化されている。プロジェクトによる資機材供与と研修実施により、RVL-Mdl では新しく導入された診断技術、すなわちブルセラ病に対する RBT、CFT、ELISA、TAT、TB に対するツベルクリン試験と ZN 染色の鏡検、が定着した。T/S 事務所では、日本人短期専門家の派遣、ミニラボと獣医ドラックキャビネット（Veterinary Drug Cabinet：VDC）の供与により、ブルセラ病の RBT と TB のツベルクリン試験を行えるようになった。

RVL-Mdl と 2 つの T/S 事務所の診断技術の向上のため、獣医臨床辞典、基礎技術に関するラボラトリー・マニュアル、臨床症状とラボ試験に基づくウシの病気の診断と治療など、幾つかの診断マニュアルが配布された。

- RVL-Mdl と中央行政機関の間の疾病監視通報ネットワークは、RVL-Mdl の能力強化により向上した。LBVD は RVL-Mdl より、マンダレー地域の家畜疾病に関する情報・通報をより多く受け取るようになった。2009 年 8 月～2010 年 12 月にかけてのブルセラ病と TB に対するアクティブサーベイランスでは、2,072 頭のウシからのすべての血清について、T/S 事務所ミニラボにおいて RBT が行われ、その後 RVL-Mdl において RBT の再試験、それが陽性の場合は CFT と ELISA が行われた。T/S 事務所ミニラボと RVL-Mdl で検査できるようになったことで、採材から結果分析までの時間が短縮し、通報システムのターン・アラウンド・タイムが早くなった。
- パイロットサイトにおける獣医官と AHW の間の関係が良好になったことも、疾病監視通報ネットワークの向上に貢献している。プロジェクトによる研修やアクティブサーベイランスの実施を通して、以前よりも両者のやりとりや協働が多くなり、獣医官も、AHW との間で関係・信頼が構築されたことで、村からの連絡・情報共有・通報が良くなってきていることを認識している。
- パイロットサイトにおけるパッシブサーベイランスについても効果的に強化されている。2 つの T/S 事務所には 2 人の短期専門家が派遣され、ツベルクリン接種、RBT 試験、ブルセラ検査用採血、基礎的な細菌検査といった伝染性疾病に関する臨床技術指導を行った。また乳房炎診断、繁殖障害、第 4 胃変異手術等の家畜一般平病に係る技術指導も行った。短期専門家によるこれらのインプットは、農家に大変感謝され、AHW や農家が一層 T/S 獣医官と連絡を取り協働することを促したことから、疾病監視通報ネットワークシステムの強化に貢献したと考えられる。
- 以上の点から、本プロジェクトの 2 つの成果、すなわち RVL-Mdl と T/S 事務所のスタッフの診断技術の強化、マンダレー管区と中央の間の疾病監視通報ネットワークシステムの強化は達成されたと判断される。そしてこれらの成果の達成により、プロジェクト目標、すなわちアマラプーラとピンウールインの 2 つの T/S の小規模酪農家への獣医サービスの強化と、現場・マンダレー管区・中央行政を結ぶ疾病通報体制も強化されたと判断される。プロジェクト目標に対して設定された 2 つの指標も、プロジェクト目標が達成されたことを示している。
- 2008 年 5 月にサイクロン「ナルギス」がエーヤワーディ・デルタに上陸し、FMD 発生の懸念と LBVD からの要請があったことから、畜産セクターへの緊急支援として、FMD のための薬剤と検査器具を調達・供与した。この緊急支援により、2009～2010 年のワクチン生産は、対前年度（2008～2009 年、12 万 3,400 本）2 倍の 22 万 1,200 本となった。ワクチンはエーヤワーディ・デルタを含む FMD の発生地域に配布された。情報システムの重要性と早期の対応の家畜疾病に対する重要性が実際に示された。

(3) 効率性：中程度

- LBVD は家畜疾病管理と小規模農家への獣医サービスの提供に向けて強い意識をもってプロジェクトを進めた。域内活動・国別プログラムのリソース投入については、全

体的なタイミング、量、質については、適切に管理された。

- ブルセラ病と TB のアクティブサーベイランスについては、計画・管理のための T/S 担当官に対する事前の打合せや研修、タイ EPI 専門家の 8 回にわたるミャンマー訪問、サーベイランスの実施に向けた農家の理解と協力促進のための意識啓発を含めて、入念に計画され系統的に実施された。
- NC とアシスタント NC は、RPS がバンコクベースであるというプロジェクトの実施体制に伴う困難があるなかで、プロジェクト進捗をよくモニタリングし調整した。RPS と C/P との間のコミュニケーションは、短時間のミーティングとメール交換によらざるを得ず、それは時にプロジェクト活動についての説明、議論、共通理解の不足につながった。これらはプロジェクトの実施、特にプロジェクト開始時においてはいずれも必要なものである。
- C/P は予算の概算払いあるいは予算支出の権限をもたずに国別プログラムを計画し実施してきた。ミャンマーでは信用買いは難しく、こうした会計規則により、プロジェクトの幾つかの活動については長期専門家が来緬し、支出を承認し、支払うまで待たなければならず、プロジェクトの効率性を下げた。会計規則は適用・遵守されたが、それらが十分説明され、理解され、合意されたとはいえない。
- 中間評価における提言、すなわち T/S 事務所ミニラボに関する学習機会を最大化すること、T/S 獣医官の獣医サービスを強化すること、については後半のプロジェクト活動に反映された。

(4) インパクト：中程度

1) 上位目標達成の見込み

上位目標：地域（6 カ国）レベルで越境性家畜疾病の監視体制が構築される

- 国別プログラムのプロジェクト目標、すなわち「小規模酪農家への獣医サービスの強化と、現場・マンダレー管区・中央行政を結ぶ疾病通報体制の強化」については達成された。これに加えて、中央ラボ所長会議が上位目標達成に向けたひとつの土台として新しく設立された。しかしながらメンバー国の間で監視能力に依然大きな隔たりがあることから、上位目標達成に向けた見込みは中程度である。ミャンマーにおいては、まず国別プログラムの成果が他の T/S・管区にも適用されていく必要がある。

2) その他のインパクト

- T/S 獣医官によると、FMD や HS/BQ/Anthrax に対するワクチン接種の実施がプロジェクトのおかげで容易になった。T/S 獣医官は 1 年に 2 回村落を訪問し、ワクチン注射を行っている。プロジェクトにおける研修やアクティブサーベイランスの実施を通して、獣医官は村落を訪問する機会が増え、農家と家畜疾病についてもよく話すようになり、以前より村落と良い関係をもてるようになった。最近では、獣医官は以前よりも農家が協力的になり、ワクチン接種も効率的に行えるようになった、と認識している。
- AHW については、プロジェクトの研修により家畜飼養と家畜衛生への知識を得て、家畜疾病に対してより自信をもって農家と話せるようになっている。AHW は、農

家からの問い合わせに対して、以前は全部 T/S 獣医官に尋ねるような状況であったが、最近では幾つかの問い合わせについては自分で答えられるようになった。

(5) 持続性：中程度

- RVL-Mdl におけるブルセラ病と TB の診断技術は、今後も診断が継続していくことから、持続性が見込まれる。プロジェクトによって供与された診断のための備品は簡便で高価なものではなく、RVL-Mdl で消耗品、薬品、試薬を補充できる。マンダレー管区の家畜疾病管理は政府にとっても優先度が高いことから、LBVD から RVL-Mdl への政策的・予算的支援も期待される。
- RBT と TAT の試薬については、ヤンゴンの獣医ワクチン生産ラボで生産され、RVL-Mdl、ピンウールイン、アマラプーラのミニラボに配られている。ツベルクリンについては輸入されなければならず、最小の輸入単位は 2,000 本からで高価ではあるが、ミャンマー家畜協会が費用の一部を支援する予定である。
- アマラプーラ、ピンウールイン T/S 事務所の診断技術も維持されると見込まれる。獣医官は VDC を使用し、薬を処方し、処方記録をつけ、獣医サービスの料金を徴収しており、これが 1 年以上続いている。VDC のために設置された回転資金は機能しているように思われる。また、AHW や農家からの要望や連絡に対応する形で、獣医官は今後より多くの試験をやるようになることが予想される。
- 疾病通報システムについても、獣医官と AHW の意識啓発と技術向上、更に両者の良好な関係により、維持されていくことが見込まれる。また、獣医官・AHW と農家との関係についても、連絡・情報が取りやすくなり、ワクチン接種も容易になっている。
- 多くの予算と人員を要するアクティブサーベイランスについては、持続性は低い。プロジェクト終了後はドナー機関の支援がない限り、アクティブサーベイランスの実施は難しい。フェーズ 1 の際には、2005 年にヤンゴンでタイ専門家によりツベルクリン試験のデモンストレーションが、2006 年にはヤンゴンでブルセラ病のアクティブサーベイランスが実施された。最近では、FAO と KOICA が高病原性鳥インフルエンザ（Highly Pathogenic Avian Influenza：HPAI）と FMD のアクティブサーベイランスを支援している。また、FAO はアヒルとブタを対象に 27T/S でのアクティブサーベイランスを計画している。ブルセラ病と TB に関しては、今のところドナー支援の予定はない。

３－４－４　提　言

- ブルセラ病と TB のアクティブサーベイランスについては、公衆衛生の観点から、小規模酪農家だけでなく今後は商業業者も含めていく必要があるが、そうした疾病管理体制の継続的強化に向けては、LBVD はミャンマー家畜協会との協働を模索してくべきである。商業業者においては小規模酪農家よりも感染が広がりやすく、更に小規模酪農家の家畜はしばしば大規模農家から分けられてくることもある。また、アクティブサーベイランスの持続性については、ドナープロジェクトのようにもっぱら外部予算に頼ることになるので、このプロジェクトの成果と経験を基に、パッシブサーベイランスの強化が検討される必要がある。

- T/S 獣医官は、診断を続け処方・治療記録をつけていくことで、ミニラボと VDC を積極的に維持してくべきである。ミニラボについては毎日使い続けていくことが極めて重要で、自ら繰り返しミニラボで診断を行うことで、診断技術を習熟して獣医としての能率も上がり、それが VDC の回転資金を維持する料金徴収につながっていく。
- 処方・治療記録はパソコンに入力し集積して分析されることが望まれる。現在はミニラボと VDC の使用について月に 1 度の要約が T/S 獣医官によって準備されているが、LBVD はこの文書化を更に進めて PR 活動に活用し、ミニラボと VDC の努力を広めていく必要がある。
- 国別プログラムの効果がマンダレーの他の T/S、そして全国に広められ共有されることが望まれる。LBVD も、そのためのセミナー、研修ワークショップ、トレーナー研修、スタディ・ツアーに対して予算的・技術的支援を行う用意がある。
- JICA 第三国研修が、ミャンマーと周辺国の間でワークショップや専門家派遣といった域内活動が継続され進められていくためのひとつのスキームとして利用されるべきである。ミャンマーにおけるプロジェクト活動は、国別プログラムよりも域内活動による研修やワークショップが多く、域内研修やワークショップ、特に、EPI、ブルセラ病、家畜疾病監視、FMD 予防に関するものは、C/P から高い評価を得ている。

３－４－５　教　訓

- 地域協力プロジェクトでは、比較的進んだ国に事務局機能など拠点を置くケースが多く、遅れた国に専門家が配置されないケースが生じる。ADC-2 では拠点がタイに置かれ、他の 5 カ国への支援は出張ベースであったため、各国のプログラムを促進するのが難しかった。具体的には専門家が常駐しないことによる非効率な会計処理の方法などが挙げられる。また、専門家と C/P 間の密なコミュニケーションやともに働く感覚の共有といった JICA の技術協力の特性を生かすことも難しい。このため、地域協力プロジェクトを実施するうえでは、拠点以外の国に対する特別な配慮・措置を検討することが望ましい。

３－５　タイ

３－５－１　プロジェクトの実績

(1) 投　入

＜日本側＞

- 専門家の派遣：付属資料２「AnnexⅡ」
- 本邦研修：付属資料２「AnnexⅢ」
- 現地業務費、供与機材：付属資料２「AnnexⅣ」
- 機材リスト：付属資料２「AnnexⅤ」

＜タイ側＞

- 域内活動と域内専門家の派遣：付属資料２「AnnexⅥ」
- プロジェクトディレクター、プロジェクトマネジャー、NC、サイトマネジャーの配置：付属資料２「AnnexⅦ」
- 2008、2009、2010 年の C/P 経費の総額：付属資料２「AnnexⅣ」

(2) 活動レベルの実績

タイの国別プログラムの進捗状況と実績は付属資料２「AnnexⅧ」のとおり。

(3) 国別プログラムの主要な実績

国別プログラムの目標：MHS-AQS で家畜疾病の診断と監視体制が強化される

指標 1：家畜疾病監視に関して十分なキャパシティを有する職員の数

家畜疾病監視に関してトレーニングを受けた職員の数は以下の表のとおり。

国　名	域内 ・ 中央	郡	現　場
タイ	-	-	3/4

達成値/目標値

指標 2：各国で収集、分析された EPI データの数：1

MHS-AQS における輸入牛・水牛による FMD 感染の定性的リスク分析

３－５－２　実施プロセス

- タイの国別プログラムはメーホンソンの検疫ステーションのラボ設置・強化である。また、DLD は、サーベイランスに該当する活動として、第 3 年次に MHS-AQS における輸入牛・水牛のリスク要因分析を国別プログラムとして追加提案され、タイ・日本の EPI 専門家の支援を受けて実施された。
- 終了時評価までにタイ国内の合同調整委員会が 3 回開催され、プロジェクト活動の進捗と 2011/12 年度の PO 案の承認を行った。NC はバンコク港検疫ステーションの責任者で、特に MHS-AQS での活動の進捗支援と、検疫に関する地域協力で域内専門家を務めている。
- 国別プログラムの実施主体は、MHS-AQS。地域ラボの獣医調査開発地域センター（Regional Veterinary Research and Development Center：RVRDC）と地域リファレンス・ラボで FMD ワクチンの製造を行っている口蹄疫地域参考検査室（Regional Reference Laboratory-Foot and Mouth Disease：RRL-FMD）が診断技術の指導を行った。JICA の支援は MHS-AQS への機材供与であった。
- 2009 年 10 月に短期専門家の指導を受けて、モニタリングシートを作成し、国別プログラムの指標設定を行った。
- 域内協力では、検疫担当者がタイ国内での研修・ワークショップ・各国での検疫指導を行った。また、国立家畜衛生研究所（National Institute of Animal Health：NIAH）のスタッフがベトナムでのアクティブサーベイランス（主に PRRS）など、域内専門家として参加している。また、DLD の検疫ステーションの職員が、タイでメンバー国の検疫ステーションの職員を招いて研修を実施し、その後、講師を務めた職員が域内専門家として他のメンバー国に派遣され、検疫システム強化のための助言を行った。
- MHS-AQS における輸入牛・水牛のリスク要因分析については、当初、C/P がこうした調査を実施した経験がなく不慣れであったため、提案書の作成に時間がかかり、実際の調

査実施は第 3 年次となった。調査を行うにあたり、タイ北部の検疫ステーションの職員を含めて研修を受け、調査の方向性や実施方法について明確化することができた。タイと日本の EPI 専門家の支援を受けながら、MHS-AQS の職員既存データと現状分析に基づき調査を実施した。調査結果は第 3 回の域内 EPI ワークショップで発表された。また、MHS-AQS では家畜取引業者を招いて同様に調査結果の発表を行った。

３－５－３　5 項目評価結果

(1) 妥当性：高い

- DLD では増加傾向にある家畜（ウシ・水牛）の輸入に対応するため、2003 年に主要検疫ステーションに簡易ラボを設置して迅速に検疫を行う方針を立てた。この方針に沿って DLD では家畜流入が増加しているミャンマー国境に近い MHS-AQS にラボを設置することを国別プログラムとして実施することを決定した。ADC-2 でこの計画が立案された段階では、プログラム実施と対象サイトの妥当性は高かったといえる〔ウシ・水牛の輸入頭数データは(5)自立発展性の項を参照〕。
- 検疫ステーションでは検疫システムの有効性を把握するためのツールのニーズが高く、検疫ステーションにおける輸入牛・水牛のリスク分析を行うことで、現行の検疫システムが適正かどうか自己判断することができるため、職員の意識向上にも有効である。こうした点から、国別プログラムの内容についても妥当性が高いと判断できる。

(2) 有効性：高い

- MHS-AQS にラボを設置する目的は地域ラボにサンプルを送るのではなく、検疫ステーションで迅速に診断を行うためのモデル事業を確立することであった。本プロジェクトを通して、MHS-AQS ラボの診断技術は着実に向上し、これまでにブルセラ病、TB、FMD の診断が可能となった[1]。モデル事業の有効性は高いと判断できる[2]。
- プロジェクト開始時、輸入牛・水牛の 25%に対してランダム・サンプリングが実施されていたが、2010 年以降、DLD はブルセラ病、TB、FMD について全頭検査を実施する方針に転換した。このため、検疫ステーションで診断が可能となったことで、地域ラボの検査業務負担を軽減するというメリットも生じた。
- MHS-AQS ラボの職員に対して RVRDC と RRL-FMD が実地訓練（On-the-Job Training：OJT）や機材のテストランなどの支援を行った。JICA の供与機材のうち消耗品の納入が遅れたが、MHS-AQS ではタイ側で不足する消耗品への対応を行い、ラボを稼働させることができた。こうした点から、国別プログラムを通して地域ラボが検疫ステーションラボの技術支援を行う十分な能力とリソースを有していることも明確となった。
- 今回 DLD が実施したリスク分析の結果は、学術誌あるいは DLD のウェブサイトに掲載される予定であり、他の検疫ステーションでも同様の調査を行うための参考事例として参照される。

[1] 2010 年 1～10 月の実績で、MHS-AQS ラボで 1,129 件の血清が採取され、同ラボで 454 件、RVRDC で 674 件の検査が実施された。診断の結果、ブルセラ病と TB は検出されず、FMD 199 件の陽性結果があった。
[2] DLD の方針として、ヨーネ病、レプトスピラ症は RVRDC で診断が行われている。

(3) 効率性：中程度

- MHS-AQS での検査数を想定するのに時間がかかったため、ラボへの消耗品の供与の遅れが生じたが、RVRDC と RRL-FMD が職員への診断技術の OJT、機材のテストラン、消耗品の調達等で支援を行ったため、ラボを計画どおりに稼働させることができた。このように現地リソースを活用することで、順調にプロジェクト活動を実施することができた。
- プロジェクトの前半期間、タイの国別プログラムは MHS-AQS ラボの強化だけであった。検疫システムのリスク分析調査がプロポーザルとして挙げられたのは 2 年次と遅く、C/P もこうした調査に不慣れであったため、この活動の実施は遅れ気味であった。

(4) インパクト：高い

- DLD はアセアン自由貿易協定（AFTA）に備えて、北タイの 7〜8 カ所の主要検疫ステーションに簡易ラボを設置する方針を掲げており、MHS-AQS のラボは簡易ラボを整備するためのモデル事業である。この方針に沿って、DLD は既に北タイの検疫ステーションに簡易ラボを設置するための予算の一部を確保している。今後、配分予算に応じて徐々に簡易ラボを整備することを明確にしており、本プロジェクトによる十分なインパクトを見込むことができる。
- 本プロジェクトで実施した MHS-AQS でのリスク分析調査も他の検疫ステーションにとって参考となる調査である。この調査に参加した DLD 職員は十分な知識を得ており、他の検疫ステーションを支援することができる。この調査を参考に他の検疫ステーションもリスク分析調査を実施するようになれば、家畜疾病防除のための重要な措置を自己チェックすることが可能となる。

(5) 自立発展性：高い

- 現状、政策レベルで検疫ステーションにラボを設置していくという方針に変更はない。MHS-AQS のラボには研修を受けた 2 名のスタッフが配置され、診断を RVRDC と分担していることから、今後も RVRDC による継続的な技術支援が行われる見込みである。タイではラボ関係の消耗品調達も問題ない。DLD によれば、フェーズ 1 で支援したカンチャナブリーの検疫ステーションラボも稼働しているという。DLD は今後も主要検疫ステーションにラボを整備する方針を掲げており、政策的にも MHS-AQS の診断機能の維持は重要度が高い。こうした点から、ADC-2 終了後も MHS-AQS ラボの自立性は高いと判断される。
- MHS-AQS ラボの継続性について特に懸念材料はないが、診断について若干のリスク要因がある。2010 年以降、ブルセラ病、TB、FMD については輸入牛・水牛の全頭検査を実施することとなり、検査キットの不足が生じている。このため、輸入牛・水牛の大幅な増加などあれば、診断キャパシティが不足する可能性がある。また、輸入量が最も多いミャンマーに接する北タイの国境沿いは DLD の重点地域となっている。しかし、プロジェクト開始年である 2008 年から、域内の家畜価格の変化を反映して、ミャンマーからタイへの輸出が大幅に減少した。この減少傾向が長期間継続した場合、検疫ステーションで診断を行うという方針の妥当性を含めて見直しが必要となる。

MHS-AQS での家畜輸入の傾向

年	ウシ	水牛	合計
2004	61,289	18,124	79,413
2005	61,766	22,240	84,006
2006	22,533	8,483	31,016
2007	8,050	7,427	15,477
2008	255	2,650	2,905
2009	271	2,160	2,431
2010	368	1,473	1,841

データ提供：MHS-AQS

３－５－４　提　言

- DLD は北タイの家畜輸入の傾向をモニタリングし、検疫検査の量が大きく低減した場合は MHS-AQS のラボ機能（機材と職員）をよりニーズの高い検疫ステーションに移すなど柔軟に対応し、プロジェクトの提供したインプットの効率的な運用に努めることを提言する。
- DLD は、MHS-AQS における FMD のリスク分析調査の結果を論文にまとめて DLD の職員が参照できるようにすることを提言する。また、DLD は他の検疫ステーションもメーホンソンの経験をベースに、同様の調査を実施するよう推奨することを提言する。

３－６　ベトナム

３－６－１　プロジェクトの実績

(1) 投　入

＜日本側＞

- 専門家の派遣：付属資料２「AnnexⅡ」
- 本邦研修：付属資料２「AnnexⅢ」
- 現地業務費、供与機材：添付資料２「AnnexⅣ」
- 機材リスト：付属資料２「AnnexⅤ」

＜ベトナム側＞

- 域内活動と域内専門家の派遣：付属資料２「AnnexⅥ」
- プロジェクトディレクター、プロジェクトマネジャー、NC、サイトマネジャーの配置：付属資料２「AnnexⅦ」
- 2008、2009、2010 年の C/P 経費の総額：付属資料２「AnnexⅣ」

(2) 活動レベルの実績

終了時評価時点でのベトナム国別プログラムの進展と実績は付属資料２「AnnexⅧ」のとおり。

(3) 国別プログラムの主な実績

国別プログラム目標：家畜疾病の監視体制が現場（パイロットサイト）、地方、中央レベルで確立される。

指標 1：家畜疾病監視能力を有する人員の数

国　名	中央―地方	省―郡	現　場
ベトナム	54/8	60/40	40/152

研修を受けた人員の数/人員の目標数

指標 2：収集・分析された EPI データの数：1
クアンナム省における CSF の EPI 調査

３－６－２　実施プロセス

- ベトナムの国別プログラムは、家畜疾病の監視技術と監視通報体制の強化である。国の中央部に位置するクアンナム省の 2 郡（タンビンとナムジアン）がパイロットサイトとして選ばれた。
- 監視技術強化に向けたアプローチとしては、まずパイロットサイトを管轄する RAHO4 の診断能力を強化し、これを活用して SDAH-QN にラボを設置して現場近くでの診断を可能とする。地方レベルにおいては、SDAH-QN と、SDAH-QN 下にある 18 のベトナム郡獣医サービス事務所（District Veterinary Services：DVS）のなかからパイロットサイトの 2 つの DVS がプロジェクトを実施した。タンビン郡では 120 人の AHW、（22 の村落から 1 人ずつ任命されている VAHW と、98 人の民間 AHW）、ナムジアン郡では 32 人の AHW（9 の村落から 1 人ずつ任命されている VAHW と、23 人の民間 AHW）もプロジェクト活動に参加した。両郡を合わせた AHW の総数は 152 人で、この AHW が国別プログラムの現場レベルでの活動対象グループであった。
- NJCC は毎年開催され､プロジェクト進捗のレビューと 2011/12 年度のプロジェクト活動計画が承認された。DAH の NC が中央レベルでプロジェクト活動を調整した。またパイロットサイトの活動については RAHO4、SDAH-QN、DVS により実施された。
- JICA による主な投入は、SDAH ラボへの機材供与、診断技術に関する短期専門家の RAHO4 への派遣、PRRS に関する短期専門家の NCVD への派遣、研修コースの経費負担である。NCVD と RAHO4 も、SDAH ラボの職員を訓練した。
- DAH と NCVD は、メンバー国の関係者、担当職員が参加する PRRS 域内ワークショップを 2010 年に主催した。ワークショップのフォローアップとして、NCVD より域内トレーナーが 2010 年 11 月にはラオスに、12 月にはカンボジアに派遣された。

３－６－３　5 項目評価結果

(1) 妥当性：高い

- ベトナムでは家畜疾病が頻発しており、効果的な家畜疾病管理は DAH の優先課題となっている。

疾病名	2009 年	2010 年
FMD	67 件 (21 省)	191 件（24 省）
HPAI	115 件（16 省）	67 件（23 省）
PRRS	46 件（6 省）	2059 件（48 省）

情報提供：DAH

- ベトナム政府は、HPAI や FMD 等の家畜疾病の管理・根絶に向けて、国レベルでワクチン接種を実施している。ADC-2 は、地方・省レベルのラボにおける家畜疾病診断の向上と、そこと現場スタッフの間の通報体制を強化することを目的としており、こうしたベトナム政府の家畜疾病管理の取り組みを支援するものである。
- パイロットサイトは、FMD、PRRS、AI が頻発していること、家畜疾病の診断体制が脆弱であること、ワクチン接種率が低いこと、国境に近く山岳地帯で少数民族も多くワクチン接種が難しいこと、等の理由から、国の中央部に位置するクアンナム省からタンビン郡、ナムジアン郡が選ばれている。パイロットサイトにおけるプロジェクトの成果については、国の中央部へ適用していくことでインパクトが期待されるため、サイト選定は妥当であった。
- JICA ベトナム国別援助計画（2009 年 7 月）は、人口の 4 分の 3 を占める農村部の生計向上を図るため、そこで生産される農産物の安全性を確保していくことを挙げている。また、家畜疾病など越境性のある課題への対応策として、地域協力を重視している。こうした点から、日本の援助政策との整合性も高い。

(2) 有効性：高い

- RAHO4 においては、主に短期専門家の指導により診断技術能力が向上した。短期専門家により多くの診断技術が新たに導入され、OJT が継続的に行われることで職員の技術が向上し、加えて RAHO4 の職員はプロジェクトによる研修にも多く参加した。プロジェクト期間中に新たに導入された診断技術の数は、細胞培養、発育鶏卵内培養によるウイルス分離など 11 である。C/P の間からも、プロジェクトによる RAHO4 の診断能力強化については、大変高い評価の声が聞かれた。
- SDAH-QN については、プロジェクト前は診断ラボは存在しなかったが、プロジェクトからの資機材供与と研修による職員訓練により、2010 年 9 月には診断ラボが立ち上がり、現在は寄生虫検査、細菌検査を実施できるようになっている。ベトナムにおける ADC-2 国別プログラムの期待される成果の 1 つは、SDAH-QN の診断能力を強化し、RAHO4 で行われていた業務の一部を自ら実施できるようになることである。これについては、2011 年には基礎的な寄生虫検査・細菌検査については、RAHO4 に送付することなく、SDAH-QN にて行えるようになると見込まれる。プロジェクト期間中にこの成果が達成されなかったのは、機材の納入が遅れ、このために SDAH-QN で予定されていた短期専門家による OJT が実施できなかったためである。こうしたことから RAHO4 は、2011 年にスタッフを SDAH-QN に送って技術向上のための研修を継続する計画である。
- パイロットサイトの DVS については、プロジェクトの研修により家畜疾病診断と通報手続きに関する職員の知識が向上し、また AHW に対しても、ワクチン接種、基礎的な家畜疾病、通報手続き、家畜衛生管理についての研修が実施された。指標をみると、研修を受けた AHW の数は 40 人で止まっており、目標人数である 152 人に達していない。2010 年は AHW に対してはプロジェクトによる研修が実施されなかったためである。これは、他の AHW はクアンナムを含む 19 郡を対象とした HPAI 統合プログラム

（フェーズ 2）によって既に研修を受けたことから、DAH が研修の重複を避ける配慮を行ったためである。

- ベトナムでは既に通報体制の仕組みが構築されていたが、プロジェクトによる活動を通して、臨床診断、レポート作成、通報の迅速さといった点で、既存の通報体制の向上が確認された。現場の AHW は、家畜疾病の症状とその通報の重要性を認識するようになった。DVS から SDAH-QN への通報も、ファクスやインターネットなど通信設備が普及したおかげで、良くなっている。SDAH-QN 下には 18 の DVS があり、それらすべての DVS でファクスか電子メールが使えるようになった。RAHO4 によると、SDAH-QN から RAHO4 への毎日の通報は、以前は 5 時ごろだったが、最近は規則どおり 4 時までに正確に届いている。したがって、DVS から SDAH-QN への毎日の通報も、規則どおり 3 時までには集まるようになってきていると考えられる。さらに、日本人短期専門家の勤勉な職務態度に触発されて、職員が正確で時間通りの通報を心が得るようになったとの声も聞かれた。
- 2010 年には CSF のアクティブサーベイランスが実施された。計画策定が 2010 年の 6 月までずれ込み、SDAH-QN・DVS の職員と AHW で構成された 2 チームが、クアンナム省の 3 郡を対象として採材とアンケートを始めたのは 2010 年 8 月になってからというタイトなスケジュールであった。ELISA と中和抗体試験は RAHO4 で行われ、実施途中では対象郡で PRRS が発生して影響を受けたものの、関係者の多大な努力でサーベイランスは終了し、その結果は 2010 年 10 月の第 3 回 EPI ワークショップで発表された。サーベイランスは、職員が計画からサンプリングまで自ら実施し、疾病管理と監視システムに対する職員の意識向上につながったという点で高い有効性が認められた。一方で、そのインパクトと持続性については低いと判断される。期待されていたインパクトとしては、ワクチン接種の効果を証明して農家のワクチン接種への参加を促すことであったが、今回のサーベイランスからワクチン接種率の向上につながるような具体的な提案についてはいまだされていない。また、計画、データ解析、文書化についても、技術的に完結していないことから、現時点においてはプロジェクト後のアクティブサーベイランスの再現性についても低いと考えられる。
- CSF のアクティブサーベイランスと並行して、2010 年に PRRS の疫学調査が短期専門家の支援を得て全国 3 カ所（北・中央・南部）で、NCVD、RAHO5、RAHO7、バクギアン省、ギアライ省、バクリエン省 SDAH により行われた。これは、プロジェクトの EPI 調査チームが実施する CSF アクティブサーベイランスとは別に実施されたものである。調査によって、PRRS ウイルスの繁殖牧場における長期的な浸潤状況が明らかにされたが、PRRS は最近でも 2010 年 9 月にベトナムで発生している状況であり、こうした調査が PRRS の管理・予報に利用できるようになるには、更なる調査研究が必要である。
- PRRS の経験・知見を基に、DAH/NCVD はプロジェクトと合同で、2010 年 9 月に PRRS に関する研修ワークショップをハノイで開催した。これによってベトナムはプロジェクトの域内活動にも貢献したことになる。近年のラオス、カンボジア、ベトナム、中国、フィリピンでの PRRS の発生もあって、参加者からはワークショップで共有された情報や知見について、高い評価があった。

- 以上の点から、本プロジェクトの 2 つの成果、すなわち家畜疾病の診断技術の強化、監視通報体制の強化は達成されたと判断される。そしてこれらの成果の達成により、プロジェクト目標、すなわち現場・地方・中央をつなぐ通報体制は構築され、RAHO4 と SDAH-QN の能力も強化された、と判断される。プロジェクト目標に対して設定された 2 つの指標も、プロジェクト目標が達成されたことを示している。

(3) 効率性：中程度

- 国別プログラムの円滑な実施支援という点では、RPS と日本人長期専門家がバンコクベースであることがマイナスの要因であった。バンコクの専門家がわざわざベトナムを訪問して資金を支出しなければならないという会計手続きの規定も予算の執行に時間がかかることになった。当初の会計手続きの問題は円滑なプロジェクト実施の障害と認識され、DAH と JICA ベトナム事務所との合意に基づいてのちに改定された。
- 活動への投入については、プロジェクト及び C/P 双方からのタイミング、量、質ともおおむね適切であった。しかし、調達の遅れが国別プログラムの活動に影響を与えた例がみられた。例えば、SDAH-QN への安全キャビネットの納入が遅れ、SDAH-QN で予定されていた OJT が延期になった。納入の遅れは JICA 本部の内部予算調整のためではあったが、これにより SDAH ラボの立ち上げが 2010 年 9 月まで遅れることとなった。

(4) インパクト：中程度

1) 上位目標達成の見込み

上位目標：地域（6 カ国）レベルで越境性家畜疾病の監視体制が構築される

- ベトナムは基礎的監視体制については既に存在している。プロジェクトは、対象地域の監視体制を強化し、更に中央レベルで域内の情報交換と協力を促進した。中央ラボ所長会議が上位目標達成に向けたひとつの土台として新しく設立された。しかしながらメンバー国の間で監視能力に依然大きな隔たりがあることから、上位目標達成に向けた見込みは中程度である。ベトナムでは、プロジェクトの成果は、まず監視体制が弱いベトナム中央部の他地域に適用されていく必要がある。

2) その他のインパクト

- SDAH-QN の能力強化を利用して、近隣の省の SDAH や AHW が、基礎的な寄生虫・細菌試験のためにサンプルを SDAH-QN に送ってくることも予想され、そうなればこれらの地域で疾病対応までの時間を短縮できる可能性がある。
- 域内活動は主に RAHO4 を対象に行われ、職員は EPI 調査や動物検疫の域内ワークショップに参加した。ワークショップにおける情報交換だけでなく、その際に得られた関係が今後業務に関する自発的な連絡・やりとりにつながっていく可能性もある。
- PRRS のアクティブサーベイランスを実施した NCVD については、プロジェクトにおいて域内ワークショップも主催し、NCVD はその経験・知見・やりとりを基に、今後も能力向上を図っていける可能性がある。

- CSF と PRRS のアクティブサーベイランスについては、現行のワクチン接種プログラムの改善等にこのあと何らかのフィードバックを行う可能性がある。
- パイロットサイトにおける情報システムの向上は、ベトナム中央部においてモデルとして提示できれば、整備が遅れている中央部の他の SDAH も業務向上につながる可能性がある。

(5) 自立発展性：中程度

- RAHO4 は地域のリファレンス・ラボであり、その機能と役割は明確にされていることから、予算もそれに従って配分されている。重要疾病の診断は地域ラボの業務であり、診断方法の変更等があった場合は NCVD が指導することが定められている。RAHO4 はしばしば消耗品が不足することもあり、RAHO4 には適切な備蓄管理が求められる。
- SDAH-QN については、AHW や農家からの要請や材料の持ち込みが増え、ラボ職員が今後より多くの鑑定を行っていくことが予想されることから、業務を実施することで寄生虫・細菌の診断に係る検査技術を継続的に向上させていくものと見込まれる。また、RAHO4 の診断能力も強化されており、引き続き SDAH-QN に技術的な研修を提供していくと思われる。DAH の規則によれば、DAH は SDAH-QN に対して特定の検査ごとに認証を与えることができるため、SDAH-QN 認証取得を進めれば、職員のラボ診断技術の維持・向上を促すことができる。
- SDAH-QN の予算の持続性については、クアンナム省政府に大きく依存している。DAH は SDAH-QN の予算については協力的で、これまで必要に応じてクアンナム省政府あてに SDAH-QN への予算配慮について依頼状を書いてきたが、これについては今後も続けていくものと見込まれる。
- プロジェクトによる診断技術と通報体制の強化は、報告、パッシブサーベイランス、AHW の配置、ラボの認証、ワクチン接種ブログラムといった既存の仕組みのうえに実施されたものであり、プロジェクト後も維持されるものと見込まれる。
- 多くの予算・人的リソースが必要なアクティブサーベイランスについては、持続性は低いと判断される。プロジェクト終了後、ドナーの支援がなければアクティブサーベイランスの実施は難しい。したがって監視通報体制の更なる向上に向けては、パッシブサーベイランスが持続性ある現実的な方法として検討されていくこととなる。

３－６－４　提　言

- 基礎的な試験を実施し始めた SDAH-QN ラボに対して、DAH、RAHO4 は、OJT の提供や予算に関する省政府との調整など、SDAH ラボ支援の役割を継続して果たすことを提言する。DAH からの認証取得については、それを目標に設定することでラボ職員の能力向上の励みにもなることから、SDAH-QN は認証取得に向けての手続き、ラボ標準マニュアルについて今後学んでいくことが必要である。
- SDAH-QN は、研修ニーズや新しく導入された機材維持のためのコスト試算などを含むラボ強化の詳細計画を作成することを提言する。こうした計画は、SDAH-QN が、DAH や RAHO4 に対して支援の必要性を効果的に伝えるのに役立つ。SDAH-QN はまた、水

産物の検査､家畜移動のための証明書発行､家畜疾病についてのラボ診断の業務により、料金を徴収して収益を上げていくことを提言する。ベトナム南部の幾つかの SDAH は、こうした本来業務により収益を上げており、SDAH-QN も他の SDAH から学ぶことができる。

- SDAH-QN は、DAH、RAHO4 とともに、AHW の 5 年ごとの資格更新を、臨床診断と通報システムに関する研修・講義を AHW に定期的に提供する機会として利用することを提言する。
- 中間評価では、PRRS チームと EPI 調査チームはアクティブサーベイランスの最終報告書を作成し、その成果を基に DAH、RAHO4、SDAH、NCVD に政策的フィードバックを行うことを提言している。PRRS については、得られた知見は 2010 年 9 月に行われた域内 PRRS 研修ワークショップにおいて共有された。CSF については引き続き、現行のワクチン接種の活動にも何らかのフィードバックを行うこととともに、その知見については AHW と農家にも共有されることが望ましい。

３－６－５　教　訓

- 広域プロジェクトが域内、中央、地方、現場の各レベルで活動を行う際には、リソースの効果的な投入と活動実施のため、各レベルを結ぶ良好なコミュニケーション・チャンネルを確立しておくことが大変重要である。また、プロジェクト、JICA 事務所、JICA 本部を結ぶ良好なコミュニケーション・チャネルの確立も重要である。

第４章　域内協力の評価

４－１　プロジェクトの実績

付属資料２「AnnexⅥ」を参照。

４－２　実施プロセス

- 域内活動の内容は年 2 回開催される RJCC で承認されたうえで実施された。
- 域内活動は主に次の 2 つのねらいをもって実施された。①各国の国別プログラムを促進するための域内専門家派遣と域内研修の実施、②中央ラボ所長会議や家畜疾病防除のための局長レベルのハーモナイゼーション会議の実施といった域内協力の枠組み形成に向けた取り組みである。
- 域内協力の対象分野は診断、EPI、検疫であった。診断はマレーシアの DVS/VRI、EPI・検疫はタイの DLD/NIAH が担当した。域内協力の方法としては、まず担当する国で研修やワークショップを開催し、その後、講師が専門家としてメンバー国に派遣されてフォローアップ・助言を行った。
- また、プロジェクト期間中、ラオス、カンボジア、ベトナム、中国、フィリピンで PRRS の集団発生が発生したため、メンバー国の関心が高まり、PRRS を域内活動のひとつのテーマとして追加した。特にベトナムが積極的にこの課題への対応を表明し、ワークショップの開催や EPI 調査の実施面で協力を行った。また、この課題では、タイ・マレーシアの専門家だけでなく、ベトナムもカンボジア、ラオスへ専門家を派遣した。

４－３　5 項目評価結果

(1) 妥当性：高い

- 各国の政策文書等に明示されている訳ではないが、域内協力を通した越境性の疾病防除の重要性はメンバー国内で強く認識されている。本プロジェクトが主催した 2009、2010 年の 2 回にわたる各国の局長レベル会議で、家畜移動の管理システムのハーモナイゼーションに向けた合同声明が採択されたことからも、課題対応の重要性への認識が高いことが分かる。
- タイと日本のパートナーシップで第三国を支援することは、タイに対する日本政府の重要な援助計画のひとつである。また、マレーシアに対する日本政府の援助計画でも域内協力が重視されている。この点から、本プロジェクトは日本の援助方針と整合性がある。

(2) 有効性：高い

本プロジェクトによる重要な成果は次のとおりである。

- まず、家畜疾病防除のための域内協力のための枠組みづくりのベースができたことが挙げられる。RJCC での協議や域内ワークショップの場で域内協力の枠組みづくりの重要性が議論され、その結果を受けて、プロジェクトが主催して 2 回局長級会議を開催した。この会議では、家畜移動の管理システムのハーモナイゼーションに向けた基本的方向性と優先課題についてメンバー国が合意し、共同声明が採択された。

- 次に本プロジェクトではメンバー国の中央研究所間の所長会議の開催をリードした。これまでに 2 回合同会議が開催され、域内の中央研究所間のネットワーク構築と診断方法や手続きの共通化に向けた協議が開始された。この枠組みは技術面で域内のハーモナイゼーションを促進するうえで有効である。
- 本プロジェクトでマレーシア（DVS）、タイ（DLD）、ベトナム（DAH）が専門家派遣や研修を主導的に行った。これらの活動を通して、この 3 カ国がミャンマー、ラオス、カンボジア等周辺国を支援するためのノウハウ、経験を蓄積したことも重要な本プロジェクトの意義であった。
- 本プロジェクトで各国が実施した国別プログラムは、域内専門家の支援を受けて実施され、PRRS の調査など EPI 調査の結果は、本プロジェクトのワークショップで発表された。各国の EPI 調査の結果 6 編はプロジェクト終了までに論文にまとめられ、メンバー国間で共有される予定である。このような形で各国の実績・課題が共有されることも重要な到達点である。
- 域内協力の各国・組織・個人レベルでの効果を明確に測定することは難しいが、次のような定性的な効果が認められる。
    - 域内専門家によるメンバー国への支援活動を通して、双方のスタッフ間にインフォーマルなコミュニケーションの形成と技術交換が見られるようになった。
    - 研修ののち、各国でのフォローアップを実施したことで、専門家が各国の現状を理解して彼らの現状にあった助言ができるようになった。具体的な例として、タイ専門家の助言を受けながら、カンボジアとラオスが検疫システム・手続き規定を作成している。また、マレーシアの専門家はカンボジア、ラオスなどに見合った簡易な寄生虫検査の方法を紹介するなど、適正技術の移転という観点から有効性が認められる。
    - 研修講師を務めるにあたって研修内容の十分な理解が必要となり、講師の自己学習を促した。

(3) 効率性：中程度

- ADC-2 では、DLD は潜在的なドナーとしての役割を果たすことが期待されていた。DLD はフェーズ 1 での近隣国支援、TICA の研修プログラムの実施、FAO/OIE プロジェクトでの専門家派遣などの経験を有しており、効率的に研修、ワークショップ、専門家派遣等を実施してきている。ただし、2009 年は金融危機の影響から緊縮予算となり、タイでの幾つかの活動をキャンセルするなど影響が出た。
- 評価調査団による質問票調査によれば、日本からの短期専門家、タイ・マレーシアの域内専門家の役割は受入国・機関からおおむね高く評価されており、人的投入の有効性は高かった。
- 6 カ国を包括する域内協力プロジェクトという性格から、6 カ国の実施機関、研究機関、パイロットサイトの関係者、各国の専門家、JICA 現地事務所など関係者が多く、膨大なロジスティクス・調整業務が発生し、PRS と各国の NC への負担が大きくなった。このため、技術面以外のそうした業務に多大な時間と労力を割くこととなった。また、特にプロジェクトの初期段階で、各国 JICA 事務所の会計ルールが異なるため、予算が円滑

に活動に投下できないといった課題があった。こうした要因から本プロジェクトではロジスティクス・手続き面の非効率さが大きな阻害要因となった。

(4) インパクト：中程度

- 域内活動を通してメンバー国間のコミュニケーションが密になり、良好な関係が強化されたことは、越境性家畜疾病を防除するうえで重要な財産であり、潜在的に大きなインパクトとなる。特に、家畜疾病の集団発生が発生した場合、組織・個人レベルで培われたフォーマル・インフォーマルな情報チャンネルを生かして、必要なアクションをとるために情報交換を行うことができるであろう。
- 本プロジェクトが主導して、各国の局長レベル会議で、家畜移動の管理システムのハーモナイゼーションに向けた方向性と優先度の確認を行った。このため、今後、メンバー国間でシステムの調整や共通化が促進されることが期待される。ただし、今後、具体的にハーモナイゼーションの成果を上げていくためには､地域内の包括的な政策的枠組み､各国の強いコミットメントとリソースの提供など具体的な措置が必要である。

(5) 自立発展性：中程度

- タイ（DLD）とマレーシア（DVS）は組織的にも職員レベルでも、域内協力のための職員派遣や研修実施など通して主導的な役割を果たすことに積極的であり、協力の枠組みや予算が確保されれば、プロジェクト後も継続して域内協力を進めたいとの意向をもっている。
- 本プロジェクトで設立を支援したメンバー国の中央研究所長会議（フォーラム）は、技術交換を通したメンバー国間の連携とハーモナイゼーションを技術面から支援するものとして期待される。FAO と OIE のバンコク事務所は、プロジェクト後は、本プロジェクトに代わりこのフォーラムの開催をサポートすることを表明しており、継続性は担保される見込みである。
- 本プロジェクト以外にもメンバー国では二国間、複数国間での協力活動を実施している。例えば、DLD はラオスの DLF と局間の協力合意があり、タイ側が診断や検疫の分野で研修を行うといった活動を行っている。また、省レベルでもタイとラオスが合同で南部ラオスのチャンパサック県で FMD コントロールのためのパイロット事業を実施している。マレーシアの DVS は第三国に対する技術支援に積極的で、首相府経済企画院（Economic Planning Unit：EPU）も予算面で協力的である。ベトナムはラオス、カンボジアとそれぞれ二国間の年次協議をもち、同時に両国に対してラボ職員を派遣したり、FMD ワクチンの供与を行うといった域内活動を行っている。このため、規模は縮小されるが、技術面の域内協力活動はプロジェクト後も主に二国間の枠組みのなかで維持されていく。
- このように技術面での継続性はある程度確保されることが見込まれるが、家畜移動の管理システムのハーモナイゼーションについては共同声明は出されたが、プロジェクト後もその活動を担う制度・組織面の裏付けがなく、予算確保のめどもないため、継続性は高くない。

４－４　提　言

- 家畜移動の管理システムのハーモナイゼーションについては共同声明は出されたが、具体的な成果を上げるための措置を各国で十分協議することを提案する。

４－５　教　訓

- 地域協力プロジェクトでは、さまざまな関係者が複数国から参加するため、プロジェクト・マネジメントについて共通理解を得ることが重要になる。特に、各国のキー・パーソンに対しては PCM の考え方、PDM、PO の作成方法などについてプロジェクトの初期段階で十分な理解を得るための研修を提供することが重要である。
- 地域協力では JICA 現地事務所ごとに調達や会計の手続き方法に違いがあり、これが ADC-2 ではロジスティクス業務が非効率となった一因であった。このため、プロジェクト開始前に各事務所と十分協議して、手続きを共通化させることが重要である。
- 本プロジェクトでは現場でのオペレーションへの支援が不十分であったため、実施を前進させるのに長い時間がかかった。相手国側の現場での実施能力を見極め、必要な人材配置と指導を行うことが、現場活動の円滑化に非常に重要である。
- ADC-2 では域内活動だけでなく各国がパイロット事業にも取り組んだ。地域協力プロジェクトで同様の事業コンポーネントをもつ場合、直接的な現場へのサポートが弱くなり、業務量も増加するため、現場にアシスタントを配置するなど現場のマネジメントを補強することも要検討事項である。

第５章　結論及びフォローアップ状況

５－１　結　論

対象 6 カ国の地理的条件、経済的条件の違いからプロジェクトで求められている技術は異なっているが、「地域を通じた検疫システムの構築」「EPI 手法の導入」「個別診断技術の向上」については、各国国内プログラムの実施を通じ、各国の状況に応じた体制がある程度整備できたと考える。

また、域内においては、中央ラボ所長会議、動物検疫フォローアップ研修、EPI ワークショップ等の実施を通じ、タイ、マレーシア、ベトナムの専門家が域内専門家として各国のニーズに見合った技術指導を行うことができたことは、域内協力の成果のひとつとして評価できるものと考える。したがって、本プロジェクトの成果を踏まえ、プロジェクト目標はおおむね達成されていることから、2011 年 2 月をもって、本プロジェクトを終了することが妥当であると判断した。

５－２　フォローアップ状況

ラオスにおいては、JICA のシニア海外ボランティアが 2011 年 1 月にビエンチャンにある NAHC に配置される。ボランティアの協力によってプロジェクトの成果が持続、活用されることが期待できる。

第６章　総　　括

６－１　団長所感

プロジェクト後半における大きな活動のひとつであった各国におけるアクティブサーベイランスについて、その活動自体のサスティナビリティにおいて、低い評価をつけざるを得なかった。しかしながら、集中的かつ計画的なアクティブサーベイランスは、その必要性が高く認識され、資金面の確保が伴い、特には重要感染症の発生時や発生リスクが高まっているときなどに行われる。したがって、平時から、必要なときにアクティブサーベイランスの実施が可能な技術的、組織的な整備をしておくことが重要である。

すなわち今回活動において、EPI 調査の計画作成からロジスティクスの準備、サンプルの収集、ラボ分析、データ分析からレポート作成までの一連の過程を集中的に実施、経験した。これにより、プロジェクトの目的とする「家畜疾病の監視能力の向上」のための基礎的な技術的、体制的な強化が行われた点は、評価しておきたい。

現場レベルの疾病監視の中核をなす地方ラボは、各国で実施された国内プログラムにより技術的には一定レベルの強化が実現した。しかしながら、特にラオス、カンボジアのように、それまで地方ラボがないかまたはほとんど機能していなかったところにおいては、地方ラボが日常的な検査診断活動に十分機能している状況にはない。これは、ラボ検査診断の畜産現場からの需要が十分になく、検査サンプルが少ないことが主な理由である。どちらが先かの問題はあるが、ラボの整備に併せて現場ニーズの把握や発掘、また獣医技術者の啓発が必要とされる。

現状、JICA としてこの地域における当該分野における具体的な協力案件実施に向けた動きはない。この状況において、今回プロジェクトによる活動や成果の持続的な発展は、FAO、OIE、IFAD の国際機関や、EU、Aus-AID、などの他ドナー支援に期待されるところが大きい。

具体的には、FAO、OIE のイニシアティブによる GF-TAD メカニズムに沿い、EU や IFAD-ADB が獣医サービス強化と家畜衛生改善の分野の協力を表明支援している。Aus-AID は現在の SEAC-FMD や HPAI 対策を発展させる形で、長期的なイニシアティブ枠組みとして Stop Transboundary Animal Disease and Zoonosis（STANDZ）を設定し、具体的なプロジェクト形成の段階にある。また、プロジェクトで支援した中央ラボネットワークフォーラムは、既に FAO が継続支援を約束している。

付　属　資　料

１．日　程

２．終了時評価調査ミニッツ

３．PDM

１．日　程

ADC-2　終了時評価日程

月日	曜日	日順	評価分析1（奥田）	宿泊	評価分析2（藤本）	宿泊
12月5日	日	1	成田11:00→ハノイ15:25(VN955)16:55→ダナン18:10(VN313)	ダナン	成田11:30→バンコク16:30(TG643)、18:25→プノンペン19:40(TG584)	プノンペン
12月6日	月	2	ダナン管区家畜衛生地域事務所(RAHO)調査 クアンナム移動(陸路)	クアンナム	午前：事務所打合せ 午後：家畜衛生生産局､国立獣医学研究所(NaVRI)	プノンペン
12月7日	火	3	クアンナム省家畜衛生局(SDAH-QN)、ラボ SDAH-タンビン郡獣医事務所（ナムジアン郡獣医事務所関係者ヒアリング） タンビン郡-ダナン移動（陸離）	ダナン	午前：コンポンチャム移動(陸路) 午後：県家畜衛生生産事務所(PAHPO)、ラボ	コンポンチャム
12月8日	水	4	ダナン管区家畜衛生地域事務所(RAHO)調査 ダナン16:55-ハノイ18:05(VN312)	ハノイ	午前：プレイチョ移動（陸路） 午後：パイロットプロジェクト調査 プレイチョ→プノンペン（陸路）	プノンペン
12月9日	木	5	DAH聞き取り/ベトナム評価報告書作成	ハノイ	カンボジア評価報告書作成	プノンペン
12月10日	金	6	午前：DAH報告 午後：事務所報告	ハノイ	午前：家畜衛生生産局､NaVRI 午後：事務所報告	プノンペン
12月11日	土	7	ハノイ14:10→クアラルンプール18:40(MH753)	クアラルンプール	プノンペン15:50→ビエンチャン17:20(VN840)	ビエンチャン
12月12日	日	8	資料整理	クアラルンプール	資料整理	ビエンチャン
12月13日	月	9	午前：事務所打合せ 午後：農業省獣医サービス局(DVS)、ジョホールバルへ移動(陸路)	ジョホール	午前：事務所打合せ 午後：農林省畜水産局(DLF)、国立家畜衛生センター(NAHC)打合せ	ビエンチャン
12月14日	火	10	ジョホールバル州DVS､リージョナルラボ	ジョホール	午前：ビエンチャン→サバナケット（陸路） 県農林事務所(PAFO)、県ラボ 午後：カイソン郡パイロットプロジェクト調査	サバナケット
12月15日	水	11	午前：ポンティアン郡移動(陸路) 午後：パイロットプロジェクト調査、クアラルンプールへ移動（陸路）	クアラルンプール	午前：ソンコン郡パイロットプロジェクト調査 午後：サバナケット-ビエンチャン（陸路）	ビエンチャン
12月16日	木	12	マレーシア評価報告書作成	クアラルンプール	ラオス評価報告書作成	ビエンチャン
12月17日	金	13	午前：DVS報告 午後：事務所報告	クアラルンプール	午前：DLF､NAHC報告 午後：事務所報告、ビエンチャン21:50→バンコク22:55	機内
12月18日	土	14	クアラルンプール10:05→ヤンゴン11:15(MH740)	バンコク	バンコク23:50-成田07:30（TG642）	
12月19日	日	15	資料整理	ヤンゴン		
12月20日	月	16	午前：事務所打合せ 午後：畜水産省家畜改良獣医局(LBVD)	ヤンゴン		
12月21日	火	17	午前：ヤンゴン6:30-マンダレー8:35(6T401) マンダレーLBVD、RVLラボ協議 午後：ピンウールイン移動、ピンウールインパイロットプロジェクト調査	マンダレー		
12月22日	水	18	午前：アマラプラ移動(陸路) 午後：アマラプラパイロットプロジェクト調査 マンダレー16:10（W9109)-ヤンゴン18:15	ヤンゴン		
12月23日	木	19	ミャンマー評価報告書作成	ヤンゴン		
12月24日	金	20	午前：LBVD報告 午後：事務所報告、ヤンゴン19:40-バンコク21:35(TG306)	機内		
12月25日	土	21	バンコク22:35-成田06:15(TG640)			

月日			評価分析3(井田）/官団員	宿泊
1月3日	月	8	【井田】成田11:30→バンコク16:30(TG643)	バンコク
1月4日	火	9	午前：事務所打合せ 午後：畜産振興局打合せ、専門家打合せ	バンコク
1月5日	水	10	午前：バンコク6:15-チェンマイ7:25(TG100)-メーホンソン(陸路) 午後：動物検疫所及び関連施設	メーホンソン
1月6日	木	11	午前：メーホンソン調査 午後：チェンマイ16:00-バンコク17:10(TG113)	バンコク
1月7日	金	12	午前：タイ評価報告書作成 午後：DLD報告	バンコク
1月8日	土	13	資料整理	バンコク
1月9日	日	14	【多田、窪田、日高】成田10：45→バンコク15：45（TG641）	バンコク
1月10日	月	15	域内活動調査（於 農業共同組合省畜産振興局）	バンコク
1月11日	火	16	域内活動調査（於 農業共同組合省畜産振興局）	バンコク
1月12日	水	17	域内活動報告書作成（於 農業共同組合省畜産振興局）	バンコク
1月13日	木	18	域内活動報告書作成（於 農業共同組合省畜産振興局）	バンコク
1月14日	金	19	午前：畜産振興局及びプロジェクト事務局報告 午後：事務所報告、バンコク22:35→	機内
1月15日	土	20	成田06:15(TG640)	

MINUTES OF MEETING
ON
THE TERMINAL EVALUATION FOR REGIONAL COOPERATION PROJECT FOR ANIMAL DISEASE CONTROL
AMONG
CAMBODIA, LAO P.D.R., MALAYSIA, MYANMAR, THAILAND AND VIETNAM
(ADC PROJECT PHASE 2)

Japan International Cooperation Agency (hereinafter referred to as "JICA") has conducted terminal evaluation study on the Project for Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam (hereinafter referred to as "the Project") in accordance with the Record of Discussions on the Project.

After intensive study and analysis of the activities and achievements of the Project, the Terminal Evaluation Study Team prepared the Terminal Evaluation Report (hereinafter referred to as "the Report"), and presented it to the Regional Joint Coordinating Committee (hereinafter referred to as "RJCC"). The RJCC has accepted the contents of the Report and agreed to take action for the recommendations made in the Report.

The leaders from the Japanese and member countries agreed to report to their respective governments the matters referred to in the Report attached hereto.

Bangkok, 18th January, 2011

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List of Acronyms and abbreviations

ADC-2	Project for Animal Disease Control among Cambodia, Lao P.D.R, Malaysia, Myanmar, Thailand and Vietnam Phase 2
AHPISA	Animal Health Production Information System for ASESAN
AI	Avian Influenza
AQS	Animal Quarantine Station(s)
ARAHIS	ASEAN Regional Animal Health Information System
CLMV	Cambodia, Lao PDR, Myanmar and Vietnam
C/P	Counterparts
CSF	Classical Swine Fever (= Hog Cholera (HC))
EI	Egg Inoculation
ELISA	Enzyme-Linked Immuno-sorbent Assay
EPI	Epidemiology (Epidemiological)
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
GMT	Geometrical Mean Titer
HPAI	Highly Pathogenic Avian Influenza
HS	Haemoragic Septiceamia
MTCP	Malaysia Technical Cooperation Program
M/M	Minutes of Meeting
NC	National Coordinators
ND	Newcastle Disease
NJCC	National Joint Coordinating Committee
NPD	National Project Director
NPM	National Project Manager
OIE	Office International des Epizooties
OJT	On the Job Training
PCM	Project Cycle Management
PDM	Project Design Matrix
PI	Pathogenic Index
PO	Plan of Operation
PRRS	Porcine Reproductive and Respiratory Syndrome
R/D	Record of Discussions
RC	Regional Coordinator
PCR	Polymerase Chain Reaction
R/D	Record of Discussions

RJCC	Regional Joint Coordinating Committee
RPS	Regional Project Secretariat
PRRS	Porcine Reproductive and Respiratory Syndrome
TB	Tuberculosis
WAHIS	World Animal Health Information System

<Cambodia>

DAHP	Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries
DAHPO	District Animal Health and Production Office
NaVRI	National Veterinary Research Institute
PAHPO	Provincial Animal Health and Production Office
MAFF	Ministry of Agriculture, Forestry and Fisheries
VAHW	Village Animal Health Worker

<Lao P.D.R.>

AVPC	Animal Vaccine Production Center
DAFEO / DAFO	District Agriculture and Forestry Extension Office
DLF	Department of Livestock and Fisheries, Ministry of Agriculture and Forestry
NAHC	National Animal Health Center
PAFO	Provincial Agriculture & Forestry Office

<Malaysia>

DVO	District Veterinary Office
DVS	Department of Veterinary Services
RVL-JB	Regional Veterinary Laboratory - Johore Bharu
SVS	State Veterinary Services
VRI	Veterinary Research Institute

<Myanmar>

AHW	Animal Health Workers
LBVD	Livestock Breeding and Veterinary Department
MLF	Ministry of Livestock and Fisheries
RVL-Mdl	Regional Veterinary Laboratory Mandalay
T/S	Township
VDC	Veterinary Drug Cabinet
VDL-Mdl	Veterinary Diagnostic Laboratory Mandalay
VL Central	Veterinary Diagnostic Laboratory Yangon

(Yangon)

<Thailand>

DLD	Department of Livestock Development
MHS-AQS	Mae Hong Son Animal Quarantine Station
NIAH	National Institute of Animal Health
RRL-FMD	Regional Reference Laboratory - Foot and Mouth Disease
RVRDC	Regional Veterinary Research and Development Center
TICA	Thailand International Cooperation Agency

<Vietnam>

DAH	Department of Animal Health
DVS	District Veterinary Services
NCVD	National Center for Veterinary Diagnosis
RAHO	Regional Animal Health Office
SDAH-QN	Sub-Department of Animal Health - Quang Nam

1 Introduction

1.1 Objectives of the review

The review activities were performed with the following objectives:

(1) To review and confirm the achievement and implementation process of the Project for Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam (hereinafter referred to as "the Project")

(2) To evaluate the Project in terms of the five evaluation criteria, namely relevance, effectiveness, efficiency, impact and sustainability, based on the Record of Discussions (R/D), Project Design Matrix (PDM) and Plan of Operation (PO)

(3) To review and evaluate changes in important assumptions

(4) To draw a conclusion on whether the Project has achieved the Project Purpose and realized the Outputs

(5) To make recommendation for further improvement of the Project to stakeholders

(6) To draw lessons that can be applied to other similar ongoing and future projects

1.2 Members of the Team

Title	Name	Position
Team Leader	Dr. Yusuke TADA	Senior Advisor, JICA
Animal Disease Control	Dr. Takayuki KUBOTA	National Institute of Animal Health, National Agriculture and Food Research Organization
Planning Management	Mr. Hiroshi HIDAKA	Advisor, Paddy Field Based Farming Area Division 1, Rural Development Department, JICA
Evaluation/Analysis 1	Mr. Hiroyuki OKUDA	Consultant
Evaluation/Analysis 2	Ms. Saori FUJIMOTO	Consultant
Evaluation/Analysis 3	Mr. Kaneyasu IDA	Consultant

1.3 Schedule of the review

The Study was conducted from December 5, 2010 to December 25, 2010 and January 3 to January 15 as shown in Annex I. The Terminal Evaluation Team (hereinafter referred to as the Team) collected information through questionnaires and a series of interviews with Japanese experts and C/Ps of the member countries. The Team also conducted field observation in the pilot sites in each country. Based on their findings, the Team prepared a draft report and finalized it through discussion with member countries.

2 Outline of the Project

2.1 Background of the Project

Recently, political and economic situation in member countries has become stabilized and improved, and the distribution of agricultural products across the border has been promoted. Particularly, cross-border movements of livestock have been increasing, and the condition of animal health has been threatened with insufficient organizational and technical system to manage and control the spreading of animal diseases in these areas. Therefore, Japan-Thailand Technical Cooperation Project for Animal Disease Control in Thailand

and neighboring countries (hereinafter referred to as "the ADC-1 Project") had been implemented from December 2001 to December 2006.

As a result of the ADC-1 project, regional cooperation system and resources for animal disease control were strengthened, and the technologies of animal disease control were improved. At the same time, it was confirmed that member countries had an intention to commonly enhance the surveillance capacity as a next step.

Based on the above background, the member countries made a new request to the Government of Japan for the next phase of the project, the Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam (hereinafter referred to as "the ADC-2 project") aimed at strengthening the surveillance capacity for animal diseases.

2.2 Summary of the Project

According to the R/D, the Project Purpose is "The surveillance structure for animal diseases is established between field (pilot site), local and central level in each member country". Furthermore, the surveillance structure for animal diseases is established among member countries".

The expected outputs of the project are as follows:

(1) Surveillance techniques for animal diseases are strengthened in each member country.
(2) Surveillance information system for animal diseases is strengthened in each member country.
(3) Regional structure for animal disease surveillance is built among member countries.

3 Methodology of review

3.1 Data Collection and Analysis

3.1.1 Data Collection Method

The Team had interviews with the C/Ps of the member countries and the Japanese experts dispatched for the project. The Team also collected information through questionnaires from the concerned personnel. Then, the team conducted field survey in the pilot site in each member country.

3.1.2 Evaluation analysis

(1) Accomplishment of the Project

Accomplishment of the project was measured in terms of the Inputs, the Outputs and the Project Purpose in comparison with the Objectively Verifiable Indicators of the PDM as well as the plan delineated in the R/D.

(2) Implementation process

Implementation process of the project was reviewed to see if activities had been implemented according to the schedule delineated in the PO, and to see if the Project had been managed properly as well as to identify obstacles and/or facilitating factors that have affected the implementation process.

(3) Review based on the five review criteria

(a) Relevance

Relevance of the project was reviewed to see the validity of the Project Purpose and the Overall Goal in connection with the needs of the beneficiaries and policies of the member countries and Japan.

(b) Effectiveness

Effectiveness was analyzed by evaluating the extent to which the project had achieved and contributed to the beneficiaries.

(c) Efficiency

Efficiency of the project implementation was analyzed focusing on the relationship between the Outputs and Inputs in terms of timing, quality, and quantity.

(d) Impact

Impact of the project was forecasted by referring to positive and negative impacts caused by the Project.

(e) Sustainability

Sustainability of the project was forecasted in institutional, financial and technical aspects by examining the extent to which the achievement of the project would be sustained and/or expanded after the completion of the project.

4 Evaluation of In-Country Programs

4.1 Cambodia

4.1.1 Achievements of the Project

(1) Inputs

<Japanese side>

- Dispatch of experts: Annex II
- C/P training in Japan: Annex III
- Budget of Local cost, equipment: Annex IV
- List of Equipments: Annex V

<Cambodia side>

- Hosting regional activities and dispatch of regional experts: Annex VI
- Assignment of Project Directors, Project Managers, National Coordinators and Site Managers Annex VII
- Total amount of Counterpart budget in 2008, 2009 and 2010:Annex IV

(2) Achievements on the activity level

The current progress and achievements of the In-Country Programs of the Cambodia is shown in Annex VIII.

(3) Main Achievements of In-Country Program

Objective of the In-Country Program: Capacity of staffs, disease surveillance, and animal disease information system from local to center are strengthened

Indicator 1: Number of staffs who have enough capacity on animal disease surveillance

Number of staffs who have been trained in animal disease surveillance is shown in the tables below.

Country	Regional / Central	District	Field
Cambodia	7 / 4	27 / 23	87 / 176

Achieved/Goal

Indicator 2: Number of epidemiological data collected and analyzed in each member country: two (2)

Descriptive epidemiological studies of Endo-parasitic disease and suspected Hemorrhagic Septicemia case

4.1.2 Implementation Process

- The In-Country Program for Cambodia is to strengthen the capacity of staff, disease surveillance, and animal disease information system from the local to the central level. Prey Chhor District in Kampong Cham province was selected as the pilot site. Also the laboratory in Kampong Cham province and National Veterinary Research Institute (NaVRI) were directly involved in the Project.
- Three NJCC meetings were held. The National Coordinator facilitated the overall In-Country Program activities. Field operations were authorized to the Site manager of the Provincial Animal Health and Production Office (PAHPO) in Kampong Cham province.

4.1.3. Results of Evaluation by Five criteria

(1) Relevance: High

- The Department of Animal Health and Production (DAHP), Ministry of Agriculture, Forestry and Fisheries (MAFF) issued 'Livestock and Animal Health Policy and Framework Development of Department of Animal Health and Production, MAFF' in Jun 2007. The In-Country Program is aligned with the programs of animal disease identification, disease surveillance and control of infectious diseases under 'Reduction of Morbidity and Mortality of Animals'. The Project's relevance to the RGC's policy is high.
- Recently, outbreaks of AI and PRRS were frequently reported in Thailand and Vietnam. There are possibilities that infected animals enter Cambodia from those countries, therefore there is a need for animal disease control in Cambodia. The RGC has commenced the annual bilateral meeting with Vietnam and Thailand and discussed on animal movements, animal disease control and any other issues related to animal health. The Project supported this direction and met the needs of the Cambodian side.
- In Cambodia, only the laboratory in Kampong Cham Province is designated as the provincial laboratory. It is planned to be developed into a regional laboratory in the future. NaVRI and Kampong Cham laboratory

conducts epidemiological study on endo-parasites in cattle and buffaloes. Furthermore, the laboratory offers an opportunity for practical training and education for students from the Kampong Cham Agricultural college. These facts indicate that the laboratory plays an important role for the province and neighboring provinces. Moreover, there are a high level of animal movements along the border with Vietnam in this province; hence, there is a high need for strengthening the capacity of laboratory diagnosis and the development of animal disease information system in Kampong Cham province.

(2) Effectiveness: Medium

- The Project Purpose is "Capacity of staffs, disease surveillance, and animal disease information system from local to center are strengthened", the foundation of achieving the Project Purpose has been established. The diagnostic techniques of the staff members in animal health sector have been improved to some extent; also activities to strengthen animal disease information system have been implemented. Moreover, the staff members of animal health sector in Kampong Cham province acquired knowledge and techniques of surveillance through the Epidemiological study. On the other hand, the laboratory has just become operational and the number of samples submitted by farmers is yet not sufficient. The animal disease surveillance system through all levels (local, district, province and central) is not yet fully functional.
- The techniques of the laboratory staff members has been improved. As a result, the utilization of the laboratory relies on the number of samples voluntarily submitted by farmers, slaughter houses, and routine surveillance. The animal disease information system including passive surveillance should be fully functioned with the utilization of the laboratory.

(3) Efficiency: Medium

1) Achievement of the Outputs

(Output1) Diagnostic techniques and knowledge are strengthened.

- The diagnostic techniques of the staff members of the PAHPO laboratory have been strengthened through training. Several diagnostic techniques have been newly introduced by the Project. Knowledge and techniques of bacteriological examination on Hemorrhagic septicemia has been acquired by the staff members. Then, the bacteriology unit was established in the laboratory. The short-term expert taught that bacteriological examination on Hemorrhagic septicemia should be conducted repeatedly to ensure techniques of it because it is not easy to apply these techniques in practice since they require sophisticated skills.
- The diagnostic techniques of parasitology also have been strengthened with acquiring floatation, sedimentation and Mac Master techniques. The staff members learned these parasitological techniques through training and applied them in the epidemiological study. The combined training and epidemiological study made the staff members clearly understood parasitology. On the other hand, the staff members have limited opportunity to conduct parasitological examinations because the need for examinations is limited.
- The half of the VAHWs in the pilot site participated in a 2 day-training and they acquired techniques on

taking samples from cattle, pigs and poultry, clinical diagnosis and post-mortem. Previously, the VAHWs in the pilot site received training only on ad-hoc basis by donor agencies. No refresher training was provided. Therefore, the practical training for VAHWs conducted by the Project was appreciated by the VAHWs. According to the Site manager, the VAHWs who participated in the training collect samples more properly than those who did not.

(Output2) Animal disease information system is strengthened.

- It was confirmed by the mid-term review that there was an existing system of animal disease information connecting the village, district, province to central level. The training for VAHWs under the Project covered reporting skills, which made VAHWs capable of providing more accurate information and submitting reports on time.
- The Epidemiological study was conducted, and it made the staffs of the PAHPO, the DAHPO and VAHWs understood the importance of the epidemiological study and in particular, VAHWs acquired techniques of collecting fecal samples. According to the interview with the VAHWs, they are able to collect samples without external technical support. On the other hand, some farmers do not agree on providing blood from their animals due to their poor understanding of surveys and diagnosis. Hence enhancing the awareness of farmers is necessary to utilize the VAHWs sampling techniques for further epidemiological studies. In the 3rd Epidemiology Study Model Workshop which was held in Thailand from 8 to 13 Nov of 2010, a quality report was presented by the Epi-team from Cambodia, and the experience of conducting the Epidemiological study and presentation in the Epidemiology Study Model Workshop encouraged the C/P implement their activities related in animal disease control with confidence in their direction.
- A workshop is scheduled to provide feedback to farmers in the pilot site in December on results of epidemiological study. The leaflet of the study results and medications for de-worming were prepared and provided to the VAHWs. It is fundamental to setup a system connecting sample collection, diagnosis and the feed-back of results to farmers, which would convince VAHWs and farmers of the importance of laboratory diagnosis and strengthening animal disease control.

2) Input

- Close support from Japanese long-term experts was limited as the experts stationed in Bangkok. Longer and frequent visits and advices to C/P organizations in Cambodia should have been considered for the seamless implementation of In-Country Program, because the capacity of C/P to implement the Project activities is limited. In addition, according to the interview with the C/P personnel, it took time to receive the budget to conduct In-Country Program as a Japanese expert in Bangkok needed to visit and disburse the budget directly to C/P.
- Although the installation of some laboratory equipment for the PAHPO was delayed, a Japanese short-term expert was assigned and able to instruct the staff for the culturing and identification of causative pathogen of Hemorrhagic septicemia. The evaluation team confirmed that laboratory was operational, however, it could not confirm whether the equipment was fully utilized because of the very late installation.

(4) Impact: Low

- Although the basic surveillance structure is in place in the pilot site and the direction of the Project is moving in the right direction to achieve the overall Goal, the prospect of achieving the Overall Goal is modest. In order to disseminate the surveillance structure for animal disease to other areas in Cambodia, In-Country Program needs to be fully functional to produce good outcomes as a model.
- Cambodia conducted a nation-wide training program for the animal quarantine stations because of their understanding and awareness raised at the regional workshops organized by the Project about the occurrences of animal diseases in other countries. Some of the counterparts acted as trainers for the training program.

(5) Sustainability: Low

- The policy regarding animal disease control in the central level would be maintained, also the provincial laboratory is planned to be developed as a regional laboratory with support from the NaVRI and the PAHPO, even though the plan or strategies have not fully finalized yet.
- The diagnostic techniques on parasitological examinations of the laboratory staff member have been strengthened by the training as well as the epidemiological study where they applied their techniques in practice.
- The staff members of the PAHPO, the laboratory and the VAHWs have learnt to conduct active surveillance through the Epidemiological study of endo-parasite disease of cattle and buffalo. Moreover, conducting the Epidemiological study and making the presentation on it in the Epidemiological Study Model Workshop were successful with efforts made by the C/P and this experience encouraged them to continue this activity. The sustainability of conducting active surveillance depends on limited budget from government and especially need more budget from external support.

4.1.4. Recommendations

- It is essential to take following measures to increase the usage of the laboratory, 1) To clarify the services and functions of the laboratory, 2) To do public relations of the laboratory, and 3) To encourage VAHWs to utilize laboratory examinations.
- It is important to implement continuous activities for strengthening the capacity of VAHWs. Farmers' understanding is essential to establish animal disease surveillance system, and then the VAHWs play a significant role in raising awareness of farmers and encouraging farmers to provide samples from their animals.
- There is an existing system of animal information between central level and the pilot site. The areas for improvement of the existing information system needs to be discussed and shared among stakeholders.
- Continuous external support to the laboratory is desirable to sustain the improved level of the laboratory. It is recommended that the DAHP and the PAHPO will present the outcomes of the Project to donor agencies that conduct rural development activities. Public relation activity, e.g. participating in the "Agriculture

Extension Expo by ADB" in January 2011, may offer a further opportunity of collaboration.

4.1.5 Lessons Learned

- External, intensive support is necessary when establishing a provincial laboratory because of the limited availability of local resources and experience in the country.
- The capacity of the laboratory has been strengthened by the Project, however it was identified that the prospect of utilizing the techniques of the laboratory is modest due to insufficient number of samples from farmers. It is essential to consider establishing the mechanism of utilizing the techniques which were introduced or strengthened by the Project.

4.2 Laos

4.2.1 Achievements of the Project

(1) Inputs

<Japanese side>

- Dispatch of experts: Annex II
- C/P training in Japan: Annex III
- Budget of Local Cost, Equipment: Annex IV
- List of Equipments: Annex V

<Laos side>

- Hosting regional activities and dispatch of regional experts: Annex VI
- Assignment of Project Directors, Project Managers, National Coordinators and Site Managers Annex VII
- Total amount of Counterpart budget in 2008, 2009 and 2010:Annex IV

(2) Achievements on the activity level

The current progress and achievements of the In-Country Programs of the Laos is shown in Annex VIII.

(3) Main Achievements of In-Country Program

Objective of the In-Country Program: Project Purpose: Surveillance structures for major animal diseases at pilot site, local and central levels are strengthened.~~The surveillance structure for animal diseases is established between field (pilot site), local and central level in each member country.~~

Indicator 1: Number of staffs who have enough capacity on animal disease surveillance

Number of staffs who have been trained in animal disease surveillance is shown in the tables below.

Country	Regional / Central	District	Field
Laos	21 / 3	31 / 40	121 / 162

Achieved/Goal

Indicator 2: Number of epidemiological data collected and analyzed in each member country: two (2) Investigation of parasitic load in cattle and buffalo, and epidemiological study of HS in Kaisone and Songkone districts

4.2.2 Implementation Process

- The In-Country Program for Laos is to strengthening surveillance structure for major animal diseases at the pilot sites, local and central levels. Kaisone Phomvihan District and Songkhone District in Savannakhet province were selected as the pilot site. Also the laboratory in Savannakhet province and National Animal Health Center (NAHC) were directly involved in the Project.
- 4 NJCC meeting were held. The National Coordinator facilitated the overall In-Country Program activities. Field operations were authorized to the Site manager of the Livestock and Fisheries Division of Provincial Agriculture and Forestry Office (PAFO) in Savannakhet province.

4.2.3. Results of Evaluation by Five criteria

(1) Relevance: High

- The Department of Livestock and Fisheries (DLF), Ministry of Agriculture and Forestry (MAF) issued 5 Year Plan (2011-2015), and there are following strategies and plans: 1) Strengthening diagnostic techniques of the 6 provincial laboratories including Savannakhet, 2) Establishment of basic infrastructure and technical support of diagnostic techniques of animal diseases to provincial laboratories, 3) Increasing the number of VVWs per village (from 1 to 2 or 3 VVWs/village), 4) Strengthening awareness activities to farmers on animal disease control and vaccination, 5) Monitoring animal movements, and 6) Increasing the livestock populations. The In-Country Program was aligned with the strategies of strengthening the provincial laboratories and raising awareness of farmers under the 5 Year Plan. The Project's relevance to the GOL's policy was high.
- Recently, outbreaks of AI and PRRS were reported in Thailand and Vietnam. There are possibilities that infected animals enter Laos from those countries, therefore there is a strong need for animal disease control in Laos. The GOL has commenced the annual bilateral meeting with Vietnam and Thailand, and discussed on animal movement, animal disease control and any other issues related to animal health. The Project supported this direction and met the needs of Lao side.
- Savannakhet Province has borders with Thailand and Vietnam. Songkhone and Kaison Phomvihan Districts share borders with Thailand. Therefore there is a high need for taking measures on animal disease control in the province. In addition, the laboratory offers an opportunity of practical training and education for students of the Agricultural and Animal science school in Savannakhet. These facts suggest that the laboratory plays an important role in the field of animal health in the province.

(2) Effectiveness: Medium

- The Project Purpose of the In-Country Program is "Surveillance structures for major animal diseases at

pilot site, local and central levels are strengthened", and the significance of the Project was identified by the evaluation team that the provincial laboratory has become operational in terms of the selected basic diagnostic techniques after the training of staff and installation of equipment. Before the Project, samples needed to be sent to the NAHC in Vientiane for diagnosis. Now, some diseases can be diagnosed in the laboratory of Savannakhet. The staff members in animal health sector in Savannakhet acquired knowledge and techniques of surveillance through the Epidemiological study and the foundation of achieving the Project Purpose has been established. On the other hand, the laboratory has just become operational and the number of samples submitted by farmers is still insignificant. The animal disease information system including passive surveillance should be fully functioned with the utilization of the laboratory.

(3) Efficiency: Medium

1) Achievement of the Outputs

(Output1) Diagnostic techniques are strengthened.

- The diagnostic techniques of the staff members of the provincial laboratory have been strengthened through training. Several diagnostic techniques have been newly introduced by the Project. Basic knowledge and techniques in bacteriology as well as parasitology have been acquired by the staff members. The contents of trainings were developed to reflect the level of knowledge and techniques of the laboratory staff, and a six-week training and a two-week training at NAHC were conducted, also one-week on-site training was conducted three times in the laboratory, in addition, training of bacteriology was conducted by the short-term expert. However, according to the interview with the laboratory staffs, carrying out further training is required to conduct systematic diagnoses of animal diseases in the field. The staff members' expertise is limited because there is no higher educational institute in the field of animal health in Laos. Therefore, a comprehensive training program appropriate to the level of knowledge and techniques of the laboratory staff needs to be developed.
- 121 VVWs out of 162 VVWs in the pilot site has participated in a 4 day-training once and they acquired techniques on taking samples from cattle, pigs and poultry, and clinical diagnosis. According to the Coordinator of the pilot site, there are differences in performances between VVWs who participated in the training and who did not, on techniques such as vaccination, understanding the role and responsibility of VVWs. Moreover, the VVWs who participated in the training have become more confident and proud of themselves as VVWs. The villagers also have trusted the VVWs because their knowledge and techniques have been improved.

(Output2) Surveillance information system is strengthened.

- It was confirmed by the mid-term review that there was an existing system of animal disease information connecting the village, district, province to central level. However, the information system does not work properly. There are two lines of the reporting system; one is from the village leader, the district governor to the provincial governor. Another line is from VVWs, DAFO and PAFO. In order to manage Information and handle outbreaks in time, the latter information line should be strengthened, following the veterinary law.

- The Epidemiological study has been conducted, and it made the staff of the PAFO, the DAFO and VVWs understood the methods of surveillance, although it was identified that a common understanding on what is meant by "surveillance before the outbreak of animal disease" has not built among stakeholders at the time of the mid-term review. Moreover, the VVWs understood the importance of the epidemiological study and acquired techniques of collecting fecal sample. According to the interview with the DAFO, they are able to collect samples without external technical support. In the 3rd Epidemiology Study Model Workshop which was held in Thailand from 8 to 13 Nov of 2010, a quality report was presented by the Epi-team from Laos, and the experience of conducting the Epidemiological study and presentation in the Epidemiology Study Model Workshop encouraged the C/P implement their activities related in animal disease control with confidence in their direction.

2) Input

- The NC has made efforts in implementing the Project activities as planned and the Regional Project Secretariat (RPS) has supported the NC for logistics. Nevertheless, closer support, longer and more frequent visits and advices to C/P organizations in Laos should have been considered for the seamless implementation of In-Country Program, because the capacity of C/P is limited. In addition, there are difficulties in preparing the Project activities due to the late allocation of budgets, just before the implementations.
- Although electrical problem occurred when laboratory equipment was installed, the C/P solved the problem with their budget. The equipment setup properly and the laboratory became operational.

3) Implementation structure

- The implementation structure of the Project is clearly established and the National Coordinator (NC) involved actively in management of the In-Country Program as well as the regional activities.

(4) Impact: Medium

- Although the basic surveillance structure is in place in the pilot site and the direction of the Project is moving in the right direction to achieve the overall Goal, the prospect of achieving the Overall Goal is modest. In order to disseminate the surveillance structure for animal disease to other area in Laos, In-Country Program needs to be fully functional to produce good outcomes as a model.
- There are four provincial laboratories in Laos. The Savannackhet-Lab is the most advanced and equipped, therefore, DLF plans to use the Savannackhet-Lab as the model for the other three (Champasak, Oudomxai, Louang Phrabang) laboratories.

(5) Sustainability: Medium

- The policy regarding animal disease control in the central level would be maintained in the 5 Year Plan of the DLF. The DLF and the PAFO continue to make efforts to strengthen the laboratory, such as newly recruiting two staff members to the laboratory.

- Although the laboratory staff acquired techniques and knowledge on basic bacteriological as well as parasitological examinations, further trainings need to be conducted to ensure their techniques and its sustainability. However, the availability of a budget for conducting training much relies on the donor support. Also, human resources as trainers for specific techniques are limited even at the central level in Laos.
- The PAFO submitted the proposal to IFAD/ADB for support to conduct trainings for the staff of laboratory, DAFO and VVWs, and carry out examination and sampling. The achievements of the ADC-2 Project can be sustained if the proposal is accepted.
- The PAFO has following basic plans for collaboration. 1) Collaboration with Provincial Health Care Center for diagnosing 5 zoonotic diseases which are possible to infect human, 2) Collaboration with slaughterhouses and authorities of import and export of food materials for strengthening food security through examining meat products at the laboratory, and 3) Collaboration with private animal clinics for examining clinical samples at the laboratory before each vaccination. These systems are helpful to sustain and utilize the laboratory in terms of financial and technical aspects.
- The staff members of the PAFO, the laboratory, the DAFO and the VVWs have learnt to conduct active surveillance through the Epidemiological study of endo-parasite infection in cattle. Moreover, conducting the Epidemiological study and making the presentation on it in the Epidemiological Study Model Workshop were successful with efforts made by the C/P and this experience encouraged them to continue this activity. The sustainability of conducting active surveillance depends on external support.
- A senior volunteer of JICA is dispatched to the NAHC in January, 2011. It can be expected that the achievements of the Project would be sustained and utilized with support from the volunteer.

4.2.4 Recommendations

- It is essential to take following measures to utilize the laboratory, 1) To clarify the services and functions of the laboratory, 2) To do public relations on the laboratory, and 3) To encourage VVWs to utilize laboratory examinations.
- It is important to implement continuous activities for strengthening the capacity of VVWs. Understanding and cooperation from farmers are essential to establish animal disease surveillance system, and then the VVWs play a significant role in raising awareness of farmers and encouraging farmers to provide samples from their animals. The collaboration based on mutual trust will increase the number of samples submitted to the laboratory.
- The areas for improvement of the existing information system needs to be discussed and shared among stakeholders, and should be addressed. In order to manage and utilize information of animal disease control, the information line from VVWs, DAFO to PAFO should be encouraged to be fully functional.
- Continuous, external support to the laboratory is desirable to sustain and develop the achievements of the Project. It is recommended that the DLF and the PAFO will present the outcomes of the Project to donor agencies that conduct rural development activities.

4.2.5 Lessons Learned

- External, intensive support is necessary when establishing a provincial laboratory because of the limited availability of local resources and experience in the country
- The training by the Thai expert is appreciated by the Lao participants because of the common language and similar back ground on animal health sector. The use of Thai experts can be very effective in Laos.

4.3 Malaysia

4.3.1 Achievements of the Project

(1) Inputs

<Japanese side>

- Dispatch of experts: Annex II
- C/P training in Japan: Annex III
- Budget of Local Cost, Equipment: Annex IV
- List of Equipments: Annex V

<Malaysia side>

- Hosting regional activities and dispatch of regional experts: Annex VI
- Assignment of Project Directors, Project Managers, National Coordinators and Site Managers Annex VII
- Total amount of Counterpart budget in 2008, 2009 and 2010: Annex IV

(2) Achievements on the activity level

The current progress and achievements of the In-Country Programs of the Malaysia is shown in Annex VIII.

(3) Main Achievements of In-Country Program

Objective of the In-Country Program: Project Purpose: To strengthen the surveillance capacity for animal diseases between Pontian District Vet.Office, Johore State Vet.Services, and Epidemiology and Surveillance Section DVS in Putrajaya.

Indicator 1: Number of staffs who have enough capacity on animal disease surveillance

Number of staff who has been trained in animal disease surveillance is shown in the tables below.

Country	Central - Regional	State - District	Field
Malaysia	51 / 2	65 /11	296 / 202

total number of trained staff / target number of trained staff

Indicator 2: Number of epidemiological data collected and analyzed in each member country: one (1) Epidemiological Study Model of Newcastle Disease in Pengkalan Raja & Jeram Batu, Johor

4.3.2 Implementation Process

- The purpose of In-country program for Malaysia is to strengthen the surveillance capacity for animal diseases between District Veterinary Office (DVO) in Pontian District, State Veterinary Services (SVS) in Johore State, and Epidemiology and Surveillance Section of Department of Veterinary Services (DVS) in Putrajaya. Annual NJCC meetings were held to approve project activities of the year after reviewing the project progress of previous year. The National Coordinator (NC) facilitated project activities from the central to the field level.
- DVS, the Regional Veterinary Laboratory of Johore Bharu (RVL-JB), SVS in Johore, DVO in Pontian are the main implementers of in-country program. Veterinary Research Institute (VRI) implemented regional cooperation activities in the field of laboratory-base surveillance.
- Two sub-districts, Pengkalan Raja and Jeram Batu, in Pontian are selected as the pilot site. In the pilot sites, there are 49 registered, commercial poultry producers and 120 village chicken farmers. They are the target group at the field level of the in-country program. All the poultry farms and producers are registered at DVO.
- Inputs and resources for the in-country program are mainly provided by DVS that utilized its annual operational budget and the fund for the national animal health control program. The key inputs from the project are the equipment for diagnosis and surveillance, placement of two short-term experts, financial support and resource persons for conducting trainings, and knowledge/expertise to strengthen the surveillance information system with improved active surveillance and on-line database.
- DVS and VRI hosted a regional workshop and several regional trainings in the project, participated in by staff and officers from other member countries. As follow-ups of one of such regional trainings, VRI dispatched its staff as trainers to laboratories in Lao PDR, Myanmar, Cambodia and Vietnam in 2009 and 2010.

4.3.3 Results of Evaluation by Five Criteria

(1) Relevance: High

- The In-country program was implemented targeting the two sub-districts of Pontian where the Newcastle Disease (ND) Control Program started in September 2006 for the Pontian district to be declared a ND-free zone in accordance with OIE requirement. Cases of ND outbreaks in the area were undermining Malaysia's opportunity to export poultry and poultry products to the neighboring country.
- Fortunately, there are no cases of ND outbreak in the Pontian district during project period but ND has been one of the diseases in the National Animal Health Control Program.
- The in-country program for Malaysia is in line with JICA's assistance program for Malaysia that specifies the strengthening of animal health control as one of the issues to be eagerly tackled through regional cooperation along with ASEAN countries.

(2) Effectiveness: High

- The capacity of RVL-JB is improved with the assistance of two short-terms experts attached to RVL-JB in

the project. RVL-JB now performs EEI, PA, HI, PCR, GMT, CK culture and HA test for ND. The number of serums samples and cloacal swabs examined from September 2009 to October 2010 are 1,981 for each. RVL-JB is capacitated enough to host a seminar on inter-laboratory networking in November 2010, providing trainings on ND diagnosis to staff from other RVL, DVS Mini Laboratory, Kluang and Veterinary Laboratory Sabah.

- Active surveillance on ND had been conducted regularly as a part of the ND Control Program since September 2006. From September 2009 to October 2010, the project conducted active surveillance after trainings and workshop on SVS/DVO staff with inputs from Japanese and Thai epidemiology experts, detailed planning and provision of equipment. Also, the online database "Avian Disease Information System (ADIS)" was set up in the project and started operational in October 2010. To input the data to the system, standardized forms for field investigation, laboratory findings and disease control response were developed. Collected samples from the active surveillance were tested and the results were compiled in the ADIS. Its findings and analysis were presented at the 3rd Regional Epidemiology Study Model Workshop in November 2010.
- The knowledge and skills of SVS and DVO staff on ND active surveillance have been improved not only by trainings in in-country and regional activities, but also and mainly by the experience of planning and conducting active surveillance themselves in the project. There are also significant improvements of the active surveillance acknowledged between before and after the project: use of the standardized form, more organized plan and surveillance procedures, deep understanding by DVO staff on surveillance cycle from sample collection to feedback to farmers.
- The awareness of farmers and commercial producers on ND are also increased through meetings and active surveillance conducted by the project and the vaccination program implemented by the ND Control Program. The surveillance was completed with the feedback of findings to farmers in the pilot site in November 2010. The deeper understanding by DVO staff on surveillance activities helps them communicate more effectively about the importance of ND prevention with farmers, by which DVO staff is now expecting more cooperation from farmers towards surveillance and vaccination.
- To strengthen the surveillance information system, further training on ADIS for relevant staff is yet to be done in order to shorten the turn-around time of the system. The ADIS became operational in October 2010 and DVO staff can input data from pilot sites which link to RVL-JB and DVS HQ. However, the actual impact of strengthened information system has not realized or demonstrated yet.
- RJCC and regional meetings have provided good opportunities for discussion and information exchange among member countries. DVS hosted 7 regional meeting/workshop/trainings during the project period without having difficulties in arrangements or logistics. Participants recognize regional collaborative activities to help increase interactions and informal communication among officers of member countries, between regional experts and participants, thereby benefited in-country program in particular epidemiology and active surveillance.
- As the follow-up of regional training on "Poultry Disease Diagnosis", total 15 experts of VRI were dispatched as trainers to other member countries in 2009 and 2010. Based on the experiences, dispatched

experts of VRI emphasize that such regional exchanges are very beneficial for recipient countries as they may receive more appropriate level of laboratory techniques from member countries than from donor countries. High-end equipment the staff of recipient countries is unable to maintain is often provided by donor countries, whereas regional exchanges are more prone to provide simple, cheap yet basic and useful techniques. Dispatched experts of VRI also indicate that, due to such trainer opportunities provided by the project, they become more aware of the importance and necessity of extending regional supports to member countries while developing a good rapport and establishing personal interactions between trainers and trainees.

- With all points above, it is concluded that the outputs are produced; Surveillance techniques for animal diseases are strengthened and surveillance information system for animal diseases is strengthened. These outputs have effectively culminated in the achieved project purpose, which is: To strengthen the surveillance capacity for animal diseases between Pontian District Vet.Office, Johore State Vet.Services, and Epidemiology and Surveillance Section DVS in Putrajaya. Two verifiable indicators for project purpose also indicate reasonably its achievement.

(3) Efficiency: Medium

- DVS has taken strong initiatives in implementing the in-country program that are in line with the ND control program with little financial support from JICA. As for inputs to activities, over all timing, amount and quality of the inputs from the counterparts and project sides are appropriate.
- NC has been closely monitoring and facilitating project progress from the central to the field level. Due to a lack of instruction in advance, however, from JICA on the TOR and about the level of workload required of NC, DVS has not given a full-time assignment to NC, who keeps other duties and has been very busy during the project period. Also, it would be beneficial for NC if he/she had a chance to receive a training from JICA on project management including PCM, indicator setting, and monitoring.

(4) Impact: Medium

1) Prospect of achieving Overall Goal:

Overall Goal: The surveillance structure for animal disease is established among member countries.

- The project purpose of in-country program is achieved: to strengthen the surveillance capacity for animal diseases between Pontian DVO, Johore SVS, and Epidemiology and Surveillance Section DVS. Besides this achievement, the central laboratory director's meeting was newly established as a platform towards achieving the overall goal. The prospect of achieving the overall goal, however, is medium as there are still wide disparities in surveillance capacities among member countries. In Malaysia, extending the achievement of in-country program to other district/state and diseases are necessary while the overall goal is continually pursued in the region.
- The development of standard training material/manual is effective to make impacts after the end of project. Material/manual on field investigation, active surveillance, ND diagnostic methods, and ADIS are to be completed so as not only to be for the purpose of domestic use but also to be another possible

contribution to the region.

2) Other impacts:

- Findings of the active surveillance conducted by the project reveals that the ND vaccination program is yet to be effective by the fact that most of vaccinated chicken produced antibody titer below protective level. Involving the ND vaccination program is beyond the project scope but the surveillance shows that the poultry industry in Pontian district is still susceptible to ND. Unprotective titer levels from the vaccination program alerted DVS on the protectiveness of the technique used. Due to the existing risk, the surveillance techniques and surveillance information system for ND in the area should continue to be developed and strengthened after the project so that early detection of ND and early response to its outbreak will be possible, proper and effective.
- National Disease Control Committee Meeting of DVS in December 2010 had been informed about the efforts towards ND Free Zone under 10th Malaysia Plan to include District of Pontian and subdistrict of Machap in Johor and subdistrict of Jasin in Melaka. JICA ADC2 Project has shown that even though DVS has successfully maintained ND freedom but the vaccination did not give a good productive immunity. Thus, under the new phase, in-feed vaccination plans to be used.
- The practice and importance of project management at an international level is recognized and appreciated by DVS such as the project design with purpose, output, activities and indicators as well as the PCM cycle of planning, implementation and evaluation.

(5) Sustainability: High

- Sustainability of in-country program is high in terms of political, institutional, financial and technical perspective. ND control is given a high priority in the national animal health control program, and extended policy and budgetary support from DVS are expected. The efforts of ND control program will also increase at SVS Johore and DVO Pontian in the expectation to announce Pontian district as "a ND free zone" by 2012. Technical sustainability is positive as RVL-JB is likely to play an increasingly important role in addressing ND in the country and will receive continued technical supports from VRI.
- Sustainability of regional activities is also high due to great readiness in the government towards ASEAN cooperation. Similar to DLD of Thailand, DVS has led regional activities in the project. Researchers in VRI are willing to support their counterparts with their experience of trainers dispatched to other member countries in the project. There is a scheme in active operation for regional cooperation: the Malaysia technical cooperation program (MTCP) of the government and the third country training program (TCTP) of JICA. These two can be utilized to continue regional trainings on animal disease control.
- At the ASEAN level, there are some platforms for animal health such as SEACFMD, EU project on HPED (highly pathogenic emergency disease) and FAO/OIE. Promoting ASEAN cooperation is a shared understanding among government agencies in Malaysia. In recognition that the animal disease control is a regional issue, DVS intends to continue and extend its contributions to ASEAN countries though there isn't a specific policy document with that purpose at present. Economic Planning Unit (EPU), the authority in charge of south-south cooperation, is also supportive and flexible for initiatives towards

regional cooperation.

4.3.4 Recommendations

- It is recommended that the surveillance techniques and surveillance information system for ND in the area continue to be developed and strengthened after the project so that early detection of ND and early response to its outbreak will be possible, proper and effective in the area. Strengthening the surveillance capacity of Pontian, which is the project purpose of in-country program and is achieved as pointed by the indicators, should be a continual effort at each level, RVL-JB, SVS, DVO, farmers and producers, even after the project.
- As with the active surveillance, it is recommended that its planning needs to be improved based on the review on its implementation in September 2009 through October 2010. For example, limited availability of vehicles is perceived by field officers to affect the scheduled operation of collecting samples. To shorten the turn-around time of ADIS system, more training on ADIS is suggested as necessary. Also, the capacity of DVO and SVS to enter the data into ADIS while collecting samples in the field is advised to be reviewed. Capacity assessment of DVO and SVS is particularly important when a contingency plan is prepared concerning the ND outbreak.
- Recommendations from the mid-term evaluation such as upgrading the database, developing training manuals, providing training for farmers and producers have been followed and carried out. Assistant to NC was not assigned though it was recommended in the mid-term evaluation.

4.3.5 Lessons Learned

- It would have been more effective to operate the project if an assistant for NC had been assigned to support the logistics of project. It is also recommended that the project expert team and the counterpart organization can agree with the local JICA offices on their support to logistics and operation prior to the implementation of the project.

4.4 Myanmar

4.4.1 Achievements of the Project

(1) Inputs

<Japanese side>

- Dispatch of experts: Annex II
- C/P training in Japan: Annex: Annex III
- Budget of Local Cost, Equipment: Annex IV
- List of Equipments: Annex V

<Myanmar side>

- Hosting regional activities and dispatch of regional experts: Annex VI
- Assignment of Project Directors, Project Managers, National Coordinators and Site Managers :Annex

VII

- Total amount of Counterpart budget in 2008, 2009 and 2010: Annex IV

(2) Achievements on the activity level

The current progress and achievements of the In-Country Programs of the Myanmar is shown in Annex VIII.

(3) Main Achievements of In-Country Program

Objective of the In-Country Program: Veterinary services for small scale farmers to be strengthened and disease information from villages to Mandalay and Head Quarter to be improved.

Indicator 1: Number of staffs who have enough capacity on animal disease surveillance

Number of staff who has been trained in animal disease surveillance is shown in the tables below.

Country	Regional	Township	Field
Myanmar	47 / 35	67 /12	85 / 49

total number of trained staff / target number of trained staff

Indicator 2: Number of epidemiological data collected and analyzed in each member country: two (2)

A cross-sectional study on Tuberculosis and Brucellosis in Small-scale Dairy farms in Mandalay Division, Myanmar

4.4.2 Implementation Process

- The In-country program for Myanmar is to strengthen veterinary services for small-holder dairy farmers in Amarapura and Pyin Oo Lwin townships (T/S) and disease information network between Mandalay division and central administration. Project activities were implemented by two T/S veterinary offices in Amarapura and Pyin Oo Lwin in Mandalay division, the regional veterinary laboratory in Mandalay (RVL-Mdl) and the Mandalay office of Livestock Breeding and Veterinary Department (LBVD-Mdl).
- NJCC meetings were held before RJCC to approve project activities of the year after reviewing the project progress of previous year. The National Coordinator (NC) in LBVD along with the assistant NC facilitated the operation of the project. At the field level, 12 veterinary officers of the 2 T/S offices mainly conducted project activities such as visiting villages and carrying out active surveillance. Animal health workers (AHW) of Amarapura and Pyin Oo Lwin T/S, although the total number of AHW in the two township is unknown due to the lack of registration, are the target group of the project so that veterinary services of T/S officers can reach small-holder dairy farmers through AHWs.
- Key inputs from the project were the equipment for RVL-Mandalay and veterinary clinical laboratories for each T/S offices, provision of in-country and regional training courses along with financial support, regional experts from Thailand and Malaysia on epidemiology, parasitology and bacteriology, Japanese short-term experts on clinical veterinary medicine in dairy cattle and on veterinary laboratory. Veterinary

Laboratory Yangon also gave training to RVL-Mandalay.

- Myanmar hosted 4th RJCC in July 2009. Other than that, Myanmar is a recipient country in terms of regional activities of the project.

4.4.3 Results of Evaluation by Five Criteria

(1) Relevance: High

- LBVD of Ministry of Livestock and Fisheries in Myanmar has Animal Health Development Law (1993) that designates animal disease control and its reporting system. ADC-2 project was implemented in support of the LBVD's policy to control animal diseases and the relevance of project is high.

Cases of outbreaks

Diseases	Number of infected animals	
	Apr 2009 – Mar 2010	Apr – Nov 2010
FMD	1,076 in 9 State/Region	1,135 in 2 State / Region
HS	86 in 3 State/Region	105 in 2 State/Region
Black Quarter	91 in 4 State/Region	85 in 3 State/Region
Anthrax	61 in 3 State/Region	11 in 2 State/Region

(Source: LBVD)

The ADC-2 project is in line with GoJ's ODA Rolling Plan to GoM (June 2009): Mekong Regional Development Program under 'Japan-Mekong Regional Partnership Program (2006-2009)' which focuses on strengthening Japan-CLMV regional cooperation. ADC-2 also responds to JICA's Country Program where research and development of agriculture sector and human resource development are one of the targeted areas of official assistance.

Selected pilot site has a high livestock density of cattle and buffalo. Those livestock are assets and also the source of income for farmers and rural communities. The ADC-2 project meets the needs of farming villages and rural communities by developing the capacity and capabilities of veterinary officers and AHW who provide animal health services to these farmers.

(2) Effectiveness: High

- Diagnostic techniques of RVL-Mdl and T/S veterinary officers in Amarapura and Pyin Oo Lwin are strengthened through project activities. Through the provision of equipment and training conducted in the project, RVL-Mdl is now capable of performing newly adopted diagnosis such as RBT, CFT ELISA and TAT on Brucellosis as well as Tuberculin Test and Microscopic examination by using Z.N.staining on TB. With the assistance of Japanese short-term experts and provision of mini-lab and Veterinary Drug Cabinet, Amarapura and Pyin Oo Lwin T/S offices also become capable of performing RBT on Brucellosis and Tuberculin Test on TB. Some diagnosis manuals were distributed to enhance their diagnostic techniques such as Veterinary Clinical Dictionary, Laboratory Manual on Basic Techniques, and Diagnosis and Treatment of Cattle Diseases Based on the Clinical Symptoms and Laboratory findings.
- The disease surveillance information network system between LBVD-Mdl and central administration are

strengthened due to the capacity developed in LBVD-Mdl. LBVD started receiving more information and reports from LBVD-Mdl on animal disease in Mandalay area. During active surveillance on Brucellosis and Tuberculosis in August 2009 through December 2010, RBT was done in T/S office mini-lab on all serum from 2,072 cattle. All the serum was re-tested for RBT and, on positive case, for CFT and ELISA in RVL-Mdl. Testing in T/S office and LBVD-Mdl has curtailed the time from taking samples to compiling their results, thus has fastened the turn-around time in the information system.

- The information network system is further strengthened due to the improved relationship among T/S veterinary officers and AHWs in the pilot site. Through project activities such as trainings and active surveillance, they have interacted and cooperated more often than before. T/S veterinary officers acknowledge that relationship and trust built between them and AHWs has helped improve the communication, information sharing, and reporting of disease from rural villages.
- The passive surveillance system in the pilot site is also effectively strengthened. Two short-term experts that were attached to the two T/S offices demonstrated diagnostic skills on infectious diseases such as Tuberculin test, the RBT test, blood sampling and hematology tests and fundamental bacteriological examination. They also worked on several common diseases in the pilot sites such as sub-clinical mastitis, reproductive disturbances, bovine abomasal displacement, and surgical operation. These inputs from the short-term experts were highly appreciated by farmers and became conducive for AHWs and farmers to increasingly contact and collaborate with T/S veterinary officers. Hence, it is considered that these inputs contributed to strengthening the disease surveillance information network system.
- With all points above, it is concluded that the outputs of the project are produced: strengthening diagnostic techniques of staff in regional laboratory and field veterinary officers; strengthening disease surveillance information network system between Mandalay division and the central administration. These produced outputs have culminated in the achievement of project purpose: veterinary services for small scale farmers to be strengthened and disease information from villages to Mandalay and Head Quarter to be improved. Two verifiable indicators for the project purpose reasonably indicate that the project has achieved its purpose.
- In addition, after the Cyclone Nargis hit Ayeyarwaddy Delta on May 2008, in response to a sign of FMD eruption and requests from LBVD, the ADC2 project procured drugs and instruments for FMD and handed them over to LBVD as the emergency support for livestock sector. With this assistance, the FMD vaccine production in 2009-2010 reached 221,200 doses, doubled from 123,400 doses in 2008-2009. The vaccine was distributed to FMD affected areas including the Ayeyarwaddy Delta. The importance of information system and quick action for disease control was shown practically.

(3) Efficiency: Medium

- LBVD has led project activities with a strong commitment towards the animal disease control and veterinary services for small scale farmers. As for inputs from regional/in-country resources, overall timing, amount and quality of inputs from counterparts and project sides have been managed to be appropriate.
- The active surveillance on Brucellosis and Tuberculosis were well planned and organized, including

preparatory sessions and trainings on plan and management for T/S officers, eight-time visits of the Thai expert on epidemiology to Myanmar and awareness raising for farmers to promote their understanding and cooperation towards the surveillance operation.

- NC and assistant NC have closely monitored and facilitated project progress in spite of difficulties attributed to project's implementation arrangement where Regional Project Secretariat (RPS) including Japanese long-term experts are stationed in Bangkok. The communication between RPS and counterparts relied on short-time meeting in person and email exchange, often resulted in the lack of explanation, discussion and common understanding of project activities, all of which were to be necessary for effective project implementation, in particular at the beginning stage of project.
- Counterparts have carried the responsibility to plan and implement in-country activities without advance of budget or authority to disburse fund. That financial arrangement, considering that buying on credit is often difficult in Myanmar, lowered project efficiency as some activities had to wait until the Japanese long-term expert visit, approve and give budget directly to counterpart. Accounting rules and regulations were imposed and obeyed but not really communicated, understood and agreed with counterparts.
- Recommendations from the mid-term evaluation such as maximizing learning opportunities for clinical laboratories at T/S and strengthening veterinary services of T/S officers have been followed and reflected in project activities in the second half of the project period.

(4) Impact: Medium

1) Prospect of achieving Overall Goal:

Overall Goal: The surveillance structure for animal disease is established among member countries.

- The project purpose of in-country program is achieved: Veterinary services for small scale farmers to be strengthened and disease information from villages to Mandalay and Head Quarter to be improved. Besides this achievement, the central laboratory director's meeting was newly established as a platform towards achieving the overall goal. The prospect of achieving the overall goal, however, is medium as there are still wide disparities in surveillance capacities among member countries. In Myanmar, extending the effects of in-country program to other T/S and Division are necessary while the overall goal is continually pursued among member countries.

2) Other impacts:

- T/S officers indicate that project activities have improved the operation of vaccination program on FMD and HS/BQ/Anthrax conducted. T/S officers visit villages and give vaccination twice a year. Through trainings and the active surveillance in the project, T/S officers has had more chances to visit villages, more often talked with farmers about animal diseases, and built better relationship with villagers than before. Nowadays T/S officers realize that they have received better cooperation from farmers and it has facilitated smoother operations of vaccination program.
- AHWs feels more confident in talking about animal disease with farmers as their knowledge on animal husbandry and animal health improved through trainings in the project. AHW acknowledges that these days

they are able to reply to some queries from farmers whereas they used to just convey all queries to T/S officers and ask for advice from them.

4.4.4 Sustainability: Medium

- Diagnostic techniques of RVL-Mdl on Brucellosis and Tuberculosis will be sustained while the diagnosis is continually practiced. Equipment provided by the project for those methods are simple and not expensive, and RVL-Mdl can replenish consumables, chemicals and reagents. Animal disease control in central dry zone is given a high priority by the government, and policy and budgetary support from LBVD to RVL-Mdl are also expected.
- Reagents for RBT and TAT are produced in Veterinary Vaccine Production laboratory in Yangon and distributed to RVL-Mdl as well as mini-lab in Amarapura and Pyin Oo Lwin T/S. Tuberculin need to be imported and is costly with minimal purchase 2000 doses. It is expected, however, that Myanmar Livestock Federation will support the finance to procure tuberculin.
- Diagnostic techniques of Amarapura and Pyin Oo Lwin T/S offices will also be sustained. Veterinary officers keep using the Veterinary Drug Cabinet (VDC), prescribing drugs for animals, keeping prescription record, and collecting charges for their services for more than a year. The revolving fund established for the operation of VDC appears working. T/S veterinary officers will also continue to work in the mini-lab and maintain its facilities while they are expected to conduct more examinations in response to requests/reports from AHWs and farmers.
- The disease reporting system will also be sustained due to the awareness raised and skills imparted among T/S officers and AHW on animal disease control, and also due to the better relationship established between T/S officers and AHWs through project activities. T/S veterinary officers and AHW both acknowledge that relationship built among them and farmers has helped improve the communication, information sharing of disease and the operation of vaccination program.
- The sustainability of active surveillance is viewed as low because it requires vast financial and human resources. It is difficult to conduct active surveillance without donor support after the project. During ADC1 project, the demonstration of Tuberculin test was conducted by Thai expert in Yangon in 2005, and also active surveillance on Brucellosis was organized in Yangon in 2006. Lately, FAO and KOICA continue to support active surveillance on HPAI and FMD, respectively. FAO will also start active surveillance in 27 T/S targeting duck and pig. In regard to Brucellosis and TB on cattle, there is no plan for donor agencies to support LBVD so far.

4.4.4 Recommendations

- To continue to strengthen the disease surveillance system, it is recommended that LBVD seek to work with Myanmar Livestock Federation to advance the active surveillance on Brucellosis and Tuberculosis as not only small holder farms but also commercial farms need to be covered by the surveillance in Mandalay regions because of the public heath aspect. Commercial farms are also more likely to develop infectious diseases than small holder farms, and livestock of small holder farms are sometimes those that

are imparted from big farms. Besides, based on achievements and experience of this project, strengthening passive surveillance system also need to be considered because the sustainability of active surveillance mostly relies on external financial resources such as donor projects.

- T/S offices should actively maintain the mini-lab and VDC by operating diagnosis and keeping records of prescription and treatment. The importance of using the mini-lab on daily basis can be never emphasized too much. Conducting diagnosis tirelessly in the mini-lab will improve their skills and lead to better performance as veterinarians, which is likely to raise decent revenue by collecting charges enough to keep the revolving fund for VDC in operation.
- It is recommended that the records of prescription and treatment better be entered into computers for compilation and analysis. Currently a monthly summary for the usage of mini-lab and VDC is prepared by T/S officers, yet LBVD need to take the documentation further and use it to launch PR activities and disseminate the efforts of mini-lab and VDC.
- It is recommended that the effects of in-country program be extended to and shared with other T/S in Mandalay region, then the whole country, by holding seminars, training workshop, training for trainers and study-tour. LBVD is willing to provide financial and technical support to such activities.
- The third country training program (TCTP) of JICA need to be explored as one of schemes through which regional activities such as holding workshop and dispatching experts among Myanmar and other member counties are continued and further facilitated. Project activities in Myanmar provided more trainings and workshops through regional activities than through in-country program. Regional training and workshop in particular on epidemiology, Brucellosis, Animal Disease Surveillance and FMD prevention are widely recognized useful by counterparts.

4.4.5 Lessons Learned

- It is recommended a project place one long-term expert in the recipient country. It will help reduce the communication gap between the expert and counterparts, nurture the sense of collaboration, and expedite project implementation as a person who is authorized to disburse fund is in the recipient country.

4.5 Thailand

4.5.1 Achievements of the Project

(1) Inputs

<Japanese side>

- Dispatch of experts: Annex II
- C/P training in Japan: Annex: Annex III
- Budget of Local Cost, Equipment: Annex IV
- List of Equipments: Annex V

<Thai side>

- Hosting regional activities and dispatch of regional experts: Annex VI

- Assignment of Project Directors, Project Managers, National Coordinators and Site Managers :Annex VII
- Total amount of Counterpart budget in 2008, 2009 and 2010: Annex IV

(2) Achievements on the activity level

The current progress and achievements of the In-Country Programs of the Thailand is shown in Annex VIII.

(3) Main Achievements of In-Country Program

Objective of the In-Country Program: Strengthen diagnostic capacity and animal disease surveillance of Mae Hong Son AQS.

Indicator 1: Number of staffs who have enough capacity on animal disease surveillance

Number of staff who has been trained in animal disease surveillance is shown in the tables below.

Country	Regional	Township	Field
Thailand	-	-	3 / 4

Total number of trained staff / target number of trained staff

Indicator 2: Number of epidemiological data collected and analyzed in each member country: two (1) Qualitative Risk Assessment of the Introduction of Foot and Mouth Disease by the importation of cattle and buffalo

4.5.2 Implementation Process

- At the beginning of the Project duration, DLD proposed the development of a laboratory at the Mae Hong Son Animal Quarantine Station (MHS-AQS-Lab). In the third year, DLD also proposed to conduct risk assessment to identify factors as an additional In-Country Program.
- In-Country Program was operated at DLD/MHS-AQS with technical support from Upper North Regional Veterinary Research and Development Center (RVRDC) in Lampang and FMD Regional Reference Laboratory (FMD-RRL). JICA provided laboratory equipment to MHS-AQS.
- It took some time to finalize the study proposal for risk assessment as the counterparts were not so familiar with this type of study. The DLD staff from the Northern AQS participated in training on risk assessment that helped them set directions and clarify the scope and the study method. The DLD counterparts, supported by the Thai Epidemiology team and Japanese short-term experts, conducted qualitative risk assessment of the FMD by the importation of cattle and buffalos into Thailand via MHS-AQS. The result of the study was presented at the third regional epidemiology workshop and also presented to traders as well as DLD staff members at the MHS-AQS.
- Annual NJCC meetings were held three times to review project progress and approve the following year's project activities. The National Coordinator (NC), who was also the Chief of Bangkok Seaport Animal Quarantine Station, consistently facilitated project activities at MHS-AQS.

- The MHS-AQS were the main implementer of the In-Country Program. The National Institute of Animal Health (NIAH) acted as the main implementer of regional cooperation activities in the training for epidemiology for other member countries. Also, Staff from animal quarantine stations acted as regional experts to support the strengthening animal quarantine system in other member countries.

4.5.3 Results of Evaluation by Five Criteria

(1) Relevance: Medium

- The Department of Livestock Development (DLD) set a policy in 2003 to establish a laboratory for each of the key animal quarantine stations in order to deal with an increasing number of imported animals at entry points. In conformity with this policy, at the preparation of the ADC-2 project, DLD/JICA decided to establish a laboratory in the Mae Hong Son Animal Quarantine Station (MHS-AQS) as the In-Country Program of Thailand to strengthen the animal quarantine system in a border area. Therefore, the project's objective as well as the appropriateness of site selection is judged as valid at its inception.
- Until now, given the magnitude of animal importation, Northern Thailand is still the most focused region by DLD. However, the number of imported animals has drastically decreased in the pilot site since 2008, presumably reflecting a market trend in the region. Also, from August 2009 to March 2010, importation of cattle and buffalos was suspended due to increased cases of FMD. The roles and the location of the laboratory may need to be reviewed if this trend would last for a long period of time.

Trends of selected, imported animals at MHS

Year	Cattle	Buffalos	Total
2004	61,289	18,124	79,413
2005	61,766	22,240	84,006
2006	22,533	8,483	31,016
2007	8,050	7,427	15,477
2008	255	2,650	2,905
2009	271	2,160	2,431
2010	368	1,473	1,841

(Source: MHS-AQS)

(2) Effectiveness: High

- The diagnostic capacity of MHS-AQS-Lab has been steadily developed. It is now able to diagnose Brucellosis, Tuberculosis and FMD – it can effectively detect animal diseases at entry points. The MHS-AQS lab will be the model for other stations to install a mini-laboratory to their stations.
- Since 2010, DLD has revised and strengthened the policy to test all the imported cattle and buffalos (Prior to 2010, twenty five percent of the imported cattle and buffalos were randomly sampled and diagnosed.) Therefore, the improved functions of MHS-AQS help reduce workloads of RVDC as well.
- During January – October, 1,129 samples were collected and tested for Brucellosis and Tuberculosis by MHS-AQS, and for FMD 455 and 674 samples were tested by MHS-AQS and RVDC respectively. During the same period, no cases of Brucellosis and Tuberculosis were reported whereas 199 cases of FMD were reported.

- In the In-country program, RVRDC and FMD-RRL have helped in making MHS-AQS-Lab operational and training the laboratory staff. This proves also good support functions of regional laboratories to enhance the diagnostic capability of AQS stations.
- The result of risk assessment conducted by DLD will be contributed to an academic journal or made accessible via the website of DLD. This study can be used as the model case to be used by other animal quarantine stations.

(3) Efficiency: Medium

- MHS-AQS-Lab was developed as scheduled although the procurement of consumables was delayed, pending the estimated number of samples to be tested by the MHS-AQS. DLD has made MHS-AQS-Lab operational, utilizing resources and inputs available in RVRDC. This greatly helped facilitate project progress.
- In the early stage of the ADC-2 project, activities of Thailand's In-Country Program was limited to the development of MHS-AQS. Progress in the field of surveillance is slow paced due to the fact that the proposal for risk assessment study was made in the second year of the project period and it took some time until the proposal was finalized due to unfamiliarity of the study to the DLD counterparts.

(4) Impact: High

- On the policy level, the ADC-2 project contributed to the diagnostic capacity development of the AQS stations. DLD has a plan to establish seven to eight laboratories attached to key animal quarantine stations in the Northern region based on the MHS-AQS model developed under the Project, in order to support AFTA (ASEAN Free Trade Agreement). DLD has already secured a portion of budget for the installation of mini-laboratories in the Northern region. It is expected that more stations will be equipped with mini-laboratories after the termination of the Project.
- The risk assessment study conducted under the Project will also server as the model study for other stations. The DLD counterparts have already obtained sufficient knowledge to assist them. It is expected, if such a study is periodically conducted, the animal quarantine stations will be able to identify important measures to prevent animal diseases at cntry points based on evidence.

(5) Sustainability: High

- The sustainability of MHS-AQS-Lab is positive as it is staffed by two trained laboratory officers, technical support of RVRDC is available, and consumables are also available in Thailand. The fact that the AQS-Lab in Kanchanaburi established during the ADC-1 project is still operational indicates the organizational sustainability of MHS-AQS-Lab. DLD has maintained the current policy to install laboratories at major AQS stations; therefore, MHS-AQS would likely receive policy support from DLD after the termination of the ADC-2 project.
- DLD has decided to test all the imported cattle and buffalos for Brucellosis and Tuberculosis and FMD. This may cause a problem for diagnosis at the MHS-AQS due to shortage of testing kits.

4.5.4 Recommendations

The evaluation team makes the following recommendations:

- DLD should closely monitor the trend of importation of animals in Northern Thailand for the optimal allocation of laboratory equipment and technical staff.
- The result of the risk assessment study should be developed into a research paper and made accessible to staff members in DLD. DLD should also encourage the animal quarantine stations to conduct their own risk assessment based on the study conducted at the MHS-AQS.

4.6 Vietnam

4.6.1 Achievements of the Project

(1) Inputs

<Japanese side>

- Dispatch of experts: Annex II
- C/P training in Japan: Annex: Annex III
- Budget of Local Cost, Equipment: Annex IV
- List of Equipments: Annex V

<Vietnam side>

- Hosting regional activities and dispatch of regional experts: Annex VI
- Assignment of Project Directors, Project Managers, National Coordinators and Site Managers Annex VII
- Total amount of Counterpart budget in 2008, 2009 and 2010: Annex IV

(2) Achievements on the activity level

The current progress and achievements of the In-Country Programs of the Vietnam is shown in Annex VIII.

(3) Main Achievements of In-Country Program

Project Purpose: The surveillance structure for animal diseases is established between field (pilot site), local and central level in each member country.

Indicator 1: Number of staffs who have enough capacity on animal disease surveillance

Number of staff who have been trained in animal disease surveillance is shown in the tables below.

Country	Regional - Central	District	Field
Vietnam	54 / 8	60 / 40	40 / 152

total number of trained staff / target number of trained staff

Indicator 2:Number of epidemiological data collected and analyzed in each member country: (1)

Epidemiology study of CSF disease in Quang Nam Province

4.6.2 Implementation Process

- The In-Country Program for Vietnam is the strengthening of surveillance techniques and surveillance information system for animal diseases. Two districts in the central region, namely Thang Binh district and Nam Giang district in Quang Nam province, are selected as the pilot sites.
- The strategy to strengthen surveillance techniques is to technically capacitate the Regional Animal Heath Office No.4 (RAHO4) and its laboratory as well as to establish a laboratory at the Sub-Department of Animal Health in Quang Nam province (SDAH-QN) and build diagnostic capability close to the field. At the local level, SDAH-QN and 2 District Veterinary Services (DVS) out of the 18 DVS offices under SDAH-QN are involved in project activities. In Thang Binh district, there are 120 Animal Health Workers (AHW): 22 communal (one from each 22 communes) and 98 private AHWs. In Nam Giang district, there are 32 AHWs: 9 communal (one from each 9 communes) and 23 private AHWs. The total number of the AHWs in the two districts is 152 and they are the targeted forefront at field level of the In-country program.
- Annual NJCC meetings were held three times to review project progress and to approve the following year's project activities. The National Coordinator (NC) in Department of Animal Health (DAH) facilitated project activities. Field operations were implemented by RAHO4, SDAH-QN and DVS.
- Main inputs provided by JICA are the equipment for SDAH-Lab, short-term experts on diagnostic skills and PRRS attached to RAHO4 and NCVD, and financial support for conducting training courses. NCVD and RAHO4 also trained SDAH-Lab staff.
- DAH and NCVD hosted regional workshops on PRRS in the project in 2009 and 2010, participated by staff and officers from other member countries. As the follow up of the workshop, NCVD dispatched its staff as a trainer to laboratories in Lao PDR in November 2010 and Cambodia in December 2010.

4.6.3 Results of Evaluation by Five Criteria

(1) Relevance: High

- Effective animal disease control is one of the priority agendas of DAH because outbreaks of several animal diseases are still widely recognized.

Cases of outbreaks occurred

Diseases	Number of outbreaks occurred	
	2009	2010
FMD	67 in 21 provinces	191 in 24 provinces
HPAI	115 in 16 provinces	67 in 23 provinces
PRRS	46 in 6 provinces	2,059 in 48 provinces

(Source: DAH)

- The Government has launched national vaccination program to control and eradicate HPAI, FMD and other diseases. The ADC-2 project aims at improving the diagnosis at regional and provincial laboratories as well as strengthening the information network system between them and field staff, thereby helping implement such national program.

- As the pilot site, the project has selected two districts, Thang Binh and Nam Giang in Quang Nam province, in the central region in consideration of frequent outbreaks of diseases such as FMD, PRRS and AI in the region, weak diagnostic capacities at the district level, the district's low vaccination rate, the site's proximity to the border and difficulties to implement vaccination program for ethnic communities in the mountainous areas. It is expected that project outputs in the pilot site is extended and impact other districts in the central region.
- JICA's assistance program to Vietnam (July 2009) includes basic policies to secure safety of agricultural produces in order to improve the livelihoods of the rural population that account for three-fourths of the total population. The JICA assistance program also emphasizes the promotion of regional cooperation to tackle cross-border issues such as spread of infectious diseases.

(2) Effectiveness: High

- The technical capacity of RAHO4 is improved largely with the assistance of the short-term expert attached to RAHO4. He introduced many diagnostic techniques and consistently supported technical officers with on-the-job training to upgrade their skills. RAHO4 staff also attended various training courses provided through in-country and regional activities in the project. A total of 11 diagnostic methods were newly adopted during the project period such as cell culture and ND virus isolation using egg inoculation. The capacity development of RAHO4 in the project is recognized quite satisfactory among counterparts.
- SDAH-QN did not have a laboratory before the project. With the equipment and staff training provided in the project, the laboratory of SDAH-QN became fully operational in September 2010. The SDAH-lab is now capable of conducting basic parasitological and bacteriological diagnosis. One of intended outputs of in-country program is the level of SDAH-QN capacity that can take over some of the RAHO4's role, and in 2011 SDAH-QN will take over basic parasitological and bacteriological testing from RAHO4. That taking over was not achieved within the project period because of the delay of equipment delivery, for which the planned on-the-job training in SDAH-QN by the short-term expert was not conducted. In 2011, RAHO4 plans to send its staff to SDAH-QN and offer training for their continual skill development.
- DVS staff in the pilot districts acknowledges their clinical knowledge on animal diseases and reporting procedures are improved through a training conducted in the project. AHWs in the pilot site were also given trainings in the project on vaccination, basic animal diseases, reporting procedures and animal health management. As the indicator shows, the number of AHWs who took part in trainings in the project stops at 40 against the total 152 AHWs in the two pilot districts. The reason trainings were not extended in 2010 for other AHWs is that they attended training on HPAI provided by the Joint Government - United Program to Fight Highly Pathogenic Avian Influenza, Phase II that covers 19 provinces including Quang Nam. There was a consideration by DAH to avoid the overlap of trainings for AHWs.
- Training conducted by the project have contributed to improving the already-existed reporting system at each level of the pilot site in terms of clinical diagnosis, writing contents and quick reporting. Field AHWs become more aware of animal diseases and importance of reporting. Reporting from DVS to SDAH-QN is also improved as communication equipment such as fax and internet became available. There are 18 DVS

offices under SDAH-QN and all the offices now have either fax or email. RAHO4 recognizes improved reporting from SDAH-QN as these days a daily report from SDAH-QN to RAHO4 constantly comes in by 4 pm by rule, which used to be around 5pm before. It indicates that daily reports from DVS to SDAH-QN are also collected in a timely manner. Besides, it is acknowledged that the working attitude of the short-term expert may have invoked higher work ethics among staff towards accurate and timely reporting.

- Active surveillance on CSF was conducted in 2010 under a tight schedule where the planning was delayed till June 2010. Staff of SDAH-QN and DVS along with AHWs formed two teams to collect samples and questionnaire in the targeted three districts in Quang Nam. ELISA and Neutralization test were done in RAHO4. In spite of interrupted operation by PRRS outbreak in the districts, the surveillance was carried through with considerable efforts of those who involved. Its findings were presented at the 3rd Epidemiology Study Model Workshop in October 2010. The surveillance was effective in that the involved staff acknowledge the valuable experience of conducting active surveillance themselves, which raised their awareness towards disease control and surveillance information system. The surveillance was low, however, in impact and sustainability. Expected impact of the surveillance is to prove the effects of vaccination, thereby to motivate farmers to participate in CSF vaccination. So far, the surveillance hasn't produced suggestions to feed into the DAH's efforts to involve more farmers to CSF vaccination yet. Also, it seems difficult to reproduce the surveillance after the project because of some technical insufficiencies in terms of designing, analyzing data and its documentation at present.
- Alongside CSF surveillance, the active surveillance on PRRS was conducted in 2010 by NCVD with RAHO5, RAHO7 and SDHA of Bac Gian, Gia Lai and Bac Lieu with the assistance of Japanese short-term experts. It was an add-on to the project's epidemiology survey on CSF. The findings such as long-term effect of virus persistence in breeding farms were presented, yet further research is necessary for the surveillance to contribute to PRRS control and warning while PRRS outbreak recurrently happens in Vietnam as lately as in September 2010.
- Based on findings and experience from the intensive surveillance on PRRS, DAH/NCVD along with the project hosted a regional training workshop in Hanoi in September 2010 on PRRS. With hosting the workshop, Vietnam also contributed to project regional activities. Participants appreciated the workshop for information and findings shared, against a backdrop of recent, regional outbreak of PRRS in Lao PRD, Cambodia, Vietnam, China and Philippines. PRRS follow-up trainer was also dispatched from NCVD to Laos and Cambodia in 2010 November and December, respectively.
- With all points above, it is concluded that the outputs are produced: surveillance techniques for animal diseases are strengthened and surveillance information system for animal diseases is strengthened. These outputs have effectively culminated in the achieved project purposes, which are: surveillance structure for animal disease is established between field (pilot site), local and central level; capacity for RAHO4 and Quang Nam SDAH is developed. Two verifiable indicators for project purposes also indicate reasonably its achievement.

(3) Efficiency: Medium

- There have been operational difficulties attributed to the implementation arrangement where RPS and Japanese expert team are stationed in Bangkok. It took time to disburse the budget for implementing in-country program as Japanese expert in Bangkok needed to visit and disburse the fund directly to the counterpart. That accounting rule from the project beginning was widely recognized among counterparts as a hindering factor to timely operation. That accounting rule was revised later in agreement between DAH and JICA Vietnam Office.
- As for inputs to activities, overall timing, amount and quality of the inputs from both the project and counterparts are appropriate. It is noted, however, that there were delays in procurement and it affected in-country activities. An example was the delay of delivering a biosafety cabinet to SDAH-QN, which put off the planned on-the-job training at SDAH-QN. That delay of procurement partly due to an internal budget adjustment in JICA headquarters deferred the SDAH laboratory becoming fully operational until September 2010.

(4) Impact: Medium

1) Prospect of achieving Overall Goal:

Overall Goal: The surveillance structure for animal disease is established among member countries.

- The basic surveillance structure is already in place in Vietnam. The project fortified the surveillance structure in the target area and also prompted regional exchange and cooperation among member countries at central level. The central laboratory director's meeting was newly established as a platform towards achieving the overall Goal. The prospect of achieving the overall goal, however, is medium as there are still wide disparities in surveillance capacities among member countries. In Vietnam, for example, outputs of the project need to be extended to other areas in the central region where the surveillance structure and capacity are recognized yet be further strengthened. Applying the achievement of in-country program in each member county is necessary for the overall goal to be effectively pursued in the region.
- The following impacts could be expected after the project duration:
  - Taking advantage of the improved capacities of SDAH-QN, other SDAHs and AHWs in neighboring provinces will send samples to SDAH-QN for basic parasitological and bacteriological testing, which may help shorten the time to respond to animal disease in the region.
  - Regional activities have mainly involved RAHO4 whose staff attended regional workshops on epidemiology and quarantine system. Not only information exchange at the workshops but also relationships forged among colleagues in member country are indicated beneficial and may lead to personal, voluntary contacts and interactions.
  - NCVD with its experience of conducting an active surveillance on PRRS contributed to regional activities by hosting a training workshop in the project. NCVD may continue to develop its capacity based on the experience, expertise and relationship obtained in this project.
  - Active surveillances on CSF and PRRS may still inform DAH of findings that can improve the current vaccination activities such as an appropriate timing and interval of vaccine shot.

- Improved information network system in the pilot sites could be presented as a model for the central region so that the system will be emulated by other SDAH.

(5) Sustainability: Medium

- RAHO4 is a regional reference laboratory and its designated functions and roles are clear and budget allocation is made accordingly. NCVD can assist RAHO4 in upgrading its diagnostic techniques when new methods are introduced in the national guidelines. RAHO4 has occasionally face shortage of consumables and RAHO4 needs to improve its stock management.
- SDAH-QN will continually develop examination skills on parasitological and bacteriological diagnosis while lab-staff starts and conducts more examinations in response to more requests/reports from AHWs and farmers. Also, RAHO4 continue to provide SDAH with technical trainings based on its increased diagnosis capacities. In accordance with DAH regulations, DAH can give accreditations to SDAH-QN on certain examinations. SDAH-QN should plan to acquire such accreditations, towards which SDAH staff is likely to feel encouraged to work on improving their laboratory skills.
- Financial sustainability of SDAH-QN heavily relies on the Quang Nam provincial government and DAH will continue to be supportive of the budget necessity of SDAH-QN and issue an endorsement letter to the provincial government as and when necessary.
- The diagnostic techniques and information systems strengthened in the project will be sustained because these were built upon the existing institutional structures such as reporting, passive surveillance, placement of AHWs, accreditation of laboratory and vaccination programs in Vietnam.
- The sustainability of active surveillance is viewed as low because it requires vast financial and human resources. It is difficult to conduct active surveillance without donor support after the project period. Hence passive surveillance is sought by DAH, RAHO4 and SDAH-QN as a sustainable, achievable way towards further improving the surveillance information system.

4.6.4 Recommendations

- SDAH-Lab is now operational with equipment to conduct basic examination. It is recommended that DAH and RAHO4 continually assist SDAH-Lab by providing OJT and being instrumental in obtaining financial support from the provincial government. Setting a target for SDAH-lab to acquire an accreditation from DAH for certain diagnostic examinations could encourage lab staff to improve their capacities. SDAH-QN needs to learn about the procedures towards acquiring the accreditation as well as the standardized laboratory manual.
- It is recommended that SDAH-QN prepare a laboratory improvement plan including training need and cost estimation to maintain the equipment newly introduced. Such plan may help SDAH-QN effectively communicate its necessity with DAH, RAHO4 and provincial government. SDAH-QN also need to consider to raise revenue from its operation of testing fishery products as well as issuing health certificate for animal movement and lab diagnosis on animal disease by collecting fees. SDAH-QN can learn from several SDAH in the Southern Vietnam that operate financially well based on the revenue raised with

their own activities.

- It is recommended that SDAH along with DAH, RAHO4 consider the renewal of AHW license every 5 years as an opportunity to provide trainings and lectures regularly for AHWs so that they can upgrade their skills and improve their knowledge on clinical diagnosis and reporting system.
- The mid-term evaluation recommended that the PRRS and Epidemiology teams produce final reports and present their findings, surveillance results and recommendations to DAH, RAHO4, SDAH and NCVD. The recommendation was followed by the PRRS team and also the findings were shared at the regional PRRS training workshop held in Vietnam in September 2010. At present, it is still recommended that the findings of CSF active surveillance should inform the on-going national vaccination program for its better effectiveness. The findings of the surveillance also need to be communicated to AHWs and farmers.

4.6.5 Lessons Learned

- When a regional cooperation project has activities at regional, field (pilot site), local and central level, it is very important to establish a good communication channel for timing and effective provision of inputs and resources and implementation of activities. Also a good communication channel with the Project, JICA office and JICA head quarters is very important.

5 Evaluation of regional cooperation

5.1 Achievements of the Project

Achievement of the Project is shown in Annex VI

5.2 Implementation Process

- Regional activities are conducted to facilitate the implementation of ICPs as well as promote regional cooperation such as the formation of central laboratory directors' forum and the DG meetings for harmonization of animal disease control.
- The regional cooperation intended under the project included the fields of diagnosis, epidemiology and animal quarantine.
- Thailand supported the other member countries in the fields of epidemiology and animal quarantine and Malaysia in strengthening diagnostic capabilities.
- The main players for regional cooperation were DLD/NIHA of Thailand and DVS/VRI of Malaysia. They hosted training and workshops, inviting the participants from the member countries and then dispatched regional experts to the participating organizations in the member countries for follow-ups and making recommendations.
- The contents of regional activities were decided annually at the RJCC meeting held at the beginning of each fiscal year.

5.3 Results of Evaluation by Five Criteria

(1) Relevance: Medium

- The importance of regional cooperation had been well recognized by all the member countries involved in this Project for effective animal disease control although its importance was not explicitly expressed in their official papers. This recognition led to the adoption of joint statements signed by the member countries for harmonization of animal movement management system in 2009 and 2010.
- Promotion of regional cooperation is one of the four pillars of Japan's ODA for Thailand. For Malaysia, it is also recognized as one of the priority agendas.

(2) Effectiveness: High

The Project has produced the following important outputs thorough regional activities and dialogues among the member countries:

- The Project helped prepare an platform for harmonizing animal movement management system. Based on the discussions made at RJCC meetings and other regional meetings, regional workshops were organized twice for harmonizing animal movement management system. The two joint statements, duly signed by all the six countries, set a general direction of harmonization efforts and priority agendas.
- The Project also initiated the formation of the central laboratory directors' forum for harmonizing laboratory protocols and procedures as well as create a mechanism for laboratory network. During the project duration, the meetings of central laboratory directors' forum were held two times.
- In the regional cooperation activities, DLD and DVS has played a supportive role, hosting training programs and study tours and dispatching their staff to other member countries.
- Based on the results of regional cooperation activities supported by regional experts in epidemiology, each country produced and presented a paper at the third epidemiology study model workshop in November 2010. It is expected that the six full papers will be produced by the end of the Project period and shared among the member countries.

- It is difficult to measure tangible outputs of such activities; however, the following positive effects are identified by the Team:
    - Increased interaction between the trainers and trainees in the member countries has fostered informal communication and exchange of techniques.
    - Follow-up activities have enabled the trainers to give advice in a consistent manner, particularly on the development of quarantine procedures and rules and regulations.
    - Regional cooperation activities have helped the member countries understand animal quarantine systems of other member countries. For regional experts, it was a good opportunity to understand the level of diagnostic capabilities of their counterpart organizations and identify areas for future cooperation.
    - Regional experts introduced suitable diagnostic techniques and equipment appropriate to other member countries because they were familiar with local setting (e.g. introduction of BloodSmear for parasitological testing by Malaysian experts).

- Trainers are pressured to excel in the subject matters to act as regional experts.

(3) Efficiency: Medium

- In the ADC-2 project, DLD's role has been expanded to act as a potential donor. DLD was able to use its previous donor experience through the ADC-1 project, TICA programs and FAO/OIE programs. DLD efficiently hosted regional activities as workshops, study tours and training programs and dispatched Thai experts. However, a severe budget cut in 2008 resulted in cancellation of some project activities in Thailand.
- Because of the nature of regional cooperation, the ADC-2 Project required of the RPS and the NCs to deal with a substantial volume of logistical and coordination work. This affected the Project negatively in that they were compelled to allocate their time and energy for non-technical tasks. Also, differences in the accounting rules of the JICA offices in the member countries made smooth transaction of project budget difficult, particularly at the earlier stage of the project duration. Therefore, these factors reduced project efficiency.
- According to the questionnaire survey, the short-term experts dispatched from Japan, Thailand and Malaysia were highly evaluated by the counterparts in the recipient countries.

(4) Impact: Medium

- Increased communication and developed rapport among the member countries through regional activities are an important asset for transboundary animal disease control, particularly, in case an outbreak of animal disease takes place, the member countries can take advantage of the formal and informal communication channels developed during the project duration to exchange information and take actions. Also, the Project has helped set a general direction towards harmonizing animal movement management by adopting joint statements. Strong commitments, resources and concrete actions are still required to actually harmonize legislative, administrative and technical aspects of animal movement management. It is not clear to what extent tangible outcomes will stem from the joint statements.

(5) Sustainability: Medium

- The counterpart organizations in both Thailand and Malaysia and their staff members show good willingness to provide resources and take lead roles in regional cooperation.
- The ADC-2 Project helped establish the Meeting of Central Laboratory Directors' forum among the member countries. This is expected to assist each other in solving technical problems and facilitate technical exchange. FAO and OIE in Bangkok have been committed to support the member countries to regularly hold meetings of the Central Laboratory Directors' forum after the termination of the ADC-2 Project.
- In addition to the efforts to organize the Central Laboratory Directors' forum. The member countries have bilateral agreements for regional cooperation. DLD has bilateral agreement with its counterpart in Laos to provide training in diagnosis and other assistance to strengthen animal quarantine. At the ministerial level, a pilot project is being implemented under the bilateral agreement in Champasack in Southern Laos to control FMD. Malaysia also provides assistance in such a form as training to other countries. The EPU is also very

supporting for the implementation of regional cooperation activities. Vietnam annually holds annual talks with Cambodia and Laos, conducts training to laboratory staff from both countries and provides vaccines for FMD control. At the regional level, OIE is supporting the countries in the Mekong regions to control FMD. Therefore, it is assumed that regional cooperation, particularly technical cooperation would be sustained although the level and intensity of regional cooperation may be lessened.

- While technical sustainability is likely sustained, the sustainability of the efforts towards the harmonization of animal movement management system is low as either an institutional or financial arrangement is not in place.

5.4 Recommendations

- RPS should discuss with the member countries to take measures in response to the recommendations made by the joint statements for the harmonization of animal movement management.

5.5 Lessons Learned

- In a regional cooperation project, a large number of participants are involved at different levels from the member counties. Therefore, the key participants should be well trained in the concept and the usage of management tools such as PCM and Plan of Operations at the beginning of the Project.
- Support for field operation was not sufficient in the ADC-2 project; therefore, it took a long time to make progress in project implementation. It is vitally important to assess the capacity of field operation in recipient countries and allocate sufficient human resources and coaching to smooth up field activities.
- Considering particular operational difficulties of a regional cooperation project, the local JICA Offices need to harmonize their operational procedures, particularly in procurement and accounting for all the participating countries.
- It would have been more effective to assign an assistant to NC for logistical support so as to ease the logistical burden of NC. It is also recommended that the project expert team and counterpart organizations would build consensus with the local JICA Offices on their possible logistical and operational support prior to or at the beginning of the project.

Schedule of ADC2 Terminal Evaluation Study

DATE	Date		Mr.Okuda(Vietnam,Mlaysia,Myanmar)/Dr.Kanameda(Myanmar)	Stay	Ms.Fujimoto(Cambosida,Laos)/Dr.Kanameda(Thai,Cambosida,Laos)	Stay
2 Dec	Thu	1	Dr.Kanameda(NARITA11:30→BANGKOK17:55) (TG643)			BANGKOK
3 Dec	Fri	2	Meeting with Experts			BANGKOK
4 Dec	Sat	3	Preparation of the Study.			BANGKOK
5 Dec	Sun	1	NARITA 11:00→HANOI 15:25(VN955)、 HANOI 16:55→DA NANG18:10(VN313)	Da nang	Ms.Fujimoto : NARITA 11:30→BANGKOK 16:30(TG643) ,BANGKOK 18:25→PHNOM PENH 19:40(TG584) Dr.Kanameda : BANGKOK 18:25→PHNOM PENH 19:40(TG584)	PHNOM PENH
6 Dec	Mon	2	AM: Study on RAHO PM: Move to Quang Nam by Vehicle	Quang Nam	AM : Meeting with JICA Office PM : Meeting with DAHP and NAVRI	PHNOM PENH
7 Dec	Tue	3	AM : Study on Quan Nam SDAH PM : Interview with Thaning and Nam Giang Veterinary Station staff at Thaning Veterinary Station Move to DANANG	Da nang	AM : Move to Kampong Cham by vehicle PM : Meeting with PAHPO staff and Study on Lab	Kampong Cham
8 Dec	Wed	4	AM : Report to RAHO PM: DA NANG 16:55→HANOI 18:05(VN312)	HNOI	AM : Move to Prey Chhor by vehicle PM : Study on Prey Chhor Pilot Project, Move to PHNOM PENH by vehicle	PHNOM PENH
9 Dec	Thu	5	AM:Meet with DAH Drafting Evaluation Report	HNOI	Drafting Evaluation Report	PHNOM PENH
10 Dec	Fri	6	AM : Report to DAH PM : Report to JICA office	HNOI	AM : Report to DAHP and NAVRI PM : Report to JICA Office	PHNOM PENH
11 Dec	Sat	7	HANOI 14:10→KUALA LUMPUR 18:40(MH753)	KUALA LUMPUR	PHNOM PENH 15:50→VIENTIANE 17:20(VN840)	VIENTIANE
12 Dec	Sun	8	Preparation of Study	KUALA LUMPUR	Preparation of Study	VIENTIANE
13 Dec	Mon	9	AM : Meeting with JICA office PM : Meeting with DVS	KUALA LUMPUR	AM : Meeting with JICA Office PM : Meeting with DLF and NAHC	VIENTIANE
14 Dec	Tue	10	AM : Move to Johore Baharu by Vehicle PM : Meeting with Johore Baharu DVS and Studying on regional Lab	Johore Baharu	AM : VIENTIANE→SAVANNAKHT by vehicle PM : Meeting with PAFO staff and visiting Lab Study on KAISONE District' Pilot Project	SAVANNAKHT
15 Dec	Wed	11	AM : Move to Pontian Kechil by Vehicle PM : Study on Pilot Project, Move to KUALA LUMPUR by Vehicle	KUALA LUMPUR	AM : Study on SONGKHONE District' Pilot Project PM : Move to VIENTIANE by vehicle	VIENTIANE
16 Dec	Thu	12	Drafting Evaluation Report	KUALA LUMPUR	Drafting Evaluation Report	VIENTIANE
17 Dec	Fri	13	AM : Report to DVS PM : Report to JICA Office	KUALA LUMPUR	AM : Report to DLF PM : Report to JICA Office、 Ms.Fujimoto back to JAPAN(VIENTIANE 21:50→BANGKOK 22:55) Dr.Kanamed move to YANGON(VIENTIANE 13:50→BANGKOK 14:55)	-
18 Dec	Sat	14	Mr.Okuda : KUALA LUMPUR 10:05→YANGON 11:15(MH740) Dr.Kanameda : BANGKOK 17:55→YANGON 18:40(TG305)	YANGON	Ms.Fujimoto:BANGKOK 23:50→NARITA 07:30 (TG642)	
19 Dec	Sun	15	Preparation of Study	YANGON		
20 Dec	Mon	16	AM : Meeting with JICA Office PM : Meeting with LBVD	YANGON		
21 Dec	Tue	17	AM : Yangon 6:30→Mandalay 8:35 (6T401)、 Meeting with Mandalay LBVD and Studying on RVL-Lab PM : Move to Pyin Oo Lwin, Study on Pyin Oo Lwin Pirot Project, Move to Mandalay	Mandalay		
22 Dec	Wed	18	AM : Move to Amarapura PM : Study on Amarapura Pilot Project Mandalay16:10 (W9109)→Yangon18:15	YANGON		
23 Dec	Thu	19	Drafting Evaluation Report	YANGON		
24 Dec	Fri	20	AM : Report to LBVD PM : Report to JICA Office、 Mr.OKUDA and Dr.KANAMEDA:YANGON 19:40→BANGKOK 21:35(TG306)	-		
25 Dec	Sat	21	BANGKOK 23:50→NARITA 06:15(TG640)			

DATE	Date		Mr.IDA/Dr.TADA, Dr.KANAMEDA, Mr.HIDAKA, Dr.XX	Stay
27 Dec	Mon	1	Compiling the study results.	Japan
28 Dec	Tue	2		
29 Dec	Wed	3		
30 Dec	Thu	4		
31 Dec	Fri	5		
1 Jan	Sat	6	-	-
2 Jan	Sun	7		
3 Jan	Mon	8	NARITA 10:45→BANGKOK 15:45(TG641)	BANGKOK
4 Jan	Tue	9	AM : Meeting with JICA Thai office PM : Meeting with DLD and with experts	BANGKOK
5 Jan	Wed	10	AM : BANGKOK 6:15→Chiang Mai 7:25(TG100)→Mae Hongson by Vehicle PM : Study on Animal Quarantine Station	Mae Hongson
6 Jan	Thu	11	AM : Study on Animal Quarantine Station PM : Chiang Mai 16:00→BANGKOK 17:10(TG113)	BANGKOK
7 Jan	Fri	12	AM : Drafting Evaluation Report PM:Report to DLD	BANGKOK
8 Jan	Sat	13	Drafting Evaluation Report	BANGKOK
9 Jan	Sun	14	Official Member NARITA 10 : 45→BANGKOK 15 : 45 (TG641)	BANGKOK
10 Jan	Mon	15	Meeting with RPS	BANGKOK
11 Jan	Tue	16	Interview to AQS and NIAH staffs	BANGKOK
12 Jan	Wed	17	Compiling the study results.	BANGKOK
13 Jan	Thu	18	Discussin with RPS	BANGKOK
14 Jan	Fri	19	AM : Attending NJCC PM : Report to JICA office, BANGKOK 23:50→	-
15 Jan	Sat	20	NARITA 07:30(TG642)	

List of Japanese Expers

Long-term Expert

	Name	Assigned Subject	Appointed Period	Outline of activities
1	Dr. Shigeo NISHINO	Chief Advisor	13/Feb./2008 - 12/Feb./2010 06/Apr./2010 - 12/Feb./2010	Responsible for planning and execution of whole project management, Offer advice and guidance on whole plan of member countries relating to the achievement of the goal and sustainability
3	Dr. Toru INOUE	Animal Disease Control	13/Feb./2008 - 12/Feb./2010 13/Feb./2010 - 12/Feb./2011	Responsible for technical guidance and introduction on diagnosis the typical cross border animal diseases at the regional diagnosis center / Veterinary office / quarantine facilities in Pilot Site, necessary technical guidance on building the report syste
2	Mr. Masahiro OKADA	Project Coordinator	13/Feb./2008 - 12/Feb./2011	Responsible for supporting Chief Advisor's project management, arranging the Cooperation Plan of each member country and regional level, managing the progress of input for Annual Plan of the project, budget, equipment and administration duties

Short-term Expert

	Name	Assigned Subject	Appointed Period	Outline of activities
1	Dr. Masaharu KANAMEDA	Project Management	13/Feb./2008 - 30/Apr./2008	Responsible for advising on improving surveillance System, on planning In-Country Project Activities, on planning of regional structure, on managing Project comprehensively and technically.
			09/Jul./2008 - 05/Sep./2008	
			21/Oct./2008 - 02/Jan./2009	
			28/Jan./2009 - 03/Apr./2009	
			10/Jun./2009 - 21/Aug./2009	
			30/Aug./2009 - 31/Oct./2009	
			22/Dec./2009 - 05/Feb./2010	
			09/Jun./2010-09/Jul./2010	
			07/Mar./2010-18/Mar./2020	
			5/Dec./2010-25/Dec./2010	
2	Mr. Akira MATSUMOTO	Monitoring and Evaluation, Setting up indicators for PDM	30/Aug./2009 - 22/Sep./2009	Responsible for advising on setting up indicators for PDM and advising monitoring measurement of the project activities
			01/Oct./2009 - 20/Oct./2009	
3	Dr. Toshiyuki TSUTSUI	Epi (Epidemiology) 【1】	08/Dec./2008 - 14/Dec./2008	Responsible for advising on Epi sub-project as a supervisor (leader) and giving technical assistance at academic/theoretical aspect.
			01/Jun./2009 - 20/Jun./2009	
			19/Jun./2009 - 24/Jun./2009	
			07/Nov./2010-11/Nov./2010	

4	Dr. Sota KOBAYASHI	Epi (Epidemiology) 【2】	08/Dec./2008 - 14/Dec./2008	Responsible for advising on Epi sub-project as a supervisor at the point of practical/applicable approach
			01/Jun./2009 - 20/Jun./2009	
			19/Jun./2009 - 24/Jun./2009	
			07/Feb./2010-13/Feb./2010	
			06/Jun./2010-12/Jun./2010	
			07/Nov./2010-12/Nov./2010	
5	Dr. Hiroshi TSUNEMITSU	Veterinary Diagnosis PRRS (Porcine Reproductive and Respiratory Syndrome) 【1】	12/Jul./2009 - 24/Jul./2009	Responsible for advising on PRRS sub-project as supervisor at the aspect of PRRS control/prevention
			07 Feb./2010 - 13/Feb./2010	
			26/Sep./2010 - 03/Oct./2010	
6	Dr. Michihiro TAKAGI	Veterinary Diagnosis PRRS (Porcine Reproductive and Respiratory Syndrome) 【2】	07/Jun./2009 - 24/Jul./2009	Responsible for advising on technical aspect of virological diagnosis.
			22/Dec./2009 - 13/Feb./2010	
			17/Aug./2010 - 09/Oct./2010	
			31/Oct./2010 - 13/Nov./2010	
7	Dr. Kenji KAWASHIMA	Veterinary Diagnosis PRRS (Porcine Reproductive and Respiratory Syndrome) / Pathology 【3】	18/Sep./2010 - 02/Oct./2010	Responsible for advising on technical aspect of pathological diagnosis.

8	Dr. Takuya NAKAYAMA	Veterinary Diagnosis ND (Newcastle Diseases) 【1】	18/May/2009 - 17/Jul./2009	Responsible for advising on virological diagnosis and field control of Newcastle disease at Johor Bahru in ML
9	Dr. Tadao IMADA	Veterinary Diagnosis ND (Newcastle Diseases) 【2】	19/Sep./2010 - 18/Nov./2010	Responsible for advising on virological diagnosis and field control of Newcastle disease at Johor Bahru in ML
10	Dr. Shigeru MINAMI	Clinical Veterinary Service for Dairy Cattle	02/Feb./2009 - 01/Apr./2009 07/Sep./2009 - 07/Nov./2009	Responsible for advising on communication skill through basic veterinary service at Amarapura and Pyin OO Lwin in MM
11	Dr. Akira ANRI	Clinical Veterinary Laboratory	15/Jun./2009 - 15/Aug./2008	Responsible for advising on communication skill through basic veterinary service at Amarapura and Pyin OO Lwin in MM
12	Dr. Yoshikazu IRITANI	Differential Diagnosis of Aniumal Diseases	19/Oct./2009 - 18/Feb./2010 05/May/2010 - 30/Oct./2010	Responsible for advising on laboratory veterinary diagnosis techniques at RAHO4 and QN-SDAH laboratory, advising on Epi Study Model as a coach of VN Epi team.
13	Dr. Hisashi UKAI	Veterinary Diagnosis (Bacterial Disease)	25/Jul./2010 - 21/Sep./2010	Responsible for advising on Bacterial diagnosis at NaVRI, Laboratory Networking between the PAHPO-Kampong Cham Lab and NaVRI in CM
14	Dr. Masaharu KATO	Veterinary Diagnosis (Bacterial Disease)	06/Sep./2010 - 05/Nov./2010	Responsible for advising on Bacterial diagnosis at NAHC, Laboratory Networking between Laboratory Networking between the PAFO-Savanakeht Lab and NAHCthe PAFO-Savanakeht Lab and NAHC in LA
15	Dr. Kenjiro Inui	Veterinary Diagnosis (Virus & Lab networking)	31/Oct./2010 - 29/Nov./2010	Responsible for advising on Viral diagnosis at NAHC & NaVRI, Laboratory Networking between the PAFO-Savanakeht Lab and NAHC, between the PAHPO-Kampong Cham Lab and NaVRI in CM and LA

Counterpart training in Japan

No	Curse Title	Name of Trainee	Country, Position	Duration	
1	Animal Disease Control	Dr.Ahmad Suhaimi Omar (Former National Project Director)	Deputy Director of Department of Veterinary Services, Malaysia	2008/10/1	2008/10/14
2	Animal Quarantine System in Japan	Dr.Yukol Limlamthong (Former National Project Director)	Director General of Department of Livestock and Development, Thailand	2009/9/13	2009/9/19
3	Animal Quarantine	Dr.Pinyocheep Prapas (National Project Coordinator)	Chief of Animal Quarantine Station, Department of Livestock and Development, Thailand	2009/11/8	2009/11/18
4	Lab-Network	Dr.Mohd Mokhtar bin Arshad (Director of the central laboratory of Malaysia)	Chief of Veterinary Research Institute, Department of Veterinary Services,Ipoh, Malaysia	2010/2/21	2010/3/5
5	Lab-Network	Dr.Vimol Jirathanawat (Director of the central laboratory of Thailand)	Chief of National Institute of Animal Health, Department of Livestock and Development, Thailand	2010/2/21	2010/3/5
6	Animal Quarantine	Dr. Ramlan bin Mohamed (National Project Coordinator, Malaysia)	Chief of Desease Control and Eradication, Department of Veterinary Services, Malaysia	2010/2/21	2010/3/5
7	Advanced research course on international animal health	Dr.Ngo Huu Lai (National Project Counterpart)	Veterinary officer Regional Animal Health Office No.4.	2010/10/24	2011/8/27

Annex IV

1. Local Cost by JICA side

(Japanese Yen)

Member Country	JFY 2008 (Including JFY2007)	JFY 2009	JFY 2010	Total
Cambodia	605,000	4,649,000	4,840,000	10,054,000
Lao P.D.R.	1,721,000	2,493,000	4,271,000	8,485,000
Malaysia※	5,905,000	5,164,000	3,518,000	14,587,000
Myanmar	2,924,000	4,741,000	4,725,000	12,390,000
RPS including Thailand※	27,249,000	2,2045,000	28,590,000	77,884,000
Vietnam	3,980,000	5,260,000	10,508,000	19,748,000
Total	42,384,000	44,352,000	56,412,000	143,148,000

※ The above amounts for Malaysia and Thailand include expenses for trainees from member countries.

2. Provided Equipment (including local procurement and others)

(Japanese Yen)

Member Country	JFY 2008	JFY 2009	JFY 2010	total
Cambodia	600,000	1,723,000	859,000	3,182,000
Lao P.D.R.	3,243,000	1,542,000	799,000	5,584,000
Malaysia	0	0	353,000	353,000
Myanmar	7,870,000	3,251,000	0	11,121,000
Thailand	0	2,805,000	0	2,805,000
Vietnam	2,373,000	1,909,000	2,609,000	6,891,000
Total	14,086,000	11,230,000	4,620,000	29,936,000

3. Counterpart budget

Member Country	JFY 2008	JFY 2009	JFY 2010	total	Eemarks
Cambodia	0	0	0	0	USD
Lao P.D.R.	0	0	2,550	2,550	USD
Malaysia	3,500	6,418	6,481	16,399	MYR
Myanmar	8,732,700	8,741,000	5,737,000	22,711,150	KYATS
Thailand	755,000	700,000	620,000	2,075,000	THB(DLD)
	600,000	600,000	250,000	1,450,000	THB(TICA)
Vietnam	6,000	8,500	7,900	22,400	USD

List of Equipment

	Cambodia	Lao PDR	Malaysia	Myanmar	Thailand	Vietnam
JFY 2008	3 Desktop PCs	3 Desktop PCs	2 Desktop PCs	2 Desktop PCs	1 Elisa Reader	3 Desktop PCs
	3 Printers	3 Printers	2 Printers	2 Printers	1 Elisa Washer	3 Printers
	2 FAXs	3 FAXs	2 UPSs	2 FAXs	1 Incubator	3 FAXs
	1 Incubator	3 UPSs		1 Projector & Screen	1 Freezer	1 Projector & Screen
	1 Microscope	1 Binocular Microscope		1 Scanner	1 Refrigerator	1 Digital Camera
	1 Autoclave	1 Refrigerator		1 Degital Copier	1 Single Micropipette	1 Incubator
	1 Water Bath	1 Freezer		1 Digital Camera	1 Multistepper Micropipette	1 Dry Oven (Heat Dryer)
	1 Electronic Balance	1 Incubator		2 Solar Battery Refrigerator	1 Hot Plate Stirrer	1 Autoclave
	1 Centrifuge	1 Autoclave			1 PH Meter	1 Water Bath
	1 (Vortex) Mixer	1 Electronic Balance		2 Hematocrit Centrifuge	1 Vortex Mixer	1 Benchtop centrifuge
	1 Dryers / Drying Cabinet (Oven)	1 Vortex Mixer		2 Hematocrit Sealer	1 Water Bath	1 Magnetic Stirrer
	1 Freezer	1 Anaerobic Jar		2 Microscope	1 Hot Air Oven	1 Electronic Balance
	1 PH Meter	1 Bunsen Burner		Test Tube 10box	1 Pipette Aid	1 Microwave Oven
	1 Hot Plate			2 Test Tube Rack	1 Balancer	1 Microscope
	1 Sprayer Machine				1 Centrifuge	1 Degital Camera for Microscope
	1 Anaerobic Jar				3 Timers	
					1 Deionized / Reverse Osmosis Water	1 Adapter for Microscope & Camera
					Installation & Training Work	3 Single Micropipette, 1 Mortar & Pestle, 1 PH Meter
JFY 2009	1 Biological Safty Cabinet Class II	1 Microscope		2 Incubator		1 Biological Safty Cabinet Class II
	1 ELISA Machine Reader with Computer, 1 Washer & 1 Shaker for Incubator	1 Water Bath		2 Erectronic Balance		1 Ultrasonic Cleaning Units
		1 Hot Plate & Magnetic Stirrer		2 PH Meter		1 Refrigerator
		1 Biological Safty Cabinet Class II		2 Magnetic Stirrer		1 Freezar
	1 Refrigerator	1 Electric heated Water Distilled Apparatus		2 Voltex Mixer		1 Microscope
	2 Biological Microscopes	1 Desktop Computer		2 Autoclave		1 Heamatocrite Centrifuge with Capillary Tube Roter
	2 LCD Projectors & Screens	1 Digital Camera		2 Micropipette 2-20ul		
	2 Desktop Computers and 2 UPSs	1 Projector & Screen		2 Micropipette 40-200ul		
		1 Laser Printer		2 Micropipette 100-1000ul		

Regional Cooperation Activities

(1) Dispatch of regional experts:

Epidemiology

	Main assignments/tasks	Number of experts	Recipient organizations	Duration
1	Thai Epi-team visited member countries for primary research	7	Kampongcham DVO, Sawanakhet PVO, JB-SVS, Amarapura and Pin-oo-lin townships, RAHO4	5-7 day for each person
2	AQS trainer follow-up training, (Nov 22- Dec 5, 2009)	8	DLF, DVS, LBVD, DAH	10 days each person
3	AQS trainer follow – up training in Cambodia: Sep 11-17,2010	2	DAHP	7 days
4	Thai Epi-team visited member countries to formulate epidemiology study model of each country (Dec 2009- Jan 2010)	7	Kampongcham DVO, Sawanakhet PVO, JB-SVS, Amarapura and Pin-oo-lin townships, RAHO4	5-7 days each person
5	PRRS experts visited Vietnam to formulate PRRS study project. December 13-16, 2009, Hanoi, Vietnam	2	DAH, RAHO4	4 days
6	Thai Epi team visit member countries	See the below list A.	Kampongcham DVO, Sawanakhet PVO, JB-SVS, Amarapura and Pin-oo-lin townships, RAHO4	
7	Thai diagnostic experts visit member countries	See the below list B.	DAHP, DLF, DVS, LBVD, DAH	

List A

Country	Name	Duration	Purpose
Cambodia	Dr. Patpong Lohaanukul	March 25-30, 2009	First Survey
		June 14-19, 2009	

		December 13-17, 2009	
		January 25-30, 2010	
		February 10-13, 2010	2nd Epi Workshop
		March 15-18, 2010	
		August 8-14, 2010	
		October 17-23, 2010	
Lao PDR	Dr. Sanigan Thongsawad	March 1-6, 2009	First Survey
		June 7-13, 2009	
		January 3-8, 2010	
		February 11-13, 2010	2nd Epi Workshop
		March 10-17, 2010	
		July 6-9, 2010	
		March 1-6, 2010	
		September 30- October 5, 2010	
		October 27-Octber 30, 2010	
Malaysia	Dr. Thanom Noimoh	February 23-27, 2009	First Survey
		June 7-13, 2009	
		February 10-13, 2010	2nd Epi Workshop
		March 28-30, 2010	
		May 20-24, 2010	

		July 9-10, 2010	
		September 27- October 1, 2010	
Myanmar	Dr. Wannee Nakbua	March 8-13, 2009	First Survey
		June 14-19, 2009	
		November 15-20, 2009	
		January 24-30, 2010	
		February 11-13, 2010	2nd Epi Work Shop
		February 21-25, 2010	
		May 9-14, 2010	
		August 1-4, 2010	
		October 3-9, 2010	
		December 12-17, 2010	
Thailand	Dr. Surapong Wongkasemjit	February 22-27, 2009	
		February 11-13, 2010	
		June 13-18, 2010	
PRRS	Dr. Ruttapong	July 15-18, 2009	

List B

No.	Period		Venue		Course Detail					
	Term	Days	C/P	Venue	Category	Subject	Name	Position	Office	Country
1	24-30 Jan 2010	7	MY	Central Laboratory (Yangon) Mandalay Diagnostic Laboratory , Livestock Breeding & Veterinary Department	Diaagnosis Laboratory	Follow up -Regional Training Course on Brucellosis Diagnosis	Dr. Monaya Ekgatat	Researcher	Immun-Serology Section National Institute of Animal Health, Department of Livestock Development	Thailand
2	7-13 Mar 2010	7	MY	Central Laboratory (Yangon) Mandalay Diagnostic Laboratory , Livestock Breeding & Veterinary Department	Diaagnosis Laboratory	Follow up -Regional Training Course on Brucellosis Diagnosis	1. Dr. Monaya Ekgatat 2. Dr. Reka Kanitpan	Researcher	Immun-Serology Section National Institute of Animal Health, Department of Livestock Development	Thailand
3	13-18 Jun 2010	6	MY	Central Laboratory (Yangon) Livestock Breeding & Veterinary Department	Diaagnosis Laboratory	Regional Training Course on Brucellosis Diagnosis	1. Dr. Monaya Ekgatat	Researcher	Immun-Serology Section National Institute of Animal Health, Department of Livestock Development	Thailand

							2. Dr. Surapong Wongkasemjit	Researcher	Epidemiology Laboratory National Institute of Animal Health Department of Livestock Development	
4	14-21 Nov 2010	7	LA	Virology Section National Animal Health Centre Department of Livestock and Fisheries	PRRS Diagnosis	PRRS Diagnosis	Dr. Nguyen Tung	Vice Director	Virology Section National Centre for Veterinary Diagnosis Department of Animal Health	Vietnam
5	19-25 Dec 2010	7	CA	Virology Section National Veterinary Research Institute Department of Animal Health and Production	PRRS Diagnosis	PRRS Diagnosis	Dr. Nguyen Tung	Vice Director	Virology Section National Centre for Veterinary Diagnosis Department of Animal Health	Vietnam

Diagnosis

No.	No of experts dispatched	Organization	Recipient countries	Field of assignment or Objectives	Duration
1	Ms. Tan Lin Jee	VRI (Malaysia)	NAHC, Vientiane Laos	Bacteriology	7 days (Nov 2009)
2	Mrs. Nurulaini Binti Raimy	VRI (Malaysia)	VR-Mdl, Mandalay Myanmar	Parasitology	7 days (Nov 2009)
	Mdm. Khoo Lean Looi	VRI (Malaysia)	Pathein, Myannmar	Bacteriology	7 days

					(Nov 2009)
3	Dr. Chanrawathaini Panchadcharam	VRI (Malaysia)	Na VRI, Phnom Penh Cambodia	Parasitology	7 days (Nov 2009)
4	Dr. Ainami Bt Awang	VRI (Malaysia)	NCVD, Hanoi Vietnam	Virology	6 days (Mar 2010)
			RAHO 4, Da Nang Vietnam	Virology	5 days (Mar 2010)
5	Mdm. Khoo Lean Looi	VRI (Malaysia)	NAHC, Vientiane Lao PDR	Bacteriology	7 days (Sep 2010)
	Dr. Chanrawathaini Panchadcharam	VRI (Malaysia	NAHC, Vientiane Lao PDR	Parasitlogy	13 days (Sep 2010)
6	Dr. Khairul Anuar Muhammad	VRI (Malaysia)	VDL, Yangon Myanmar	Virology	5 days (Sep 2010)
	Mdm. Ong Geok Huai	VRI (Malaysia)	VDL, Yangon Myanmar	Avian Virology	10 days (Sep 2010)
7	Mdm. Khoo Lean Looi	VRI (Malaysia)	VDL, Mandalay Myanmar	Bacteriology	7 days (Oct 2010)
	Dr. Zawida binti Zahari	VRI (Malaysia)	VDL, Mandalay, Myanmar	Parasitology	7 days (Oct 2010)
8	Dr. Maswati Mat Amin	VRI (Malaysia)	RVDL, Lampang Thailand	Pathology	5 days (Oct 2010)
			NEVRDC, Surin Thailand	Pathology	5 days (Oct 2010)
9	Ms. Syamsiah Aini Shohaimi	VRI (Malaysia)	Na VRI, Phnom Penh Cambodia	Virology	7 days (Oct 2010)
	Mdm. Tan Lin Jee	VRI (Malaysia)	Na VRI, Phnom Penh Cambodia	Bacteriology	7 days (Oct 2010)
10	Dr. Nguyen Tung	NCVD (Vietnam)	NAHC, Vientiane Lao PDR	PRRS	7 days (Nov 2010)
			Na VRI, Phnom Penh Cambodia	PRRS	7 days (Dec 2010)

(2) Training/workshops

Malaysia

No.	Title of training course/seminar	Hosted by:	Number of participants	Duration
1	Regional Study Visit on Laboratory-Based Animal Disease Surveillance	DVS (Malaysia)	16: 2 from Cambodia, 2 from Lao PDR, 2 from Myanmar, 2 from Thailand, 2 from Vietnam, 2 observers from DLD Thailand, 4 from Malaysia, 1 from RPS	12-16 Jan 2009
2	Regional Training on Diagnosis of Poultry Disease	DVS (Malaysia)	14: 2 from Cambodia, 2 from Lao PDR, 2 from Myanmar, 2 from Thailand, 2 from Vietnam, 4 from Malaysia	1-27 Feb 2009
3	Animal Disease Surveillance Training	DVS (Malaysia)	24: 2 from Cambodia, 2 from Lao PDR, 2 from Myanmar, 2 from Thailand, 2 from Vietnam, 14 from Malaysia	12-23 Oct 2009
4	Animal Quarantine Management Training	DVS (Malaysia)	10: 2 from Lao PDR, 3 from Cambodia, 2 from Vietnam, 2 from Myanmar, 1 from RPS	22-26 Nov 2010
5	2nd RJCC	DVS (Malaysia)	-	3-5 Nov 2008
	1st Central laboratory Directors' Meeting	VRI (Malaysia)	-	11-12 Jun 2010
	2nd Regional Epidemiology Study Model WS	DVS (Malaysia)	-	11-12 Feb 2010

Thailand

	Title of the program/course	Duration	Countries participated	Number of participants
	Regional Study Visit "JICA/DLD Workshop and Study	7 days	6	30

1	Visit on Animal Movement Control and Quarantine system in Thailand" Oct.12 -18, 2008			
2	Regional training course "JICA/DLD Practical Training on Animal Movement Control and Quarantine in Thailand" 18 Jan.~14Feb, 2009	30 days	5	12
3	Brucellosis diagnosis training for Myanmar, August 2-15, 2009, National Institute of Animal Health, Bangkok	14 days	1	2
4	Regional FMD study visit, May 17-21, 2010	5 days	6	20

	Title of the event	Duration	Countries participated	Number of participants
1	The First RJCC Meeting, March 16,2008	1 day	6	40
2	Initial workshop for Epidemiology Study Model 2008 Dec 8-12 Dec, 2008	5 days	6	20
3	Regional Epi workshop, July 20-21, 2010	2 days	6	20
4	Regional Workshop on Harmonizing Animal Movement System, August 18-21 ,2009, Hotel, Bangkok	4 days	6	40
5	The Second Workshop on Harmonizing Animal Movement Control System, Aug, 15-19, 2010	5 days	6	35
6	Host the Third Regional Epi workshop, Nov, 8-11, 2010, Asia Hotel, Bangkok	4 days	6	40

7	Host The Second Central Laboratory Director Meeting, 1-4 December 2010 NIAH, Bangkok	4 days	6	40
8	Host the Special RJCC Meeting and study visit to FMD free zone (Region 2), 17-20 January 2011	4 days	6	45

Vietnam

No.	Title of training course/seminar	Hosted by:	Number of participants	Duration
1	PRRS Regional Workshop and Training	DAH (Vietnam)	14: 2 from each member countries, 1 each from RAHO2, RAHO4, RAHO7 and SDAH-Lab in Ho Chi Minh	20 Sep – 2 Oct 2010
2	3rd RJCC	DAH (Vietnam)		15-18 Mar 2009

Myanmar

No.	Title of training course/seminar	Hosted by:	Number of participants	Duration
1	4th RJCC	LBVD (Myanmar)		15-18 Mar 2009

Cambodia

No.	Title of training course/seminar	Hosted by:	Number of participants	Duration
1	5th RJCC	DAHP (Cambodia)		26 – 30 January 2010

Laos

No.	Title of training course/seminar	Hosted by:	Number of participants	Duration
1	6th RJCC	DLF (Laos)		23 – 26 June 2010

List of Counterpart personel (NPD)

Position	Country	Name	Period		Official Position	Organization
			From	To		
National Project Director	Cambodia	Dr. Kao Phal	13-Feb-08	present	Director General	Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries
	Lao P.D.R.	Dr. Bounkhouang Khambounheuang	13-Feb-08	19-Aug-08	Director General	Department of Livestock and Fisheries, Ministry of Agriculture and Forestry
		Dr. Mahanakhone Souriya	20-Aug-08	Present	Deputy Director General	
	Malaysia	Dato' Dr. Ahmad Suhaimi Omar	13-Feb-08	Present	Deputy Director General	Department of Veterinary Services, Ministry of Agriculture and Agro-Based Industry
	Myanmar	Dr. Than Htun	13-Feb-08	03-Jul-08	Deputy Director General	Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
			04-Jul-08	Retired from LBVD		National Project Coordinator (2007/03/16-2008/02/15), National Project Director (2008/03/16-2009/02/14, 2009/03/01-07/31) for all Avian Influenza Program of Food and Agriculture Organization of United Nastions
			04-Jul-08	31-Jul-08	Honorable Senior Staff of LBVD	
			01-Aug-08	Present	Contracted National Project Manager	Improvement of Prevention, Control and Eradication of Highly Pathogenic Avian Influenza / Prevention and Control of Avian Influenza and Human Pandemic Influenza Phase II of Food and Agriculture Organization of United Nastions
		Dr. Aung Gyi	04-Jul-08	Present	Deputy Director General	Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
	Thailand	Dr. Sakchai Sriboonsue	13-Feb-08	02-Dec-08	Director General	Department of Livestock Development, Ministry of Agriculture and Cooperatives
			03-Dec-08	Present	Deputy Permanent Secretary	Ministry of Agriculture and Cooperatives
		Dr. Yukol Limlamthong	03-Dec-08	30-Sep-09	Director General	Department of Livestock Development, Ministry of Agriculture and Cooperatives
			01-Oct-09	30-Sep-10	Permanent Secretary	Ministry of Agriculture and Cooperatives
		Mr. Preecha Somboonprasert	01-Oct-09	Present	Director General	Department of Livestock Development, Ministry of Agriculture and Cooperatives
	Vietnam	Dr. Hoang Van Nam	13-Feb-08	31-Dec-09	Deputy Director General	Department of Animal Health, Ministry of Agriculture and Rural Development
			01-Jan-10	Present	Director General	

Annex VII

List of Counterpart personnel (NPM)

Position in Project	Country	Name	Period		Official Position	Organization
			From	To		
National Project Manager	Cambodia	Dr. Sorn San	13-Feb-08	Present	Director	National Veterinary Research Institute, Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries
	Lao P.D.R.	Dr. Bounlom Douangngeun	13-Feb-08	Present	Director	National Animal Health Center, Department of Livestock and Fisheries, Ministry of Agriculture and Forestry
	Malaysia	Dato' Dr. Mohamad Azmie Zakaria	13-Feb-08	Present	Director	Biosecurity and SPS Management Division, Department of Veterinary Services, Ministry of Agriculture and Agro-Based Industry
	Myanmar	Prof. Dr. Kyaw Sunn	13-Feb-08	Present	Director	Research and Disease Control Division, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
	Thailand	Dr. Piroj Heng-sangchai	13-Feb-08	12-Feb-09	Director	Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
			13-Feb-09	Present	Director	Regional Bureau of Animal Health and Sanitary 8th Department of Livestock Development, Ministry of Agriculture and Cooperatives
		Dr. Nirundorn Aungtragoolsuk	13-Feb-09	15-Nov-09	Director	Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
			16 Nov. 09	Present	Director	Bureau of Livestock Standards and Certification Department of Livestock Development Ministry of Agriculture and Cooperatives
		Dr. Apai Suthisung	10-Jan-10	14-Jun-10	Director	Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
			15-Jun-10	Present	Diector	Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
		Dr. Yuthana Chaisakdanugul	15-Jun-10	Present	Senior Expert (Transboundary Animal Disease)	Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
	Vietnam	Dr. Van Dang Ky	13-Feb-08	Present	Head	Epidemiology Division, Department of Animal Health, Ministry of Agriculture and Rural Development

List of Counterpart Personel (NC)

Position in the Project	Country	Name	Period		Official Position	Working Place
			From	To		
National Coordinator	Cambodia	Mr. Bun Chan	13-Feb-08	21-Sep-10	Officer	Bacteriology Unit, National Veterinary Research Institute, Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries
			22-Sep-10	Present	Master Course Student	JICA Indivisual Training Course at Obihiro University of Agriculture and Veterinary Medicine
		Mr. Holl Sinel	22-Sep-10	Present	Officer	Epidemiology Section, National Veterinary Research Institute, Department of Animal Health and Production, Ministry of Agriculture, Forestry and Fisheries
	Lao P.D.R.	Dr. Signa Kittiphone	13-Feb-08	Present	Deputy Director	Natinal Animal Health Center, Department of Livestock and Fisheries, Ministry of Agriculture and Forestry
	Malaysia	Dr. Mohd Mokhtar Bin Arshad	13-Feb-08	31-May-10	Head	Epidemiology Unit, Biosecurity and SPS Management Divison, Department of Veterinary Services, Ministry of Agriculture and Agro-Based Industry
			01-Jun-10	Retired from DVS		
			01-Jun-10	Present	Senior Fellow (Associate Professor)	Veterinary Facutly, Kelantan University
		Dr. Nazirah binti Abdullatad	01-Jun-10	Present	Staff	Epidemiology Unit, Biosecurity and SPS Management Divison, Department of Veterinary Services, Ministry of Agriculture and Agro-Based Industry
	Myanmar	Dr. Than Myint	13-Feb-08	Present	Deputy Director	Planing and Statistics Division, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
		Dr. Hnin Thidar Myint (Assistant NC)	20-Jun-08	Present	Veterinary Officer	
	Thailand	Dr. Prapas Pinyacheep	13-Feb-08	Present	Chief	Bangkok Seaport Animal Quarantine Station, Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
	Vietnam	Dr. Bui Thi Cuc	13-Feb-08	30-Apr-09	Vice Director	International and Scientific Section, Department of Animal Health, Ministry of Agriculture and Rural Development
			31-May-09	Retired from DAH		Gathering Evidence for a Transitional Strategy (GETS) for HPAI H5N1 Vaccination in Viet Nam of Food and Agriculture Organization of United Nastions
			01-Jun-09	Present	National Coordinator	
		Dr. Tran Thi Thu Phoung	01-May-09	Present	Officer	International and Scientific Section, Department of Animal Health, Ministry of Agriculture and Rural Development

Annex VII

List of Counterpart Personel (Site Manager)

Position in Project	Country	Name	Period		Official Position	Official Working Place
			From	To		
Site Manager	Cambodia	Mr. Chieng Sarith	13-Feb-08	Present	Vice Chief	Animal Health and Production Office, Department of Agriculture, Kampong Cham Province
	Lao P.D.R.	Mr. Bounthien Somthaboun	13-Feb-08	Present	Chief	Provincial Livestock and Fisheries Section, Savannakhet Province Agriculture and Fisheries Office, Ministry of Agriculture and Forestry
	Malaysia	Dr. Rahizad Bin Abd Shukor	13-Feb-08	20-Dec-09	Head	Veterinary Health Division, Johor State Department of Veterinary Services, Ministry of Agriculture and Agro-based Industry
			21-Dec-09	Present	Head	Veterinary Inspection (South zone) Veterinary Inspection Section, Johor State Department of Veterinary Services Ministry of Agriculture and Agro-based Industry
		Dr. Zulkifli bin Ahmad	21-Dec-09	Present	Head	Epidemiology and Disease Control Unit, Health Division, Johor State Department of Veterinary Services, Ministry of Agriculture and Agro-based Industry
	Myanamr	Dr. Khin Maung Than (Site Manager 1)	13-Feb-08	25-Jun-10	Head	Mandalay District LBVD Office, Mandalay Division LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
			25-Jun-10	Present	Director	Mon State LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
		Dr. Tun Kyi (Site Manager 1)	25-Jun-10	Present	Head	Mandalay District LBVD Office, Mandalay Division LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
		Dr. Kyaw Kyaw Swe (Site Manager 2)	13-Feb-08	Present	Head	Pyin Oo Lwin District LBVD Office, Mandalay Division LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
		Dr. Khin Aye Win (Site Manager 3)	13-Feb-08	Present	Head	Upper-Myanmar Regional Veterinary Diagnostic Laboratory, Mandalay Division LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
	Thailand	Dr. Kittipong Udomseth	13-Feb-08	11-May-09	Chief	Mae Hongson Animal Quarantine Station, Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
			12-May-09	Present	Chief	Chiang Mai Animal Quarantine Station Bureau of Diseae Control & Veterinary Services Department of Livstock Development
		Mr. Surachat Nidsuchud	12-May-09	Present	Chief	Mae Hongson Animal Quarantine Station, Bureau of Disease Control & Veterinary Services, Department of Livestock Development, Ministry of Agriculture and Cooperatives
	Vietnam	Tran Van Quan (Site Manager 1)	13-Feb-08	Present	Director	Regional Animal Health Office No. 4, Department of Animal Health, Ministry of Agriculture and Rural Development
		Dr. Pham Ngoc Anh (Site Manager 2)	13-Feb-08	Present	Director	Sub-Department of Animal Health, Quang Nam Province

List of Counterpart Personel (Site Coordinator)

Position in Project	Country	Name	Period		Official Position	Official Working Place
			From	To		
Provincial Coordinator	Cambodia	Mr. Heng Binyik	13-Feb-08	Present	Director	Department of Agriculture, Kampong Cham Province
District Coordinator / Site Coordinator	Malaysia	Mr. Khairi Bin Suradi	13-Feb-08	14-Jan-10	Head	Pontian District Veterinary Office, Johor State Department of Veterinary Services, Ministry of Agriculture and Agro-based Industry
			15-Jan-10	Present	Head	Kluang District Veterinary Office, Johor State Department of Veterinary Services, Ministry of Agriculture and Agro-based Industry
		Mr. Borhan Bin Alias	15-Jan-10	Present	Head	Pontian District Veterinary Office, Johor State Department of Veterinary Services, Ministry of Agriculture and Agro-based Industry
	Myanamr	Dr. Kay Thi Lwin (Site Coordinator 1)	13-Feb-08	Present	Head	Pyin Oo Lwin Township LBVD Office, Mandalay Division LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
		Dr. Thu Zar Myint (Site Coordinator 2)	13-Feb-08	Present	Head	Amarapura Township LBVD Office, Mandalay Division LBVD Office, Livestock Breeding and Veterinary Department, Ministry of Livestock and Fisheries
	Vietnam	Dr. Ho Kim Chi (Site Coordinator 1)	13-Feb-08	Present	Staff	Thang Binh District Veterinary Station, Sub-Department of Animal Health, Quang Nam Province
		Dr. Le Dac Phu (Site Coordinator 2)	13-Feb-08	Present	Head	Nam Giang District Veterinary Station, Sub-Department of Animal Health, Quang Nam Province

Summary of progress and achievements (Cambodia)

	Indicators	Target groups	Achieved	Goal	Remarks
1-1	Number of standard diagnostic methods improved or newly adopted at related animal health organizations	Field: VAHW	0	0	- Provincial Laboratory is capable to perform basic parasitological examination: Feces-egg test is conducted with floatation technique, Sedimentation technique and Mc master technique. - For bacteriological examination, 2 Lab staff members were trained in NaVRI then NaVRI staff and Japanese expert provided training to provincial laboratory on taking blood sample for pasteurella multocida culture. - NaVRI has been capable to perform several diagnosis including parasitology, bacteriology serology and so on. - The Project further strengthened parasitological diagnosis by dispatching a NaVRI staff to joining a training course on laboratory-based surveillance focusing upon parasitology in Malaysia. - Feedback of the Epidemiology study model will be held on 22nd Dec, 2010.
		Province/District : DAHPO, PAHPO, AQS	4	2	
		Central : NaVRI	12	1	
1-2	Number of technicians at related animal health organizations, who take part in the training course	Field: VAHW	87	176	- 87 Village AHWs out of 176 VAHWs of Prey Chhor District were trained. 37 VAHWs trained on animal disease reporting and sample collection method in PAHPO office in 2 groups for 2 days each during 26-29 Jan 2009, and the rest of 50 VAHWs were trained in 2 groups for 2 days each during 22-25 June 2009. - The topics covered by the training course were: 1. Clinical diagnosis of transmitted diseases, 2. Method of blood sample collection from chicken, duck and pig, 3 information collection on animal disease, 4 reporting, and some discussion on vaccinations and treatment of disease. - Training materials for VAHWs were compiled and kept in Central.
		Province/District : DAHPO, PAHPO, AQS	27	23	- 9 PAHPO officers and 9 DAHPO officers were jointly trained on Major animal diseases, animal reporting and sample collection in 22-23 Jan 2009. - 2 staff members of the provincial laboratory in PAHPO Kampong Cham Province were trained in 2 topics: parasitological and bacteriological examinations in NaVRI twice in 10-27 Feb and 15-27 Jun 2009. - 3 AQS staff working in Cambodia-Vietnam border attended the training on 'TOT training on Major Diseases, information and reporting skills course' conducted in Jan – Feb 2009 in Thailand.

					- 3 AQS staffs in Animal Health Office, DAHP attended the training on "Animal Quarantine Management" on 21-28 Nov, 2010 in Malaysia. - 1 Staff (DAHP) attended JICA-DLD Study visit on FMD prevention and control on 18-23 July, 2010 in Thailand. - AQS training has been conducted on 14-17 September, 2010. It was the first nation-wide AQS training in Cambodia, and 49 staffs of the PAHPO from 24 provinces participated. The project supported to invite 2 Thai Regional experts as lecturers. The training includes the observation tour to Siem Reap, the importance of animal disease control as well as the necessity of strengthening animal quarantine are recognized by the participants.
		Central : NaVRI	7	4	- At NaVRI, 2 laboratory staff members went to the regional study visit on laboratory-based animal disease surveillance course in Jan 2009 in Malaysia. - Also 2 staff members joined the regional training course on poultry disease Diagnosis in Feb 2009 in Malaysia. - 2 NaVRI staffs (Pathology, Serology) attended JICA-DAH workshop and training on PRRS on 26 Sep – 2 Oct, 2010 in Hanoi, Vietnam. - 1 Staff (NaVRI) attended JICA-DLD Study visit on FMD prevention and control on 18-23 July, 2010 in Thailand.
1-3	Number of standard diagnostic methods improved or newly adopted at animal quarantine points	Field: VAHW (Animal Quarantine Officer) Province/District : DAHPO, PAHPO, AQS Central : NaVRI	1	1	- The animal quarantine point at a Cambodia-Vietnam border operated by the officers from both central and provincial level, check the necessary documents of good imported from Vietnam including certificate of vaccinations. The animal quarantine officers observe the animals to check the sign of diseases. If necessary the officers took physical examinations using gloves and masks.
1-4	Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic	Field: VAHW	Not counted	?	- The VAHWs in pilot site purchase necessary medicines and vaccinations from private shops and provide vaccinations and treatment of animal diseases according to the request of farmers. - The numbers of provided services were not counted. The VAHWs provide technical advice and diagnostic services on regular basis.
		Province/District : DAHPO, PAHPO, AQS	Not counted	?	- Provincial officers provide advices and diagnosis to farmers in collaboration with District staff. But the numbers of service provided have not been counted. The provision of service depends upon the availability of allowances and travel costs that usually

	services				provided by donor agencies. Except for emergency cases, no service would be provided without necessary funding due to lack of the Government budget allocation. - District officers in pilot site have monthly meetings where the animal disease information is reported by VAHWs. District officers visit the villages according to the necessity. The number of vaccinations and treatment of disease are recorded in a designated format. However, the number of services provided by the district officers in pilot site was not counted.
		Central : NaVRI	N/A	N/A	Occasional animal disease diagnosis as a part of surveillance has been provided.
1-5	Number of diagnostic reagents newly produced or utilized at field, local and central level	Field: AHW	N/A	N/A	Not applicable
		Province/District : DAHPO, PAHPO, AQS	N/A	N/A	
		Central : NaVRI	N/A	N/A	
2-1	Establishment of the appropriate information network system connecting field, local, and central level in each member country	Field: VAHW	-	-	- There is a designated format that is mostly used nationwide. Apart from the regular reporting system, the VAHWs and villagers use animal disease hotline that is connected to NaVRI in some cases. In such cases, District officers were not reported about the disease outbreak. Also VAHWs and villagers report to village chiefs to communicate with other authority concerned to take necessary actions. An emergency announcement of disease outbreak is done for HPAI cases only. - At the occurrence of animal disease, necessary information and reports have been prepared by DAHPO staff also conduct passive surveillance. Passive surveillance is conducted in the pilot province of Kampong Cham, in which Provincial officers are actively involved. The results of surveillance were reported from DAHPO to PAHPO, then to Department of Animal Health and Production (DAHP) in the Ministry of Forestry and Fisheries (MAFF). - For the animal disease reporting system in the central level, NaVRI is only in charge of HPAI reporting system including HPAI Hotline. While Animal Health Office under DAHP. AHO under DAHP is in charge of the reporting system of the other major

		Province/District : DAHPO, PAHPO, AQS			- animal diseases such as FMD, CSF, HS and so on. - Provincial officers have monthly meeting with district officers to discuss on animal diseases, reporting on animal diseases, disease reporting. - District officers in pilot site have monthly meeting with VAHWs to discuss on animal disease information, number of animal vaccination and treatment of diseases. - Monthly and daily reports exist in each of village, district, province and central level. The FMD format was formulated by FAO/EU and will be introduced to Kampong Cham Province as one of the 4 target provinces.
		Central : NaVRI			
2-2	Number of newly trained personnel in charge of work related to information of animal disease control	Field: VAHW	87	176	- 37 VAHWs trained on animal disease reporting and sample collection method in 2 groups for 2 days each during 26-29 Jan 2009, and the rest of 50 VAHWs were trained in 2 groups for 2 days each during 22-25 June 2009. The animal disease reporting and sample collections are new to the most of trainees.
		Province/District : DAHPO, PAHPO, AQS	21	21	- 9 PAHPO officers and 9 DAHPO officers were jointly trained on Major animal diseases, animal reporting and sample collection in 22-23 Jan 2009. - 3 AQS staff working in Cambodia-Vietnam border attended the training on 'TOT training on Major Diseases, information and reporting skills course' conducted in Jan – Feb 2009 in Thailand.
		Central : NaVRI	0	0	- No training will be conducted for NaVRI staff members for mostly of them already have sufficient knowledge about animal disease reporting. -

2-3	Number of data on the animal diseases of collected in the pilot site through passive and active surveillance	Field: VAHW	13	3	- Data from passive surveillance: 12 diseases were identified such as FMD, HS, HPAI, ND, Fowl Cholera, Fowl pox, Parasite of cattle, Blackleg, PRRS, CSF, Salmonella, Erysupelas. - Data from active surveillance : 1 - The Cambodian C/Ps in Kampong Cham Province conducts passive surveillance whenever necessary by in Province and Districts. - Through supporting from JICA –ADC 2 Epidemiological studies of endo-parasitic disease of cattle in Prey Chhor district were conducted to collect fecal samples of cattle and collect information from farmers in 26 villages out of 176 villages from July 2010 to Dec 2010.
		Province/District : DAHPO, PAHPO, AQS		3	
		Central : NaVRI	3	3	
3-1	Number of regional workshops held among member countries	Field: VAHW Province/District : DAHPO, PAHPO, AQS Central : NaVRI	7	3	- 2 staff members of EPI attended Regional Epidemiology Study Model Workshop in Thailand, 19 - 22 Jul 2009. - 5th RJCC hosted by Cambodia was organized, 23-26 Jan, 2010. - 2 staff members of EPI (NavRI, Kampong Cham Lab) attended 2nd Regional Epidemiology Study Model Workshop in Malaysia, 10 - 13 Feb, 2010. - 2 members (DG and NC) attended 6 th RJCC meeting on 24-24 June, 2010 in Lao PDR. - 2 members attended 1st Central Laboratory Director Meeting on 11-14 July, 2010 in Malaysia. - 2 staff members of EPI (NavRI, Kampong cham Lab) attended 3rd Regional Epidemiology Study Model Workshop in Bangkok, 8 - 11 Nov, 2010. - 1 Director of NaVRI attended 2nd Central Laboratory Director Meeting on 1-4 Dec, 2010 in Thailand.
3-2	Number of trainings and study tours set up at regional level	Field: VAHW Province/District : DAHPO, PAHPO, AQS Central : NaVRI	7	?	The following number of officers attended the following activities: - 3 AQS staff working in Cambodia-Vietnam border attended the training course on 'TOT training on Major Diseases, information and reporting skills course' in Thailand, 18 Jan-14 Feb 2009. - 2 officers attended the regional study visit on Lab-based Animal Disease Surveillance in Malaysia, 11-17 Jan 2009. - 2 officers attended the regional training course on Poultry Disease Diagnostic in Malaysia, 1-28 Feb 2009. - 2 staff attended the regional WS on Animal Movement Control Harmonization in Thailand, 17-21 Aug 2009. - 2 Staffs (NaVRI and DAHP) attended JICA-DLD Study visit on FMD prevention and

					control on 18-23 July, 2010 in Thailand. - 2 NaVRI staffs attended JICA-DAH workshop and training on PRRS on 26 Sep – 2 Oct, 2010 in Hanoi, Vietnam. - 3 AQS staffs in Animal Health Office, DAHP attended the training on "Animal Quarantine Management" on 21-28 Nov, 2010 in Malaysia.
3-3	Number of regional experts exchanged among member countries	Field: AHW Province/District : DAHPO, PAHPO, AQS Central : NaVRI	8	4	- 1 Thai EPI expert conducted a preliminary surveillance in pilot site (Prey Chhor District) in Jan and Jun 2009 before conducting EPI surveillance. - 1 Japanese expert also joined the EPI term and gave consultation in Cambodia. - 1 Thai Epi expert joined epi-survey in pilot site. - 1 Japanese expert trained NaVRI and provincial laboratory staffs on bacteriology on July 26 –Sep 23, 2010. - 2 Malaysian experts (one from bacteriology and other one from serology) provided follow up to NaVRI staffs on isolation technique , RNA extraction and RT-PCR ND comment detection on 18-22 Oct,2010. - 1 Japanese short-term expert provided technical guideline to virology staffs to strengthen lab network in virology diagnosis on 14-27 Nov,2010. - 1 Vietnam Regional expert plans to come to follow up of training on PRRS diagnose and to strengthen in Lab network in the region, 19-25 Dec, 2010.
3-4	Frequency of information sharing on animal diseases among member countries	Field: AHW Province/District : DAHPO, PAHPO, AQS Central : NaVRI	0	0	- Information sharing among member counties has been done at the RJCC meetings and the other regional workshops. - Other than the RJCC, animal disease information is reported regularly through information network: OIE supported WAHIS and ASEAN's RAHIS. - For Thailand and Vietnam, information has been shared with the occurrence of animal disease according to the bilateral agreements (The regular communication with Thailand is not performed). The AQS in Cambodia-Vietnam border have frequent meetings with Vietnamese counterpart on the other hand side of the border.
3-5	Number of joint activities implemented and frequency of information sharing	Field: AHW Province/District : DAHPO, PAHPO, AQS Central : NaVRI	0	?	No joint activity has been conducted at the organizational level.

	Other expected outputs				Training materials and/or manuals on: - Principle of the bacteriological examinations (by NaVRI trainers) - Principle of the parasitological examinations (by NaVRI trainers) - Handouts on animal health and disease information and reporting system
	Other issues and areas of concern	- It is recommended that the DAHP and the PAHPO find resources to support to maintain and utilize the lab in Kampong Cham province. - To collect samples, strengthening the capacity of VAHWs and promoting raising awareness activities to farmers should be encouraged.			

Reporting system chart

Line of Reporting	Type of Report
VAHW to DAHPO	- Monthly meeting and report Contents: information about the date and the place of animal died, number of animal infected by diseases by type of animals, number of animals in the village, etc. - The format 'case history of animal disease' (made at the occurrence of disease) was given to VAHWs in pilot site, but not utilized.
DAHPO to PAHPO	- Monthly meeting and report - Disease Report (The result of passive surveillance at the occurrence of disease) ※ 'case history of animal disease' was not used in the pilot district of Prey Chhor. For reporting occurrence of diseases is summarized by monthly basis in a table. But the result of passive surveillance at the occurrence of disease including information about the date and the place of animal died, number of animals in the village, etc)
PAHPO to DAHP	- Monthly reports - Disease Report (The result of passive surveillance at the occurrence of disease) Contents: Summary of DAHPO's report or PAHPO officers conduct passive surveillance.

Summary of progress and achievements (Laos)

	Indicators	Target groups	Achieved	Goal	Remarks
1-1	Number of standard diagnostic methods improved or newly adopted at related animal health organizations	Field: VVW	0	0	- The provincial laboratory is capable of performing bacteriological and parasitological examinations including Fasiola, Balantidium, toxocara, coccidium, Ecoli, Salmonella, Staphylococcus and Anthrax. - NAHC is capable of performing 2 diagnosis on: bacteriology and parasitology including bacteriological examinations with PCR, culture.
		Province/District: PAFO and Provincial Laboratory, DAFO (SVK)	2	2	
		Central: NAHC	2	2	
1-2	Number of technicians at related animal health organizations, who take part in the training course	Field: VVW	121	162	- DAFO of Songkhone and Kaison Phomvihan Districts have sensitized a total of 121 VVWs by organizing a training for each of 2 districts. - The training course on Animal Health Care for 21 VVWs of Kaison Phomvihan and 22 VVWs of Songkhone District were conducted from 3-6 Mar 2009. - 20 VVWs participated in EPI training on 23-25 March, 2010. - 28 VVWs of Kaison Phomvihan district and 30 VVWs of Songkhone district participated in training course of animal health care, on 26-29 Oct, 2010.
		Province/District: PAFO and Provincial Laboratory, DAFO (SVK)	33	40	- 4 from PAFO and 12 DAFO staff (6 out of 12 from Songkhone, 6 out of 7 from Kaisone Phomvihan) from Savannakhet and 2 Epidemiology staff attended the training on 'TOT training on Major Diseases, information and reporting skills course'. The training was conducted in PAFO Savannakhet from 9 – 11 Dec 2008. - 4 provincial lab staff members were trained the training course on Bacteriology and Parasitology examinations (2 participants for 2 times of training) conducted by NAHC in Vientiane in Feb 2009 and Oct 2009. - 4 staffs of SVK-lab were trained by 2 staff of NAHC as on-site training, on 3-21 Jan, 2010. - 9 staffs participated in EPI training on 23-25 March, 2010.
		Central: NAHC	26	3	- 2 officers attended Regional Study tour on AQS in Thailand, 12-19 Oct, 2008. - 3 officers attended Regional Training Course of animal movement control in Thailand, 18 Jan-14 Feb, 2009. - 2 officers attended Regional Study tour on Lab-based Surveillance in Malaysia, 11-17 Jan, 2009. - 2 officers attended Regional Training course on poultry diagnostic in Malaysia, 1-28 Feb, 2009.

					- 2 officers attended Workshop on animal movement harmonization, 17-21 Aug, 2009. - 2officers attended a Study visit on AQS on 21 Feb-5 March, 2010. - 2 officers attended JICA/DLD study visit on animal movement control and Quarantine system, July, 2010. - 2 officers attended first central laboratory directors' meeting on 12-13 July, 2010. - 2 officers attended second central laboratory directors' meeting on 2-3 December, 2010. - 2 officers attended Regional Training Course on Quarantine management in Malaysia on 21-27 Nov, 2010. - Short-term experts (Bacteriological, Virological and Parasitological Diagnosis) from Japan and Malaysia conducted Training course at NAHC-lab on September to October, 2010. 5 staffs (3 from NAHC and 2 from SVK lab) participated.
1-3	Number of standard diagnostic methods improved or newly adopted at animal quarantine points	Field: VVW Province/District: PAFO, DAFO (SVK) Central: NAHC	1	1	- Animal quarantine point at the 2nd international bridge (Lao-Thai border), physical examination is utilized. -
1-4	Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic services	Field: VVW Province/District: PAFO, DAFO (SVK) Central: NAHC	Not counted Not counted N/A	? ? N/A	- There is 1 VVW/village in the most of the 162 target villages of 2 Districts. Those VVWs provide frequent services such as vaccinations and provision of medicines. However, the VVWs trained by the project did not count the number of services they have provided to farmers. - District officers say, according the interview with the Team, they contact with VVWs and farmers on demand basis except for emergency cases such as animal disease outbreak. Provincial officers' visit to the village level is mostly for emergency actions at the time of animal disease outbreak according to the interviews with the Team. - Total 2000 pcs of posters for good vaccination, HS and FMD were printed and distributed to the VVW in the pilot site. - Feedbacks of the epidemiological study have been conducted on 27 and 29 October,2010. Representatives from 18 target villages and NAHC, PAFO, PAFO-lab and DAFO participated.
1-5	Number of diagnostic reagents newly produced or utilized at field, local and central level	Field: VVW Province/District: PAFO, DAFO (SVK) Central: NAHC	N/A N/A N/A	N/A N/A N/A	- Biochemical profile tests "API", such as pasteurella, enteric bacteria, Gram-negative rods was provided to the PAFO lab. - In addition, Ascoli Test reagents for Bacillus anthracis was introduced by the short-term expert. Also, PCR primer for pasteurella and PCR primer for bacillus anthracis were

					introduced.
2-1	Establishment of the appropriate information network system connecting field, local, and central level in each member country	Field: VVW	-	-	<Report system> - There is an existing animal health information system connecting field, local and central level, according to the Veterinary Law (1997). Animal health related information including several major diseases are sent along with a line of reporting from VVWs to DAFO, then DAFO to Division of Livestock and Fisheries of PAFO, then PAFO to Department of Livestock and Fisheries in central level. However, information line of reporting from village leader to District governor, then District governor to Provincial governor is also working. There are two lines of information. - There is no designated format for report. However, 2 target districts and PAFO Savannakhet used the same contents in every report. - Passive surveillance is installed as a part of this reporting system in the pilot districts of Kaison Phomvihan and Songkhone. At the occurrence of animal disease, necessary information and reports have been prepared by DAFO staff with the assistance of VVWs and village authority, and sent to PAFO. <Epidemiological Study> - 29 participated in 3-day Epidemiological study workshop from PAFO, PAFO-lab, DAFO and VVWs on 23-25 March, 2010. - 22 from DAFO and VVWs participated in the meeting for Epidemiological study, on 28-29 April, 2010. - Japanese and Thai experts were dispatched twice in Feb and June, 2009 to support to conduct active surveillance. - Feedbacks of the epidemiological study have been conducted twice, and NAHC, PAFO, PAFO-lab and DAFO participated.

		Province/District: PAFO, DAFO (SVK)			
		Central: NAHC			
2-2	Number of newly trained personnel in charge of work related to information of animal disease control	Field: VVW	121	162	- 4 staff members from PAFO, 6 each from 2 pilot districts (total 12), and 2 from Epidemiology Unit participated in the TOT training on Major Diseases, information and reporting skills in Savannakhet in Dec 2008. - 43 VVWs in the training course on Animal Health Care in Mar 2009 learnt the disease reporting and information system also. - 29 participated in 3-day Epidemiological study workshop from PAFO, PAFO-lab, DAFO and VVWs on 23-25 March, 2010. - 22 from DAFO and VVWs participated in the meeting for Epidemiological study, on 28-29 April, 2010. - 28 VVWs of Kaison Phomvihan district and 30 VVWs of Songkhone district participated in training course of animal health care, on 26-29 Oct, 2010. - Japanese and Thai experts were dispatched twice in Feb and June, 2009 to support to conduct active surveillance. - Feedbacks of the epidemiological study have been conducted twice, and NAHC, PAFO, PAFO-lab and DAFO participated.
		Province/District: PAFO, DAFO (SVK)	31	40	
		Central: NAHC	21	6	
2-3	Number of data on the animal diseases of collected in the pilot site through passive and active surveillance	Field: VVW	2	1	- Through supporting from JICA –ADC 2 Epidemiological studies of endo-parasitic disease of cattle in Kaison Phomvihan district and Songkhone district were conducted to collect fecal samples of cattle and collect information from farmers in 20 villages out of 162 villages.
		Province/District: PAFO, DAFO (SVK)		1	
		Central: NAHC		1	
3-1	Number of regional workshops held among member countries	Field: VVW	-	-	<Lab Network> - 2 officers attended the Director of Central Lab meeting in Malaysia, 11-14 Jul 2010. - 2 officers attended the Director of Central Lab meeting in Thailand, 1-4 Dec 2010. <Epidemiology Study Model> - 2 Regional Epidemiology Study Model Workshop in Thailand, 19 - 22 Jul 2009 - 2 officers attended the 2nd Epidemiology Study Model Workshop in Malaysia, 10-13 Feb 2010. - 2 officers attended the 3rd Epidemiology Study Model Workshop in Thailand, 8-13 Nov, 2010. <Animal Movement Harmonization> - 2 officers attended the workshop on Animal Movement Harmonization in Thailand, 17-21 Aug 2009.
		Province/District: PAFO, DAFO (SVK)			
		Central: NAHC			

					- 2 staff members attended 2nd Workshop on Animal Movement Harmonization in Thailand, 15-18 Aug, 2010.
3-2	Number of trainings and study tours set up at regional level	Field: VVW Province/District: PAFO, DAFO (SVK) Central: NAHC	-	-	The following number of officers attended the following activities: - 2 officers attended the training course on animal quarantine in Thailand, 12-19 Oct 2008. - 3 officers attended the training course on Animal Movement Control in Thailand, 18 Jan-14 Feb 2009. - 2 officers attended the training course on Lab-based Surveillance in Malaysia, 11-17 Jan 2009. - 2 officers attended the training course on poultry disease diagnostic in Malaysia, 1-28 Feb 2009. - 2 officers attended the training course on Surveillance in Malaysia, 2 weeks in Oct/Nov 2009. - 2 officers attended the Regional study tour on FMD prevention and control in Thailand, 18-23 Jul, 2010. - 2 officers attended the Regional training course on PRRS diagnosis in Vietnam, 4-8 Oct, 2010. - 2 officers attended the Regional training course on AQS in Malaysia, 21-27 Nov, 2010
3-3	Number of regional experts exchanged among member countries	Field: VVW Province/District: PAFO, DAFO (SVK) Central: NAHC	- - -	- - -	- Thai experts: 3 persons on quarantine stations for on-the-job training on AQS. 1 more Thai expert on EPI study model was dispatched 2 times in Feb and Jun 2008. Also 1 time in Jan 2010 for discussion of the implementation plan. - Malaysian expert: 2 persons on virology and bacteriology for a follow-up training for NHAC staff. - Short-term experts (Bacteriological, Virological and Parasitological Diagnosis) from Japan and Malaysia conducted Training course at NAHC-lab on September to October, 2010.
3-4	Frequency of information sharing on animal diseases among member countries	Field: VVW Province/District: PAFO, DAFO (SVK) Central: NAHC	- - 6	- - 6	- Information sharing among member counties has been done at the RJCC meetings. The RJCC has been organized 6 times, and Laos organized 6th RJCC in June, 2010.
3-5	Number of joint activities implemented and frequency of	Field: VVW Province/District: PAFO, DAFO (SVK)	- -	- -	No joint activity has been conducted at the organizational level. - Through the workshops on animal movement control, "Joint statement" for a guideline among countries were agreed and signed by the member countries.

	information sharing	Central: NAHC	0	0	-
	Other expected outputs				NAHC's existing training materials and/or manuals on: - Basic techniques for the bacteriological examinations - Basic techniques for the parasitological examinations - Animal health manual (For PAFO and DAFO) - Animal health manual (For VVWs) The posters (2000 posters) on good vaccination practice, FMD and HS for farmers.
	Other issues and areas of concern	- JICA Senior Volunteer is dispatched in January, 2011. It is expected that the achievements of the Project will be sustained and utilized with cooperation of volunteer. - It is recommended that the DLF and the PAFO continue to find ways to sustain and utilize the lab in Savannakhet. Collaboration health sector and private sector is encouraged.			

Reporting system

Line of Reporting	Type of Report
VVW to DAFO	- Monthly (Some areas only have quarterly report.) - Disease Report (made at the occurrence of disease) Contents: information about the date and the place of animal died, number of animals in the village, etc
DAFO to PAFO (Division of Livestock and Fisheries)	- Weekly and monthly reports (Songkhone and Kaison Phomvihan Districts) - Disease Report (Passive surveillance at the occurrence of disease) Contents: information about the date and place of the outbreak, number of livestock died and animals susceptible to the disease in the village, etc
PAFO to Department of Livestock and Fisheries (Central)	- Weekly and monthly reports - Disease Report (Passive surveillance at the occurrence of disease) Contents: Same as DAFO's report

Summary of progress and achievements (Malaysia)

Indicators		Target groups	Goal	Progress as of mid-term evaluation (~Jan 2010)		Progress made after the mid-term evaluation	Total
1-1	Number of standard diagnostic methods improved or newly adopted at related animal health organizations	Field:	-	-	-	-	-
		State/District:	-		-		-
		Central: DVS, RVL-JB	5	RVL-JB is capable of performing EEI, PCR, PA, HI, GMT. For PCR, RVL-JB does not need to send samples to VRI. Total: 5 methods ・ EEI (Embryonated Egg Inoculation) for ND ・ PA (Plate Agglutination) for ND ・ HI (Haemaglutination Inhibition) Test for ND ・ PCR for ND ・ Calculating GMT (Geometric Mean Titer) for ND RVL-JB examined serums during Jan. - Sept. in 2008, the number of which was 6,701. The number has been increased in 2009.	5	Total: 2 methods ・ CK (Chicken Kidney) culture technique for ND & other Avian viral diseases (Reovirus, Adino Associated Virus) ・ HA Test The number of serum samples and cloacal swabs examined in September 2009 – October 2010 were 1,981 each for serum samples and cloacal swabs.	7
1-2	Number of technicians at related animal health organizations, who take part in the training course (attendants/trainees)	Field: farmers, producers	202	In the project site, there are 49 registered, commercial poultry producers. (42 broiler farms producing 3.2 million chickens, 1 silky chicken breeder, 1 layer farm). Also, there are 120 village chicken farmers, producing 3,000 chickens. Total: 268 attendants ・ Launching of ND control program (22 Jul 2008) 200 ・ Meeting with village head and owner of commecial farms (23 Oct 2008) 68 SVS and DVO organized 3 meetings on control of ND and sensitized a total of 68 farmers. By the end of the Project duration, they intend to cover all the producers and farmers. The registered producers must report ND to DVO/SVS.	268	DVO, SVS, DVS Headquarters and JICA ADC2 organized a meeting on briefing and reportback on Achievement of Newcastle Disease Control in Subdistrict Pengkalan Raja and Jeram Batu (Feedback to Farmers) with a total of 28 village chicken farmers and commercial poultry producers. The number of attendees was less due to heavy rain during the meeting causing difficulty for them to attend the meeting. Total: 28 attendants ・ Feedback to Farmers on the Malaysia Epidemiology Study in Pengkalan Raja & Jeram Batu, following the conclusion of Epidemiology Model WS (23 Nov 2010) 28	296
		State/District: SVS/DVO	11	Total: 49 trainees <u>In-Country</u> 43 ・ Workshop on ND surveillance, standardized procedures on field investigation, public awareness (15-17 Dec 2008) 7 from SVS, 4 from DVO ・ Short-term expert on ND, Dr.Takuya Nakayama (25 May – 12 Jun 2009) 10	49	Total: 16 trainees <u>In-Country</u> 12 ・ Training on Avian Disease Information System (27-28 Jul 2010) 9 from S-DVS and 3 from DVO attended with 1 trainer from CQ Tech. Sdn. Bhd.	65

				• Field Survey in Pengkalan Raja & Jeram Batu by Epidemiology Experts, Dr.Sota Kobayashi & Dr. Thanom Noimoh (10-12 Jun 2009) 10 • Meeting on ND Epidemiology Study Model in Pengkalan Raja & Jeram Batu (21-22 Dec 2009) 12 Regional 4 • JICA/DLD Study Visit on Animal Movement Control and Quarantine System (Thailand, 12-18 Oct 2008) 1 from SVS • JICA/DLD Practical Training on Animal Movement Control and Quarantine (Thailand, 19 Jan - 13 Feb 2009) 1 from DVO Batu Pahat, 1 from Animal Quarantine Rantau Panjang • 1st Regional Epidemiology Study Model Workshop (Bangkok, 20-21 Jul 2009) 1 from SVS Others 2 • Received trainers for AQS Training Trainees (30 Nov - 4 Dec 2009) 2		Regional 4 • 2nd Regional Epidemiology Study Model Workshop (Kuala Lumpur, 11-12 Feb 2010) 1 from SVS • JICA/DLD Study Visit on Animal Movement Control and Quarantine System (Thailand, Jul 2010) 1 from DVO Kluang, 1 from SVS Kelantan • 3rd Regional Epidemiology Study Model Workshop (Bangkok, 8-11 Nov 2010) 1 from SVS	
		Central: DVS, RVL-JB,VRI	2	RVL-JB has 16 staff member (4 veterinary officers, 3 assistant science officers, 6 technicians, 3 workers). At RVL-JB, 2 technicians perform testing of ND, supervised by a veterinary officer. Also, 2 assistant science officers were trained on ND diagnosis at VRI and their knowledge on PCR strangthened. Total: 15 Trainees In country 10 • Study on capability of RVL Johor Bahru to diagnose ND & other viral disease (Sep 2008) 5 • Training for 2 RVL-JB assistant science officers at VRI on ND PCR, egg inoculatoin, pathogenicty of ND isolate by PCR (15-24 Nov 2008) 2 • Short-Term Expert on ND (Dr. Takuya Nakayama) on HI test and calculating GMT for ND (15 Jun-10 Jul 2009) 3 Regional 4 • JICA/DLD Study Visit on Animal Movement Control and	15	Total: 36 Trainees In country 25 • Training on Avian Disease Information System (27-28 Jul 2010) 6 from RVL-JB trained with 1 trainer from CQ Tech. Sdn. Bhd. • Short-term expert on ND, Dr. Tadao Imada, at RVL-JB on CK Culture and HA Test for ND and other avian diseases (21 Sep - 16 Nov 2010) 1 veterinary officer, 1 laboratory assistant and 1 science assistant trained. • Seminar on Inter-Laboratory Networking and ND diagnosis hosted by RVL-JB (2 Nov 2010) 28 trainees from other RVL, Dr Imada.and 16 staff of RVL-JB. Regional 9 • 2nd Regional Epidemiology Study Model Workshop (Kuala Lumpur, 11-12 Feb 2010) 1 from RVL-JB, 1 from RVL Petaling Jaya, 1	51

				Quarantine System (Thailand, 12-18 Oct 2008) 1 from DVS • 1st Regional Epidemiology Study Model Workshop (Bangkok, 20-21 Jul 2009) 1 from DVS • 1st Regional Workshop on Harmonizing Animal Movement System (Bangkok, 17 - 21 Aug 2009) 2 from DVS Others 1 • Counterpart Training on Current Animal Disease Control (Japan, 10-15 Oct 2008) 1		from VRI, 3 from DVS • JICA/DAH Regional Workshop and Training on Diagnosis at Hanoi, Vietnam (26 Sep -2 Oct 2010) 1 from RVL Bukit Tengah, 1 from RVL Petaling Jaya • 3rd Regional Epidemiology Study Model Workshop (Bangkok, 8-11 Nov 2010) 1 from DVS Others 2 • Counterpart Training on Animal Disease Control and Laboratory Network, Yokohama City, Sapporo (21 Feb - 5 Mar 2010) 1 from VRI • Counterpart Training on Animal Quarantine System (Japan, 21 Feb - 5 Mar 2010) 1 from DVS	
1-3	Number of standard diagnostic methods improved or newly adopted at animal quarantine points	Field: State/District: Central:	-	N/A	-	N/A	-
1-4	Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic services (the number of vet service or diagnosis service to farmers)	Field: State/District: SVS/DVO Central: DVS, RVL-JB	20	There are 12 Assistant science officers (4 in SVS and 8 in DVO) in the project site. They routinely visit the villages 8 times a year and provide technical guidance on how to identify ND's clinical signs, give vaccine, and report to DVO/SVS as well as animal health management guidance to the farmers. Total: 12 events In-country • Workshop on ND Surveillance, Feild Investigation, Public Awareness (15-17 Dec 2008) 14 • Short-temr expert on ND, Dr.Takuya Nakayama (25 May - 12 Jun 2009) 10 • Field Survey in Pengkalan Raja & Jeram Batu by Epidemiology Experts, Dr.Sota Kobayashi & Dr.Thanom Noimoh (10-12 Jun 2009) 10 • Meeting on ND Epidemiology Study Model in Pengkalan Raja & Jeram Batu (21-22 Dec 2009) 12. • Vaccination Program i) 9 - 12 Sep 2008	12	Total: 9 events In-country • Short-term expert on ND, Dr.Tadao Imada (21 Sep - 16 Nov 2010) • Vaccination Program v) 19 Feb - 5 Mar 2010 vi) 4 - 19 May 2010 vii) 2 - 3 Aug 2010 viii) 9 - 10 Nov 2010 • Sampling Program (Active Surveillance in the project) v) 5 - 19 Mar 2010 vi) 18 May - 2 Jun 2010 vii) 16 - 17 Aug 2010 viii) 24 - 25 Nov 2010	21

				ii) 23 - 25 Feb 2009 iii) 25 - 28 May 2009 iv) 8 - 18 Sep 2009 ・ Sampling Program (Active Surveillance in the project) i) 23 Sep - 6 Oct 2009 ii) 9 - 11 Mar 2009 iii) 8 -11 Jun 2009 iv) 22 Sep - 2 Oct 2009			
1-5	Number of diagnostic reagents newly produced or utilized at field, local and central level	Field: State/District: Central:	-	N/A	-	N/A	-

Indicators		Target groups	Goal	Progress as of mid-term evaluation (Feb 2008~Jan 2010)		Progress made after the mid-term evaluation	Total
2-1	Establishment of the appropriate information network system connecting field, local, and central level in each member country	Field: farmers, producers State/District: SVS/DVO Central: DVS, RVL-JB	-	Active surveillance on ND has been conducted regularly in ND control program in Pontian as a part of the National Animal Health Control Program since Sep 2006. ND vaccination is also conducted in the program. Each time, DVO/SVS collects 180 samples from randomly selected 6 villages every 3 months and 450 samples from 15 commercial producers. The test results are compiled and entered into the database in RVL-JB and sent to the DVS on request basis. The test results are verbally explained to the farmers by DVO officers. Plan on ND field investigation is based on National Disease Control & Eradication Program. As with passive surveillance, the registered farmers are obligated to report suspected ND cases to DVO, yet there have been no cases reported. In order to complete the information network system, the following two tasks are still necessary; 1. Data analysis and documentation of compiled data 2. Data sharing at all levels (DVO/SVS, RVL-JB and DVS) RVL-JB, though compiling the data, has not yet been able to analyze and document the compiled data. Data sharing, using a same format or database, is necessary to take quick action.	-	In order to complete the information network system, an online database "Avian Disease Information System (ADS)" was set up in the project and started operational in Oct 2010. ADS is still at the beginning and training was done among selected staffs from DVO, S-DVS and RVL-JB to familiarized and train them to the system. The data can be disseminated easily and faster.	-
2-2	Number of newly trained	Field:	-	Total: 68 attendants	68	Total: 28 attendants	96

	personnel in charge of work related to information of animal disease control (the number of tranees for reporting info system)	farmers, producers		・ Meeting with village head and onwer of commercial farms (23 Octr 2008) 68		・ Feedback to Farmers on the Malaysia Epidemiology Study in Pengkalan Raja & Jeram Batu, following the conclusion of Epidemiology Model WS (23 Nov 2010) 28	
		State/District: SVS/DVO	4	DVS organized a workshop on ND field nvestigation (clinical, pathological, diagnosis, control). Trainers were from DVS Epi Unit, S-DVS, RVL-JB. It was attended by 4 officers from DVO Pontian, 7 from SVS Johore and 1 from RVL-JB and 2 from other DVOs. Staff became able to conduct post-mortem and collect appropriate sample for ND diagnosis, and more aware on ND clinical signs. Total: 14 Trainees ・ Workshop on ND Surveillance, Feild Investigation, Public Awareness (15-17 Dec 2008) 14	14	Total: 12 Trainees ・ Training on Avian Disease Information System (27-28 Jul 2010) 9 from S-DVS and 3 from DVO attended with 1 trainer from CQ Tech. Sdn. Bhd. ・ 2nd Training on Avian Disease Inforrmation System at Pontian's DVO (6th Dec 2010)	26
		Central: DVS, RVL-JB	2	Information management is one of the responsibilities of the head at all three levels. After the database is upgraded or newly introduced, one staff at each level will be assigned to operate the database, and the heads and the staff members at all the levels will be trained in information management.	0	Total: 6 Trainees ・ Training on Avian Disease Information System (27-28 Jul 2010) 6 staff from RVL-JB trained with 1 trainer from CQ Tech. Sdn. Bhd.	6
2-3	Number of data on the animal diseases of collected in the pilot site through passive and active surveillance	Field: farmers, producers State/District: SVS/DVO Central: DVS, RVL-JB	-	Active surveillance on ND has been conducted regularly as part of the national animal health control program since Sep 2006. There were 4 times of sampling for active surveillance conducted. There were no cases of ND reported. ・ Sampling Program (Active Surveillance in the project) i) 23 Sep - 6 Oct 2009 ii) 9 - 11 Mar 2009 iii) 8 -11 Jun 2009 iv) 22 Sep - 2 Oct 2009	-	There were 4 times of sampling for active surveillance conducted. There were no cases of ND reported. ・ Sampling Program (Active Surveillance in the project) v) 5 - 19 Mar 2010 vi) 18 May - 2 Jun 2010 vii) 16 - 17 Aug 2010 viii) 24 - 25 Nov 2010	-

Indicators		Target groups	Goal	Progress as of mid-term evaluation (Feb 2008～Jan 2010)		Progress made after the mid-term evaluation	Total
3-1	Number of regional workshops held among member countries (as the host country)	Field:	2	-	1	-	3
		State/District:		-		-	
		Central: DVS, VRI, RVL-JB		Total: 1 time ・ 2nd RJCC, DVS Malaysia (3-5 Nov 2008)		DVS hosted Epidemiology Study Workshop at Quality hotel, Kuala Lumpur, participated by 2 staffs from each member countries, 1 Japanese Epidemiology Expert, 7 Thailand Epidemiology	

						Expert Team, 3 from RPS team, 7 staffs from HQ, S-DVS Johor, RVL JB, RVL Petaling Jaya and VRI. Total : 2 time • 2nd Regional Epidemiology Study Model Workshop (Kuala Lumpur, 11-12 Feb 2010) • 1st Central Laboratory Directors' Meeting, VRI Malaysia (11 -12 Jun 2010)	
3-2	Number of trainings and study tours set up at regional level (as the host country)	Field: State/District: Central: DVS, VRI, RVL-JB	-	- - Total: 3 times DVS hosted a regional study visit on "lab-based animal disease surveillance". (12-16 Jan 2009 at VRI Ipoh, RVL Kota Bharu) • JICA/DVS Regional Study Visit on Laboratory-Based Animal Disease Surveillance (12-16 Jan 2009) DVS hosted a regional training on "poultry disease diagnosis" at VRI, participated by 2 officers from other member countries and 2 from Malaysia. (2-27 Feb 2009 at VRI Ipoh) • JICA/DVS Regional Training on Diagnosis of Poutlry Disease (1-27 Feb 2009) DVS hosted a regional training on "animal disease surveillance" at Penang DVS, participated by 2 officers from other member countries and 2 from Malaysia. (12-23 Oct 2009 at Penang DVS) • JICA/DVS Animal Disease Surveillance Training (12-23 Oct 2009)	3	- - Total: 1 time • Animal Quarantine Management Training at Allson Hotel, in Putra Nalai, Malaysia on Malaysia Quarantine Inspection System, MAQIS (22 - 26 Nov 2010) Atendants were: Lao PDR (2), Cambodia (3), Vietnam (2), Myanmar (2) and 1 RPS Team.	4
3-3	Number of regional experts exchanged among member countries (number of dispatched experts)	Field: State/District: Central: VRI	5	- - As a follow-up of the regional training on "poultry disease diagnosis" hosted by JICA/DVS in February 2009 at VRI Ipoh, 5 trainers were sent from VRI to each county. Total: 5 Trainers 2 VRI trainers conducted follow-up trainings to virology and	5	- - Total: 10 Trainers Follow-up Trainers iv) DaNang and Hanoi, Vietnam (28 Feb - 13 Mar 2010) 1 v) NAHC, Vientiane Lao PDR (19 Sep - 2 Oct 2010) 2	15

				bacteriology trainees in NAHC, Laos. (15-21 Nov 2009, Vientiane) i) NAHC, Vientiane, Lao PDR (15 Nov - 21 Nov 2009) 2 2 VRI trainers conducted follow-up trainings to parasitology and bacteriology trainees in Mandalay and Pathein in Myanmar. (6-12 Nov 2009, Mandalay and Pathein) ii) Myanmar (6-12 Nov 2009) 2 A VRI trainer conducted follow-up trainings to parasitology trainees in Cambodia. (8-14 Nov 2009, Phnom Penh) iii) NaVRI, Phnom Penh, Cambodia (8-14 Nov 2009) 1		vi) Yangoon, Myanmar (19 Sep - 1 Oct 2010) 2 vii) Mandalay, Myanmar (3 - 9 Oct 2010) 2 viii) Lampang and Surin, Thailand (3 - 16 Oct 2010) 1 ix) NaVRI, Phnom Penh, Cambodia (17 -23 Oct 2010) 2	
3-4	Frequency of information sharing on animal diseases among member countries (including workshop/ training/ study tour/ bilateral meeting)	Field:	-	-	0	-	0
		State/District: SVS/DVO	-	Total: 5 times Regional 5 • JICA/DLD Study Visit on Animal Movement Control and Quarantine System (Thailand, 12-18 Oct 2008) • JICA/DLD Practical Training on Animal Movement Control and Quarantine (Thailand, 19 Jan - 13 Feb 2009) • 1st Regional Epidemiology Study Model Workshop (Bangkok, 20-21 Jul 2009) • 1st Regional Workshop on Harmonizing Animal Movement System (Bangkok, 17 - 21 Aug 2009) • Received trainers for AQS Training Trainees (30 Nov - 4 Dec 2009)	5	Total: 3 times Regional 3 • 2nd Regional Epidemiology Study Model Workshop (Kuala Lumpur, 11-12 Feb 2010) • JICA/DLD Study Visit on Animal Movement Control and Quarantine System (Thailand, Jul 2010) • 3rd Regional Epidemiology Study Model Workshop (Bangkok, 8-11 Nov 2010)	8
		Central: DVS,VRI,RVL-JB	-	Total: 14 times Regional 6 • RJCC Meeting i) 1st RJCC, DLD Thailand (1 Mar 2008) iii) 3rd RJCC, Da Nang, Vietnam (16-17 Mar 2009) iv) 4th RJCC, Yangoon, Myanmar (27-28 July 2009) • JICA/DLD Study Visit on Animal Movement Control and Quarantine System (Thailand, 12-18 Oct 2008) • 1st Regional Epidemiology Study Model Workshop (Bangkok, 20-21 Jul 2009) • 1st Regional Workshop on Harmonizing Animal Movement System (Bangkok, 17 - 21 Aug 2009) Japan 1	14	Total: 16 times Regional 5 • RJCC Meeting v) 5th RJCC Phnom Penh, Cambodia (27-29 Jan 2010) vi) 6th RJCC Vientiene, Lao PDR (24 - 25 Jun 2010) • JICA/DAH Regional Workshop and Training on Diagnosis of PRRS in Hanoi (Vietnam, 20 Sep - 2 Oct 2010) • 2nd Central Laboratory Director's Meeting (2-3 Dec 2010 Thailand) • 3rd Regional Epidemiology Study Model Workshop (Bangkok, 8-11 Nov 2010)	30

				• Counterpart Training on Animal Disease Control in Japan (Japan, 10-15 Oct 2008): 1 (National Project Coordinator, DVS) Hosting 7 • 2nd RJCC, DVS Malaysia (3-5 Nov 2008) • JICA/DVS Regional Study Visit on Laboratory-Based Animal Disease Surveillance (12-16 Jan 2009) • JICA/DVS Regional Training on Diagnosis of Poutlry Disease (1-27 Feb 2009) • JICA/DVS Animal Disease Surveillance Training in Penang (12-23 Oct 2009) • Follow-up Trainers from VRI i) NAHC, Vientiane, Lao PDR (15 Nov - 21 Nov 2009) ii) Myanmar (6-12 November 2009) iii) NaVRI, Phnom Penh, Cambodia (8-14 Nov 2009) Information sharing has been done only at the RJCC meetings. Also, the information shared at RJCC has been limited to the presentations of activities. Collaterally, increased interactions by attending seminars and trainings have helped facilitate informal communication among officers among member countries, particularly between the regional experts and the participants of regional training programs.		Japan 2 • Counterpart Training on Animal Quarantine System (Japan, 21 Feb - 5 Mar 2010) 1 (National Project Coordinator, DVS) • Counterpart Training on Animal Disease Control and Laboratory Network, Yokohama and Sapporo (21 Feb - 5 Mar 2010) 1 (Director of VRI) Hosting 9 • 2nd Regional Epidemiology Study Model Workshop (Kuala Lumpur, 11-12 Feb 2010) • 1st Central Laboratory Directors' Meeting, VRI Malaysia (11 -12 Jun 2010) • Animal Quarantine Management Training in Putra Nalai, Malaysia (22 - 26 Nov 2010) • Follow-up Trainers i) DaNang and Hanoi, Vietnam (28 Feb - 13 Mar 2010) ii) NAHC, Vientiane Lao PDR (19 Sep - 2 Oct 2010) iii) Yangoon, Myanmar (19 Sep - 1 Oct 2010) iv) Mandalay, Myanmar (3 - 9 Oct 2010) v) Lampang and Surin, Thailand (3 - 16 Oct 2010) vi) NaVRI, Phnom Penh, Cambodia (17 -23 Oct 2010)	
3-5	Number of joint activities implemented with other donor agencies and frequency of information sharing	Field: State/District: Central:	-	No joint activity has been conducted at the organizational level.	-	-	-

(Note)

Central; DVS (Department of Veterinary Services), RVL-JB (Regional Veterinary Laboratory – Johore Bharu), VRI (Veterinary Research Institute) --- regional activities of lab-based surveillance

State/District, SVS (State Veterinary Services) Johore, DVO (District Veterinary Office) Pontian

Field; In the 2 Sub-District (Pengkalan Raja & Jeram Batu in Pontian District), 49 registered, commercial poultry producers (42 broiler farms) and 120 village chicken farmers

Annex VIII

Summary of progress and achievements (Myanmar)

Indicators		Target groups	Goal	Progress as of mid-term evaluation (~Jan 2010)		Progress made after the mid-term evaluation	Total
1-1	Number of standard diagnostic methods improved or newly adopted at related animal health organizations	Field: AHW	-	-	0	-	-
		Division and T/S : T/S Office ·	3	T/S officers became capable of performing the following diagnosis: 1. Parasitological examination (Feces-egg test) (Blood smear, Floatation, Mac master and Sedimentation)	1	1. RBT on Brucellosis 2. Tuberculin Test on Tuberculosis	3
		Central : VL-Mdl	7	· RVL-Mdl became capable of performing the following diagnosis: 1. RBT, CFT, ELISA and TAT on Brucellosis 2. Tuberculin Test and Microscopic Examination by using Z.N staining on TB 3. Parasitological examinations: Blood parasite test, Parasite-egg test (blood smear, Floatation, Macmaster and Sedimentation) 4. Diagnosis of Sub clinical mastitis	3	1. Bacteriology (Campylobacter, Salmonella) (note) · The new lab including BSL-II lab for HPAI is constructed at Sintgaing Township, 10 miles from VL-Mdl. (note) · Virology at Central Lab i) Restriction Enzyme Analysis (REA) ii) Agarose gel electrophoresis iii) RT-PCR (Infectious Bursal Disease) iv) Gel extraction / Purification for sequencing	4
		VL-Yangon,		(note) · VL Yangon is capable of performing the following diagnosis through technical support by ADC2: 1. Diagnosis of brucellosis and tuberculosis (refreshed and reinforced) 2. Parasitological examinations: Blood parasite test, Parasite-egg test			
1-2	Number of technicians at related animal health organizations, who take part in the training course (attendants/trainees)	Field: AHW	49	Total: 85 trainees <u>In-Country</u> 85 · Basic Animal Husbandry and Animal Health (Mar 2009, Amp and Pol T/S office) 49 AHWs · Follow-up Training on Animal Husbandry and Animal Health (25-30 Dec 2009, Amp and Pol T/S office) 36 AHWs (note) · The total numbers of AHWs in 2 T/S are not known due to lack of registration. · 6 female AHWs attended the follow-up training. They were the first female AHWs in Myanmar. · Newly graduated 2 veterinarians also participated the	85	<u>Pamphlet</u> · Manual for Primary Animal Health Care Workers was revised and distributed to the AHWs and head of village 500	85

				training as observers.			
		Division and T/S : T/S Office	12	Total: 50 trainees In-Country 24 ・Basic Diagnostic Techniques on Brucellosis and Tuberculosis (24-27 Dec 2008, Mdl-LBVD office) 12 T/S veterinary officers ・Workshop on Management of BCVL (Basic Clinical Vet Lab or Mini-lab) and VDC (Veterinary Drug Cabinet) by Dr.Kanameda (25 Jul 2009, Mdl-LBVD office) 12 T/S officers (note) ・VDCs were established in the 2 T/Ss. Main record on store-keeping and individual treatment records are prepared by T/Ss officers. ・Vinyl posters on strengthening veterinary services with VDC was designed by Tsp officers and distributed at each village. ・Uniforms were distributed to some Tsp officers for public awareness. Regional 1 ・JICA/DLD practical training on Animal Movement Control and Quarantine (18 Jan - 14 Feb 2009, Thailand) 1 from Amarapura T/S office Expert 25 ・Short-term expert, Dr. Minami, on Clinical Veterinary Service for Daily Cattle (2 Feb – 29 Mar 2009 & 6 Sep – 5 Nov 2009) 13 (note) ・Bovine abomasal displacement, Concept of BCS (Body Condition Score), several treatments for common diseases, pregnancy diagnosis, surgical operations, moxibustion to overcome the reproductive disturbances. Tuberculin test and blood sampling for Brucellosis. ・Short-term expert, Dr. Anri, for Clinical Veterinary Laboratory on serology and parasitology especially on diagnosis of sub-clinical mastitis. (15 Jun – 15 Aug 2009) 12 (note)	50	Total: 17 In-Country 15 ・Follow-up workshop on Management of BCVL and VDC (11 Mar 2010, Mdl-LBVD office) 15 T/S officers participated and Lab service of BCVL started. (note) Training for disease diagnostic techniques and reporting system, especially for infectious diseases, PCR techniques for parasitic examination, and computerized data management is strongly requested. Regional 2 ・JICA/DLD Study visit on FMD Prevention and Control (17-23 Jul 2010, Thailand) 2 staff from Amp and POL T/S office Pamphlet ・Pamphlet for Moxibustion 2,000 copies by LBVD ・Pamphlets on Brucellosis and Tuberculosis 2000 for each	67

				・Fundamental bacteriological examination (culture, isolation, biochemical profile, characterization), hematology, systemic milk sampling and proper hand-milking procedures. ・Completion of BCVL (Basic Clinical Vet Lab) in two townships. T/S officers are able to diagnose parasitic infection and to conduct serological examination with support of RVL-Mdl and Upper Myanmar Vaccine Production Laboratory in Pyin Oo Lwin. <u>Group Training in Japan</u> 1 ・Disease Control (3 month, 2008) 1 from Amarapura Dr. Khin Thet. He becomes resource person in the township.			
		Central : VL-Mdl,VL-Yangon	35	Total: 27 <u>In-Country</u> 8 ・Lab Diagnosis on Brucellosis and TB 1st statge (23-25 Dec 2008, RVL-Mdl) 2 2nd stage (9-12 Feb 2009, VL-Yangon) 2 3rd stage (9-13 Mar 2009, RVL-Mdl) 4 <u>Regional</u> 12 ・JICA/DLD study tour on Animal Movement Control and Quarantine System (12-18 Oct 2008, Thailand) 2 ・JICA/DVS Laboratory-based Animal Disease Surveillance (12-16 Jan 2009, Malaysia) 1 from VDL-Mld and 1 from VL Yangon ・JICA/DVS Training on Poultry Disease Diagnosis (1-28 Feb 2009, Malaysia) 1 from VDL-Mdl and 1 from Pathein diagnostic laboratory ・1st Regional Epidemiology Study Model Workshop (19-22 Jul 2009, Thailand) 2 ・Special training on diagnosis of Brucellosis by ELISA only for Myanmar (2-15 Aug 2009, NIAH in Thailand) 2 from VDL-Mdl who will be key persons for the Epi survey ・Regional WS and study visit on Animal Movement Management - Harmonization of Animal Movement System (17-21 Aug 2009, Thailand) 2 ・JICA/DVS Workshop on Animal Disease Surveillance (11-24 Oct 2009, Malaysia) 2 <u>Expert</u> 7	27	5 staffs of Bacteriology section, RVL-Mdl are now able to diagnose Brucellosis and TB. The situation of lab environment is improved by the direct instruction and support of trainers. Trainees became trainers for other staff of RVL. Total 20 <u>Regional</u> 8 ・2nd Regional Epidemiology Study Model Workshop (10 - 13 Feb 2010, Malaysia) 2 ・Workshop on 2nd Harmonizing Animal Movement System (14-20 Aug 2010, Thailand) 2 ・3rd Regional Epidemiology Study Model Workshop (8 - 11 Nov 2010, Thailand) 2 ・Training on Animal Quarantine and Movement Control (21-28 Nov 2010, Malaysia) 2 <u>Expert</u> 12 <Lab Follow-up Training> 6 ・Brucellosis, CF, AGG, ELISA by Dr. Monaya from NIAH Thiland (24-30 Jan 2010, VL-Mdl) 2 ・Brucellosis by Dr.Monaya & Dr.Reka from Thailand (7-13 Mar 2010, VL-Mdl & VL-Ygn) 2 ・Autopsy of Brucella-infected cow by Dr.Kanameda, Dr.Surapong, Dr.Monaya (8-13	47

<Lab Follow-up Training> 3
- Parasitology by Dr. Nurul Bini Raimy from VRI Malaysia (6-11 Dec 2009, VL-Mdl) 3
- Parasitology by Khoo Lean Looi from VRI Malaysia (6-11 Dec 2009, Pathein Lab) 1

<Japanese expert> 4
- Short-term expert, Dr. Anri, for Clinical Veterinary Laboratory on serology and parasitology especially on diagnosis of sub-clinical mastitis. Preparation of 5% Sheep Blood Agar is well-transferred (15 Jun – 15 Aug 2009) 4

Jun 2010, VL-Ygn) 8 from VL-Ygn and 2 from VL-Mdl

(note)
- Autopsy for the brucella infected cow was done in Central Lab. Whole blood was collected to obtain antibody containing sera that will be used for the future diagnostic procedures for brucellosis. Tissue Culture was also done and specific strain of pathogen was confirmed.

<2nd Lab Follow-up Training> 6
- Virology by Dr. Khairul Anuar Muhammad from VRI Malaysia (20-24 Sep 2010, VL-Ygn) 5
- Avian Virology by Ong Geok Huai from VRI Malaysia (20-30 Sep 2010, VL-Ygn) 7
- Bacteriology by Khoo Lean Looi from VRI Malaysia (3-9 Oct 2010, RVL-Mdl) 3
- Parasitology by Dr.Zawida binti Zahari from VRI Malaysia (3-9 Oct 2010, RVL-Mdl) 3

Group Training in Japan 2
- Veterinary Technology (3 month, 2010) 1 from VL-Mdl Myo Khet Mgwe
- Zoonosis Management (1 month, 2010) 1 from VL-Mdl, Hlaing May Than

Diagnosis Manuals
- Laboratory Examination Manual on Bacteriological Examinations for the Identification of Causative Pathogens of Sub clinical Mastitis in Dairy Cattle 15
- Laboratory Manual on Basic Techniques 14
- Color Atlas for Clinical Symptoms 5
- Veterinary Clinical Dictionary 21
- Diagnosis and Treatment of Cattle Diseases Based on the Clinical Symptoms and Laboratory Findings 30
- Veterinary Microbiology and Microbial Disease 2
- Georgis' Parasitology for Veterinarians 2

1-3	Number of standard diagnostic methods improved or newly adopted at animal quarantine points	Field: AHW Division and T/S : T/S Office Central : VL-Yangon,VL-Mdl	1	Regional ・JICA/DLD practical training on Animal Movement Control and Quarantine (18 Jan - 14 Feb 2009, Thailand) 1 from Mandalay airport quarantine office Regional experts ・Animal Quarantine System by Dr. Kosathip from Thailand (22 Nov – 2 Dec 2009, Mandalay airport) 1 ・Animal Quarantine System by Dr. Sekson from Thailand (22 Nov – 2 Dec 2009, Thilawa seaport) 2	0	(note) ・Animal quarantine officers in Mandalay airport use physical examination. In addition, the inspection of documents including the certificate of vaccinations. But no new methods have been introduced.	0
1-4	Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic services (the number of vet service or diagnosis service to farmers)	Field: AHW	-	・AHWs kept no record of the number of services given to farmers. ・Farmers need to pay a few money (one dose is 20 kyats) to the government. ・AHWs give necessary treatments of animal diseases based on the request of farmers (under the supervision of veterinarians?).	-	Pamphlet ・Pamphlets on Brucellosis and Tuberculosis were distributed to each village in total of 4,000 copies. ・2 vinyl posters of VDC were also distributed to 80 villages in each township. (note) ・Pamphlet on Mastitis and Parasite is ready for printing and waiting for budget.	-
		Division and T/S : T/S Office	-	・T/S veterinary: The numbers of provided service are counted only for numbers of vaccinations and treatments that is a part of monthly report. T/S officers frequently communicate, at least weekly, with farmers and provide necessary services to farmers on demand basis.	-	・Posters, pamphlets for mastitis, FMD and anthrax will be prepared by LBVD in near future. ・Instruction on activities recording (treatment or animal health care) will be prepared by the Tsp officers.	
		Central : VL-Yangon,VL-Mdl	N/A	・ ・Laboratory staff give the consultation on treatment when the farmers come to Lab and send the specimen for diagnosis.	N/A		
1-5	Number of diagnostic reagents newly produced or utilized at field, local and central level	Field: AHW Division and T/S : T/S Office Central : VL-Yangon,VL-Mdl	N/A	(note) ・Antigen for RBT and TAT for brucellosis was distributed to the VL-Mdl and Mini-lab township office. ・Tuberculin was procured.	-	N/A	

	Indicators	Target groups	Goal	Progress as of mid-term evaluation (Feb 2008～Jan 2010)		Progress made after the mid-term evaluation	Total
2-1	Establishment of the appropriate information network system connecting field, local, and central level in each member country	Field: AHW Division and T/S : T/S Office Central : VL-Yangon,VL-Mdl	-	Line of Reporting and Type of Report 1. AHW to Township (T/S) Veterinary Office ・ No paper based report. ・ Animal disease cases are reported to T/S officers mostly by telephone. 2. T/S Veterinary office to Division Vet. office* ・ Monthly report ・ Disease Report (In some cases the result of passive surveillance is reflected. Suspected cases are reported after the case confirmed by the laboratory in Mandalay.) 3. Division Vet. Office to LBVD Head office (Central) ・ Monthly reports ・ Disease Report (note) * The monthly report from T/S veterinary office to Division Vet office is Cc to District offices Some reports are submitted to Divisional office through District offices. ・ There are reporting forms used nationwide since 1993. The governing law of animal disease reporting system is Animal Health Development Law. ・ In some areas of Myanmar, passive surveillance is conducted and if suspected case is found, some regional laboratory including central lab run testing and provide diagnosis. ・ The outbreak of major animal diseases is shared with concerned local authorities of each level. Animal movement control in an emergency announcement of disease outbreak needs local authority's approval except for HPAI case where T/S veterinary office can take immediate action of holding animal movement. For the other major diseases, the local authority decides and takes necessary actions such as animal movement control in the local areas.	-	Monthly reports on infectious diseases are submitted to OIE and FAO by LBVD. (note) ・ To build up close and trustful relationship among farmers, AHWs, T/S field veterinarians and central administration, the assistance of VL-Mdl staffs is essential to improve Rep/Info system. ・ Report form for farmers should be prepared in near future. ・ Once new Lab will be set up, manual and format on reporting shall be reviewed	-
2-2	Number of newly trained personnel in charge of work related to information of animal disease control	Field: AHW	47	49 AHWs were trained also on animal disease reporting system through AHW training. ・ Basic Animal Husbandry and Animal Health (Mar 2009, Amp and Pol T/S office) 49 AHWs	49		49

	(the number of trainees for reporting info system)						
		Division and T/S : T/S Office	20(?)	In-Country 13 ・ Training on Disease Surveillance and Information/reporting System. (5-6 Feb 2009, Mdl-LBVD office) 11 T/S officers, 2 district officers. Regional 2 ・ JICA/DLD practical training on Animal Movement Control and Quarantine (18 Jan - 14 Feb 2009, Thailand) 2 Expert 36 <Epidemiology Expert, Dr. Wannee Nakbua> ・ 1st visit (8-13 Mar 2009) 12 from 2T/S office ・ 2nd visit (14-19 Jun 2009) 12 ・ 3rd visit (15-20 Nov 2009) 12	51	(note) ・ T/S officers become actively participating in the information/reporting system of LBVD. ・ Trustful relationships between T/S veterinary officers, AHWs and dairy farmers are built up. ・ The project bulletin in Myanmar language was produced and distributed to stake-holders including T/S Officers. Expert 60 <Epidemiology Expert, Dr. Wannee Nakbua> ・ 4th visit (24-30 Jan 2010) 12 ・ 5th visit (9-14 May 2010) 12 ・ 6th visit (22-25May 2010) 12 ・ 7th visit (3-9 Oct 2010) 12 ・ 8th visit (13-17 Dec 2010) 12	111
		Central :	-	-	0	-	0
2-3	Number of data on the animal diseases of collected in the pilot site through passive and active surveillance	Field: farmers, producers State/District: SVS/DVO Central: DVS, RVL-JB	1	<Active Surveillance> ・ Basic Diagnostic Techniques on Brucellosis and Tuberculosis (20-24 Dec 2008, Mdl-LBVD office) 12 T/S veterinary officers ・ 1st Regional Epidemiology Study Model Workshop (19 - 22 Jul 2009, Thailand,) ・ Epidemiology Study Model by Dr. Wanee on operation plan and management (8-13 Mar 2009, Mdl-LBVD office) 12 T/S officers ・ Training on Epi-activity was carried out (Sep 2009, for AHWs/Township Officers. <Passive Surveillance> ・ Passive surveillances have been conducted in the pilot site and found 1 case. Amarapura T/S found 1 FMD case which was then confirmed by laboratory diagnosis by VDL-Mdl. ・ Pyin Oo Lwin T/S found 1 anthrax case. Nevertheless it was reported to T/S veterinary office through local authority, whereby the timing is too late for passive surveillance.	1	<Active Surveillance> ・ 2nd Regional Epidemiology Study Model Workshop (10 - 13 Feb 2010, Malaysia) ・ 3rd Regional Epidemiology Study Model Workshop (8 - 11 Nov 2010, Thailand) 2 Sampling ・ Tsp vet. officers conducted brucellosis and tuberculosis surveillance by the guidance of Epi-team from Mar 2009 to Dec 2010 (3 times in 2009, 5 times in 2010) ・ Epi-survey on Brucellosis and Tuberculosis was done on 2,072 cattle from 570 farms from 2 townships. Total of 50,000 cattle from small scale dairy farms were subjected. ・ 12 T/S officers collected the samples. Fuel allowance and equipment were provided by the project. Result ・ RBT was done on T/S office mini-lab and all serum was retested for RBT at VL-Mdl. CFT or ELISA were done on positive case.	1

				(note) ・ Surveillance on animal influenza in 78 townships under the support of FAO		・ Farmers whose cow was positive were informed through the result form issued by VL-Mdl in Oct 2010. T/S sample # RBT CFT ELISA Amarapura 1,008 19(+ve) 5(+ve) 3(+ve) Pyin Oo Lwin 1,064 0 0 0 Total 2,072 19(+ve) 5(+ve) 3(+ve)	

	Indicators	Target groups	Goal	Progress as of mid-term evaluation (Feb 2008~Jan 2010)		Progress made after the mid-term evaluation	Total
3-1	Number of regional workshops held among member countries (as the host country)	Field: AHW Division and T/S : T/S Office Central : VL-Yangon,VL-Mdl	-	・ 4th RJCC (27-28 Jul 2009, Yangon)	1	-	1
3-2	Number of trainings and study tours set up at regional level (as the host country)	Field: AHW Division and T/S : T/S Office Central : VL-Yangon,VL-Mdl	-	-	0	-	0
3-3	Number of regional experts exchanged among member countries (number of dispatched experts)	Field: State/District: Central: VRI	-	-	0	-	0
3-4	Frequency of information sharing on animal diseases among member countries (including workshop/ training/ study tour/ bilateral meeting)	Field: AHW	-	-	0	-	0
		Division and T/S : T/S Office	-	Total: 9 times Regional 1 ・ JICA/DLD practical training on Animal Movement Control and Quarantine (18 Jan - 14 Feb 2009, Thailand) Regional experts 5 ・ Follow-up on Animal Quarantine System by Dr. Kosathip from Thailand (22 Nov – 2 Dec 2009, Mandalay airport) ・ Follow-up on Animal Quarantine System by Dr. Sekson from Thailand (22 Nov – 2 Dec 2009, Thilawa seaport) ・ Epidemiology Expert, Dr. Wannee Nakbua 1st visit (8-13 Mar 2009)	9	Total 6 time Regional 1 ・ JICA/DLD Study visit on FMD Prevention and Control (17-23 Jul 2010, Thailand) ・ Epidemiology Expert, Dr. Wannee Nakbua> 4th visit (24-30 Jan 2010) 5th visit (9-14 May 2010) 6th visit (22-25May 2010) 7th visit (3-9 Oct 2010) 8th visit (13-17 Dec 2010)	15

				2nd visit (14-19 Jun 2009) 3rd visit (15-20 Nov 2009) Japanese Experts 3 ・JICA Expert on clinical veterinary medicine in dairy cattle (3 Feb – 29 Mar 2009) ・JICA Expert on clinical veterinary laboratory (15 Jun – 15 Aug 2009) ・JICA Expert on clinical veterinary medicine in dairy cattle (6 Sep – 5 Nov 2009)			
		Central : VVL-Mdl	-	Total: 15 times Regional 10 ・JICA/DLD study tour on Animal Movement Control and Quarantine System (12-18 Oct 2008, Thailand) ・JICA/DVS Lab-based Animal Disease Surveillance. (11-17 Jan 2009, Malaysia) ・JICA/DVS training on Poultry Disease Diagnostic. (1-28 Feb 2009, Malaysia) ・1st Regional Epidemiology Study Model Workshop (19 - 22 Jul 2009, Thailand,) ・Special training on diagnosis of Brucellosis by ELISA only for Myanmar (2-15 Aug 2009, NIAH in Thailand) ・Regional WS on Animal Movement Control Harmonization (17-21 Aug 2009, Thailand) ・JICA/DVS Workshop on Animal Disease Surveillance (11-24 Oct 2009, Malaysia) ・RJCC Meeting i) 1st RJCC (1 Mar 2008, DLD Thailand) ii) 2nd RJCC (3-5 Nov 2008, DVS Malaysia) iii) 3rd RJCC (16-17 Mar 2009, Vietnam) Regional experts 2 ・Parasitology by Dr. Nurul Bini Raimy from VRI Malaysia (6-11 Dec 2009, VL-Mdl) ・Parasitology by Khoo Lean Looi from VRI Malaysia (6-11 Dec 2009, Pathein Lab) Japanese Shot-term experts 3 ・JICA Expert on clinical veterinary medicine in dairy cattle (3 Feb – 29 Mar 2009)	15	Total: 14 times Regional 9 ・2nd Regional Epidemiology Study Model Workshop (10 - 13 Feb 2010, Malaysia) ・1st Central Laboratory Director's Meeting (11-12 Jun 2010, Malaysia) ・Workshop on 2nd Harmonizing Animal Movement System (14-20 Aug 2010, Thailand) ・JICA/DAH regional workshop and training on Diagnosis of PRRS (20 Sep – 2 Oct 2010, Vietnam) ・3rd Regional Epidemiology Study Model Workshop (8 - 11 Nov 2010, Thailand) ・JICA/DVS Training on Animal Quarantine and Movement Control (21-28 Nov 2010, Malaysia) ・2nd Central Laboratory Director's Meeting (2-3 Dec 2010, Thailand) ・RJCC Meeting v) 5th RJCC (27-29 Jan 2010) vi) 6th RJCC (24-25 Jun 2010) Regional Experts 5 ・Brucellosis, CF, AGG, ELISA by Dr. Monaya from NIAH Thiland (24-30 Jan 2010, VL-Mdl) ・Brucellosis by Dr.Monaya & Dr.Reka from Thailand (7-13 Mar 2010, VL-Mdl & VL-Ygn) ・Autopsy of Brucella-infected cow by Dr.Kanameda, Dr.Surapong, Dr.Monaya (8-13	29

				・JICA Expert on clinical veterinary laboratory (15 Jun – 15 Aug 2009) ・JICA Expert on clinical veterinary medicine in dairy cattle (6 Sep – 5 Nov 2009) (note) ・Information sharing among member counties has been done at the RJCC meetings and the other regional workshops. ・Other than the RJCC, animal disease information is reported regularly through information network: OIE supported WAHIS and ASEAN's RAHIS. ・For Myanmar and Yunnan province of China, animal disease information has been shared according to the bilateral agreements.		Jun 2010, VL-Ygn) 8 from VL-Ygn and 2 from VL-Mdl ・Bacteriology by Khoo Lean Looi from VRI Malaysia (3-9 Oct 2010, RVL-Mdl) ・Parasitology by Dr.Zawida binti Zahari from VRI Malaysia (3-9 Oct 2010, RVL-Mdl) (note) ・Virology by Dr. Khairul Anuar Muhammad from VRI Malaysia (20-24 Sep 2010, VL-Ygn) ・Avian Virology by Ong Geok Huai from VRI Malaysia (20-30 Sep 2010, VL-Ygn)	
3-5	Number of joint activities implemented with other donor agencies and frequency of information sharing	Field: AHW Division and T/S : T/S Office Central : VL-Yangon,VL-Mdl	0		0		

(Note)

Central; LBVD (Livestock Breeding and Veterinary Department), Veterinary Diagnostic Laboratory Yangon (VL Central, Yangon), RVL-Mdl (Regional Veterinary Laboratory Mandalay),

Division and T/S 12 veterinary officers in Amarapura T/S LBVD office and Pyin Oo Lwin T/S LBVD office in Mandalay Division

Field; 49(?) AHWs(Blue Cross Workers), Small-Holder Dairy Farmers

Summary of progress and achievements (Thailand)

	Indicators	Target groups	Current	Goal	Progress at mid-term evaluation	Progress made after the mid-term evaluation
1-1	Number of standard diagnostic methods improved or newly adopted at related animal health organizations	Field: MHS-AQS	3	4	The MHS-AQS-Lab was newly established in 2008. DLD provided facilities while JICA provided equipment. MHS-AQS-Lab has been able to diagnose Brucellosis and Tuberculosis. Diagnosis of Para Tuberculosis, Leptospirosis and FMD is diagnosed by RVDC. During 2007 - 2009, the number of cattle and buffalos imported at MHS was 8,576 and 12,237 respectively. Twenty five percent of the imported cattle and buffalos was randomly sampled and diagnosed by MHS-AQS-Lab. The number of serums examined by MHS-AQS-Lab was 1,882 for cattle and 4,295 for buffalos. MHS-AQS plans to diagnose Para Tuberculosis by the end of the project duration. The other methods would be introduced after MHS-AQS-Lab receive training by RVDC.	Brucellosis tube test was not transferred to MHS AQS laboratory because plate agglutination test is 90% accurate, so it was not necessary to do Br tube test in AQS. During April-December 2010, there were total of 1,841 animals (368 cattle and 1473 buffaloes) imported through MHS AQS. They were tested for FMD, TB and Br.
		Regional: RVDC	-	-		
		Central: NIAH, FDM-RRL	-	-		
1-2	Number of technicians at related animal health organizations, who take part in the training course	Field: MHS-AQS	2	3	On-site training for MHS-AQS was conducted in June 2009. Two AQS refreshing courses for AQS cluster were organized in May and June 2009. Two laboratory staff members were trained at RVDC and test-run of the procured equipment was conducted at FDM-RRL with DLD budget. One new staff member has been assigned to MHS-AQS-Lab and he will be trained by the colleagues. The following activities are proposed for the remaining period:	Proficiency testing of FMD diagnosis with Lumpang RVDC and RRL Training for Br diagnosis in Chiengmai (training organized by NIAH) AQS manual is being revised, will be printed and distribute soon.
		Regional: RVDC	-	-		

					• Proficiency testing of FDM diagnosis between MHS and RRL • Training for MHS laboratory staff for Brucellosis tube-test in RVDC • Refreshing course for AQS staff • Production and distribution of AQS manual	
		Central: NIAH, FMD-RRL	-	-	One counterpart from NIAH participated in training in Japan on animal disease control system in September 2009. One counterpart from DLD (the National Coordinator) participated in training in Japan in November 2009.	Done
1-3	Number of standard diagnostic methods improved or newly adopted at animal quarantine points	Field: MHS-AQS Regional: RVDC Central: NIAH, FMD-RRL	-	-	Same as 1-2	Same as 1-2
1-4	Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic services	Field: MHS-AQS	-	-	Routine work Trader meetings, 15-16 Feb, 2010	Routine work Feedback meeting for local traders, Jann5, 2011
		Regional: RVDC	-	-		
		Central: NIAH, FMD-RRL	-	-		
1-5	Number of diagnostic reagents newly produced or utilized at field, local and central level	Field: MHS-AQS	-	-		455 testkits
		Regional: RVDC	-	-		
		Central: NIAH, FDM-RRL	-	-		
2-1	Establishment of the appropriate information network system connecting field, local, and central level in each member country	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL	-	-	E-service system was established by DLD budget. The system was fully implemented in February, 2009.	Continue implementation
2-2	Number of newly trained personnel in charge of work related to information of	Field: MHS-AQS	-	-	• At least one person from each AQS (76 people) were trained on E-service.	• 2010 Refreshing course for AQS staffs, 21-24 January, 2010 • AQS Officers and laboratory scientists
		Regional: RVDC	-	-		
		Central: NIAH, FDM-RRL	-	-		

	animal disease control				• AQS Officers and laboratory scientists from Mae Hong son participated in regional study tour as in-country trainings, Oct.13 -18, 2008 • Laboratory staffs trained in FMD RRL during 1-11 April, 2009. • First AQS refreshing course for AQS cluster 5, 17 May, 2009 • Second AQS refreshing course for AQS cluster 5, 28-30 June, 2009 • Expert from RRL provided on-site training at MHS AQS, 14-18 June,2009	from Mae Hong son and northern region participated in Brucellosis Diagnosis training courses on April and 4 June 2010 • Thai Epi team had 1 qualitative risk analysis workshop and 2 internal meetings
2-3	Number of data on the animal diseases of collected in the pilot site through passive and active surveillance	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL	-	-	(Only number of animals and clinically detected illness could be report before MHS AQS laboratory was fully function)	Tested 1841 animals • FMD positive 199 • Brucellosis negative
3-1	Number of regional workshops held among member countries	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL	3	4	■ DLD hosted the first regional joint coordinating committee in March 2008. ■ DLD hosted a Regional Epidemiology Study Model Workshop, participated in by 17 counterparts from the member countries in July 2009 (4 days). The workshop helped the member countries understand the surveillance systems of respective countries and plan an epidemiological study model in each country. ■ DLD hosted a Regional Workshop and Study Visit on Animal Movement: Harmonizing Animal	■ All proposed regional activities are accomplished • Conduct of risk analysis of FMD during quarantine (workshops, data collection from the field, presentation of results, etc.) • Regional study visit (FMD study tour) • The third regional epidemiological study model workshop • The second workshop on harmonizing animal movement control system • The special regional joint coordinating committee

					Movement System in August 2009 (4 days), participated in by 12 counterparts. The workshop led to the joint statement for harmonizing animal movement system in the region. ■ The following activities are proposed for the remaining period: • Conduct of risk analysis of FMD during quarantine (workshops, data collection from the field, presentation of results, etc.) • Regional study visit (FMD study tour) • The third regional epidemiological study model workshop • The second workshop on harmonizing animal movement control system • The special regional joint coordinating committee • Individual training course on request and in consideration of fund availability • HS vaccine production requested by Laos	■ Additional (not proposed) regional workshop were organized • The First Central Laboratory Directors Meeting (Ipoh) • The Second Central Laboratory Directors Meeting (BKK) • Regional PRRS Diagnosis workshop and training (Hanoi)
3-2	Number of trainings and study tours set up at regional level	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL	7		■ The first JICA/DLD Study Visit on Animal Movement Control and Quarantine System was organized in Thailand, participated in by 12 counterparts from the member countries in October 2008 (7 days). ■ The second study visit was participated by 12 counterparts during January - February 2009 (28	

					days). ■ Based on the request from Myanmar, DLD-NIAH received two trainees on Brucellosis diagnosis in August (14 days). ■ PRRS experts were dispatched to Vietnam to carry out clinical surveillance and filed assessment for risk factors with the Vietnamese counterparts. ■ Conducted intensive epidemiological surveillance with support by JICA's PRRS experts. 420 serum samples from pigs of Quang Nam were taken and tested in NCVD. The results were presented in the PRRS working group meeting. ■ PRRS working group meeting was held in DAH on 17 July 2009 in Vietnam with the participation of international and national experts. ■ Two Thai experts in AQS visited Danang, from 29 Nov to 5 Dec 2009, and instructed RAHO and SDAH staff on to follow up the regional training.	
3-3	Number of regional experts exchanged among member countries	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL	4		■ After study visits in Thailand, two regional experts in AQS conducted follow-up visits to Myanmar, Vietnam, Malaysia and Laos. They observed sites, held discussion sessions and made recommendations to each country. ■ The following activities are proposed for the remaining period: • Dispatch of experts to participate in PRRS workshop	

					in Vietnam • Participating in the second regional epidemiology workshop in Malaysia in February 2010 • The fifth RJCC in Cambodia and sixth RJCC meeting in Laos	
3-4	Frequency of information sharing on animal diseases among member countries	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL			Every month	Every month
3-5	Number of joint activities implemented and frequency of information sharing	Field: MHS-AQS Regional: RVDC Central: NIAH, FDM-RRL			Routinely consult with RVDC and RRL For FMD, test result of every lot will be email to RRL	Routinely consult with RVDC and RRL For FMD, test result of every lot will be email to RRL
	Other activities and outputs				■ Project progress as well as the results of the training activities that Thai participants joined were presented at National Joint Coordinating Committees and other meetings such as national AQS directors' meetings.	
	Other issues and areas of concern					

Summary of progress and achievements (Vietnam)

Indicators		Target groups	Goal	Progress as of mid-term evaluation (~Jan 2010)		Progress made after the mid-term evaluation	Total
1-1	Number of standard diagnostic methods improved or newly adopted at related animal health organizations	Field: AHWs	-	-	-	-	-
		District: SDAH, DVS	-	ADC2 helped develop the laboratory of SDAH Quang Nam in the expectations that it would take over some of the RAHO4 's roles (basic parasitological and bacteriological examinations) and enable the provincial Government to take quick action. The equipment has been procured (equivalent to 47,000 US dollars in 2008 and 20,000 US dollars in 2009), yet the SDAH-Lab is not operational due to the delays of the consumables (equivalent to 10,000 US dollars). Intensive on-the-job training (OJT) for 4 technical officers by RAHO4's staff with assistance of a short-term expert, Dr. Iritani, is scheduled after the arrival of the consumables in February 2010. A detailed development plan of SDAH-Lab has not been developed.	0	Total: 2 ・ testing parasite in blood and feces ・ bacteria testing for Pasteurellosis and Salmonellosis (notes) ・ With regard to PRRS by clinical symptom or by postmortem, DVS or SDAH staff do often before this project. ・ Dr. Iritani had a short training on Mycoplasma, but this technique we had been applied for a long time before he came. ・ Bacterial disease couldn't be done at SDAH's Lab due to the delay of installing the essential equipment by JICA (just provide at the end of project). Intensive on-the-job training (OJT) for 4 technical officers of SDAH-Lab by RAHO4's staff with assistance of the short-term expert was done 3 days/week before the installment of the biosafety cabinet in BSL2 setting, including arrangement of laboratory and preparation of laboratory tools. At SDAH-Lab, biosafety cabinet was delivered and set up in Sep 2010 and SDAH-Lab became operational of doing some basic parasitological and bacteriological examinations. The equipment is sufficient but SDAH-Lab staff was not trained with the equipment after the separation of the short-term expert in Oct 2010. Upon the request of training from SDAH-QN, RAHO4 will send staff to give training to SDAH-QN staff with their own budget. In accordance with DAH regulation, DAH can give	2

						accreditations to SDAH-QN on certain examination if a mission from DAH find SDAH-QN capable of conducting the examinations. Laboratory Improvement Plan with collaboration among NCVD, RAHO and SDAH does not need to separate a new manual as NCVD prepared a standardized laboratory manual for Quang Nam province. (currently no detailed diagnosis manual for Epi and bacteriology) SDAH-QN needs to learn more about the standardized laboratory manual and can prepare a detailed laboratory development plan with cost estimation towards acquiring the accreditation.	
		Central: RAHO4	-	With the assistance of a senior volunteer, Dr. Iritani, many diagnostic techniques were introduced and improved staff capability to RAHO4. Dr. Iritani, also as the short-term expert, has consistently supported RAHO4 technical officers through OJT to upgrade their skills. RAHO is staffed by 8 technical officers. To date, RAHO4 has been able to diagnose 19 diseases such as AI, ND, PRRS, CSF. RAHO4's improved technical capacity is evident – RAHO4 examined approximately 19,000 samples in 2009.	9 Annex 1	Total: 2 • cell culture • ND virus isolation using egg inoculation (notes) • PCR, SNT, virus isolation, ELISA technique have been applied in RAHO4 before this project, so they are not new techniques.	11
1-2	Number of technicians at related animal health organizations, who take part in the training course	Field: AHWs	152	Project site covers two districts (Thang Binh and Nam Giang) in Quan Nam Province. In Thang Binh district, there are 120 AHWs; 22 communal (one from each 22 communes) and 98 private AHWs. In Nam Giang district, there are 32 AHWs; 9 communal (one from each 9 communes) and 23 private AHWs. A two-day training course was organized two times by SDHA with the instructors of DAH/NCVD staff. 18 AHWs (9 communal and 9 private AHWs) from Nam Giang and 22 communal AHWs from Thang Binh participated. DAH lecturers demonstrated vaccination as well as gave instructions on various animal diseases, reporting procedures and animal	40	• 1200 basic manuals for diagnosis in Lab for parasite, bacteria diseases in poultry (600) and livestock (600) • 100 basic training materials for Animal Health Worker training. • Above manuals and training materials were completed by NCVD and DAH, funded by the project and printed by DAH. They were distributed to RAHO4, SDAH and all DVS of Quang Nam during Jul 2010.	40

				health management. The participants evaluated the training course as very useful. Total: 40 AHWs • Training on Major diseases and Reporting system for AHWs of Nam Giang DVS (23-24 Feb 2009): 18 participants. • Training on Major diseases and Reporting system for AHWs of Thang Binh DVS (12-14 May 2009): 22 participants. SDAH would like to train all the AHWs in the two districts and receive a more detailed handout on animal diseases. Agricultural Department of Nam Giang district is planning to organize a three-day training course for all the AHWs in February 2010. More practical training or OJT is necessary for AHWs because they do not have academic background of the subject matters. AHWs are required to participate in one five-day training course organized by SDAH every 5 years to be certified as an AHW. One effective measure to improve the ability of AHWs is to upgrade the training course and its textbook.			
		District: SDAH, DVS	40	Total: 60 trainee <u>In-Country</u> 58 • 1st Lab technology training (15-26 Dec 2008): 4 • 2nd Lab technology training (12-16 Jan 2009): 2 • 3rd Lab technology training (16-27 Feb 2009): 4 Project organized a two-day training course for 40 staff members from SDAH and all DVS. Trainers were dispatched from DAH and RAHO. Lecturers gave instructions on various animal diseases and also reporting procedures. The participants evaluated the training course as very useful. • Animal diseases and report system at Tam Ky (19-20 Feb 2009): 40 people SDAH would like to continuously train all the DVS staff and receive a more detailed handout on animal diseases. There are approximately 10 staff members in two DVSs.	60	The 4 SDAH staff members, never technically trained before, were happy to learn basic knowledge and techniques in the training. However, they have not yet applied these techniques at SDAH due to the delay of lab set-up. Systematic Network between RAHO4 and SDAH shall be established with technical supports of experts (Monitoring Team View)	60

				Project organized a study visit, participated by 20 SDAH/DVS and AHWs (4 from SDAH, 4 from DVSs and 12 AHWs) to learn advanced cases in the Southern Vietnam. DVS (Nam Giang) staff found it useful to understand the procedures regarding checkpoint operation. • Study Tour (22-28 Nov 2009): 8 from SDAH and DVSs to advanced provinces in the Southern Vietnam. <u>Regional</u> 2 • Regional training on Lab-based Animal Disease Surveillance in Malaysia (11-17 Jan 2009) 1 from SDAH-QN • JICA/DLD Animal Movement Management training in Thailand (18 Jan -14 Feb 2009) 1 from SDAH-QN			
		Central: RAHO4	8	Total:26 <u>In-Country</u> 14 In addition to instructions from the short-term expert (Dr. Iritani), RAHO4 staff members were trained 3 times on parasitological and bacteriological diagnosis. 2 NCVD staff (bacteriology and parasitology) were dispatched for 1st and 3rd trainings at RAHO4. • 1st stage (15-26 Dec 2008 at RAHO4) 4 RAHO4 trainees • 2nd stage (12-16 Jan 2009 at NCVD) 2 RAHO4 trainees • 3rd stage (16-27 Feb 2009 at RAHO4) 8 RAHO4 trainees The training, jointly conducted with participation of RAHO and SDAH staff, brought to enhance good relationship between them. <u>Regional</u> 12 • JICA/DLD Animal Movement Control and Quarantine System (Thailand, 12-19 Oct 2008): 1 from RAHO4, 1 from DAH • Regional study tour on Lab-based Animal Disease Surveillance (Malaysia, 11-17 Jan 2009): 1 from RAHO4 • JICA/DLD Animal Movement Control (Thailand, 18 Jan-14 Feb 2009): 1 from RAHO4 • Regional training on poultry Disease Diagnosis (Malaysia, 1-28 Feb 2009): 1 from RAHO4, 1 from NCVD • 1st Regional Epidemiology Study Model Workshop	26	Total: 26 <u>Regional</u> 12 • 2nd Regional Epidemiology Study Model Workshop (Malaysia, 11-12 Feb 2010): 2 • JICA/DLD Study Visit on Animal Movement Control and Quarantine System (Thailand, Jul 2010): 2 • 1st Central Laboratory Directors' Meeting (Malaysia, 12-13 Jul 2010): 1 from RAHO4, 1 from RAHO6 • 2nd Central Laboratory Director's Meeting (Thailand, 2-3 Dec 2010): 1 from NCVD, 1 from RAHO6 • 3rd Regional Epidemiology Study Model Workshop (Thailand, 8-11 Nov 2010): 2 • Animal Quarantine Management Training (Malaysia, 21-27 Nov 2010): 1 from RAHO2, 1 from RAHO4 <u>Japan</u> 1 • Training Course on Animal Disease Control (Japan, 24 Oct 2010 – 27 Aug 2011): 1 of RAHO4 <u>Japanese Short-term expert</u> 13	54

				(Thailand, 19-22 Jul 2009): 1 from DAH, 1 from RAHO4 ・ Workshop on Animal Movement Harmonization (Thailand, 17-21 Aug 2009): 2 ・ Training on Animal Disease Surveillance (Malaysia, 12-23 Oct 2009): 2		・ Short-term expert on diagnostic skills, Dr.Iritani, for RAHO4 and SDAH-QN Lab i) Jun 2008 - Sep 2009 as a senior volunteer ii) 19 Oct 2009 – 18 Feb 2010 iii) 5 May 2010 – 30 Oct 2010 9 staff member from RAHO4 and 4 from SDHA-QN were trained by Ir.Iritani. ・ Short-term expert on PRRS, Dr.Takagi, for NCVD i) 7 Jun – 24 Jul 2009 ii) 22 Dec 2009 – 13 Feb 2010 iii) 17 Aug 2010 – 9 Oct 2010 iv) 31 Oct – 13 Nov 2010 4 staff from NCVD was trained.	
1-3	Number of standard diagnostic methods improved or newly adopted at animal quarantine points	Field: District: Central:	-	N/A	-	N/A	-
1-4	Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic services	Field: AHWs District: SDAH, DVS	2/year	National vaccination program is implemented two times a year (March/April and September/October) for CSF, AI, FMD and Salmonella. Vaccines are procured by the provincial Government. DVS field staff member together with AHWs give vaccination, instructions on the animal care after vaccination and how to identify clinical signs and report to SDAH. In Quang Nam, the farmers' awareness is still very low and the percentage of the pigs vaccinated is as low as 25% for CSF and the level of bio-security is very poor. Outbreaks of PRRS in Quang Nam are pointed out by MARD and the provincial Government is pressured to reduce outbreaks by increasing vaccination rates.	2/year	0 (notes) Epidemiology team took samples but wasn't to provide vet service or diagnosis service to the farmer (Epi team had took 480 sample for PRRS and 478 sample for CSF)	0
		Central: RAHO4	-	-	-	-	0
1-5	Number of diagnostic reagents newly produced or utilized at field, local and central level	Field: District: Central:	- - -	N/A	- - -	N/A	-

	Indicators	Target groups	Goal	Progress as of mid-term evaluation (Feb 2008～Jan 2010)		Progress made after the mid-term evaluation	Total
2-1	Establishment of the appropriate information network system connecting field, local, and central level in each member country	Field: AHWs District: SDHA, DVS Central: RAHO4	-	The reporting system has been established, following the guidelines of DAH. When a suspected case is reported, DVS staff collects samples, send them to RAHO4 and wait for the results of diagnosis. When the result is positive, they dispose of the animal and monitor the site for 21 days. This process takes approximately 1 or 1.5 days. Regular reporting is done monthly. DVS compiles data and send them to SDAH. SDAH consolidates all data from 6 districts, make a narrative report with datasheets and send them to Epi. Division of DAH, DARD and the provincial Government. RAHO4 has accumulated data generated from surveillances, yet analysis of such data has not been conducted. RAHO4 staff needs to analyze the existing data and write up reports and contribute to DAH and other relevant organizations.	-	Reporting at district level, from DVS to SDAH-QN, has improved due to the availability of communication equipment such as fax and internet. There are 18 DVS offices under SDHA-QN and all the offices have now either fax or email. Project provided 3 fax machines and computers. FAO also provided 7 fax machines. Training under ADC2 has improved information and reporting system at each level, in terms of writing content, quick reporting, mutual trust and clinical advice. The working attitude of short-term expert helped improve the work ethics of staff in terms of accuracy and timely reporting. Field AHW also became more aware of reporting. There is a format for the reporting. If a disease occurs, farmers have to report immediately. While a disease is occurring, DVS has to report to SDHA by 3pm everyday, and SDAH has to report to RAHO4 by 4 pm everyday. Otherwise, reporting is once a month. These days, RAHO4 receives a report from SDAH-QN at 4 pm regularly, which means SDAH-QN collects reports from DVS at a district level in a timely manner.	-
2-2	Number of newly trained personnel in charge of work related to information of animal disease control	Field: AHWs	-	Total: 40 AHWs • Training on Major diseases and Reporting system for AHWs of Nam Giang DVS (23-24 Feb 2009): 18 participants • Training on Major diseases and Reporting system for AHWs of Thang Binh DVS (12-14 May 2009): 22 participants Based on the need assessment report (Mar 2008), activity 2 was specifically planned. Training subject on "Information system"	40	(notes) UNDP/FAO/USAID has a project on HPAI covering 19 provinces including Quang Nam. AHWs in Nam Giang and Thang Binh received training through HPAI project and to avoide the overlap, trainings for AHWs in the districts were not conducted in 2010 by the ADC2 project.	40

				was included for each level (regional, provincial, district, and village level). During the AHW training, the trainers emphasized on way of filling reporting format and informing diseases.outbreak.			
		District: SDAH, DVS	1	Total: 40 • Training on Animal diseases and report system (19-20 Feb 2009) at Tam Ky: 40 people (SDAH and 4 from Nam Giang DVS, 7 from Thang Binh DVS and some representatives from other districts) For the Nam Giang DVS staff, the training was very beneficial because the Vet. Station was established 3 years ago, so it had never received such practical training on reporting and disease information. PRRS outbreak occurred in July 2009 in 2 communities of Thang Binh District, destroying 233 pigs in 206 household. Training helped the staff very much because they could learn techniques on sampling and send to SDAH.	11	-	11
		Central: RAHO4	1	Total: 8 • 1st Lab training (15-26 Dec 2008): 4 people • 2nd Lab training (12-16 Jan 2009): 2 people • 3rd Lab training (16-27 Feb 2009): 2 people At each level, one technical officer is assigned for data/information management. Their role is to enter and compile data and produce a narrative report. Specific training is not necessary given the current nature of their tasks.	8	-	8
2-3	Number of data on the animal diseases of collected in the pilot site through passive and active surveillance	Field: AHWs District: SDAH, DVS Central: RAHO4, DAH,	-	Data on both active and passive surveillances are compiled on PRRS, AI, *Pasteurellosis, Salmonellosis*, etc. In 2009, the occurrences of PRRS and CSF in the pilot site were as follows: PRRS: 3,661 pigs diagnosed as positive in Quang Nam (3,592 sacrificed) in 38 communes CFS: 899 pigs diagnosed as positive in Quang Nam and Quang Ngai (629 sacrificed)	2	<u>CSF</u> • Surveillance planning was prepared in June 2010 with the assistance of Dr. Kobayashi (6-12 Jun 2010) • Starting from August 2010, 478 serum samples (86 sows and 392 piglets) were taken by RAHO4, SDAH-QN and DVS staff, and tested on ELISA and Neutralization Test in the RAHO4's laboratory.	2

<Passive Surveillance>

- The system has already been in function and Dr. Iritani assisted to increase the capacity of lab diagnosis and strengthened passive surveillance system at RAHO4.
- The result of exam at RAHO4 was reported to SDHA on time. This activity will continue to increase capability of diagnosis and surveillance system at sites.

<Active Surveillance>

During the preliminary survey to develop epi study model, lots of pigs were sick and died in Quang Nam. Utilizing the equipment in RAHO4, active surveillance on PRRS was conducted by the project in Quang Nam. PRRS working group met in DAH in Vietnam with the participation of international and national experts.

- PRRS Working Group meeting at DAH (17 Jul 2009) : 14 people
- 1st Regional Epidemiology Study Model Workshop in Thailand (19 - 22 Jul 2009)

The result shows that it was not PRRS. Then, it was proposed that PRRS be separated from the Epidemilology study, for which the epi team decided to survey CSF in pilot site with technical support from the short-term expert who would help RAHO4 set up CSF diagnosis methods. The proposal was approved by ADC2 in the meeting on 14-15 December 2009 in Hanoi, and presented at the 2nd Epidemiology workshop.

- PRRS Working Group meeting at DAH (14-15 Dec 2009) : 10 people
- 2nd Regional Epidemiology Study Model Workshop in Malaysia (11-12 Feb 2010)

- The operation was interrupted by the outbreak of PRRS in pilot site but was carried through by considerable efforts of the team.
- Costs such as equipment, travel and payment to farmers were borne by the project, totaling about $20,000
- The result of CSF survey was presented during the 3rd Regional Epidemiology Study Model Workshop in Thailand (8-11 Nov 2010)

Blood sample collection

All sows (n=86) regardless the vaccination history

Vaccination	Positive	Negative	Total
Yes	41(87.2%)	6 (12.8%)	47
No	22(56.4%)	17 (43.6%)	39
Total	63	23	86

ELISA positivity of vaccinated sows were significantly higher than that of unvaccinated sows ($P<0.05$, odds ratio=5.3).

All piglets (14-37 days old, n=392) were vaccinated in the same time

=> Piglets' sample collection was done twice:
3 weeks post vaccination (all)
3 weeks post 1st sampling (56 from 6 farms only)

Neutralization Test used for all samples from piglets

PRRS

- In 2010, NCVD in cooperation with RAHO5, RAHO7 and SDAH of Bac Giang, Gia Lai and Bac Lieu conducted a PRRS survey in the farms that were affected by the disease in previous year. The farms have 150-200 sows, a popular size in Vietnam.
- 480 serum samples were taken during the surveillance to test PRRS antibody by ELISA and virus by real-time PCR in the NCVD's lab.
- A PRRS survey is presented in academic

						international conference.	

	Indicators	Target groups	Goal	Progress as of mid-term evaluation (Feb 2008～Jan 2010)		Progress made after the mid-term evaluation	Total
3-1	Number of regional workshops held among member countries (as the host country)	Field: District:	-	-	-	-	-
		Central: RAHO4, DAH	-	Total: 1 time • 3rd RJCC (15-18 Mar 2009) in Da Nang, Vietnam: 36 people	1	Total: 1 time PRRS regional workshop and training was hosted by JICA/DAH in Hanoi, Vietnam (20 Sep – 2 Oct 2010): 14 trainee • Trainers were: Dr. Tsunemitsu (short-term expert on PRRS), Dr. Kawashima (short-term expert on Veterinary Diagnosis), Dr.Takagi (short-term expert on PRRS), Dr. Tung (NCVD counterpart) and staff, Dr.Sujira (Thai PRRS) • Trainees were: 2 each from 5 member countries, 1 each from RAHO2, RAHO4, RAHO7 and SDAH-Lab in Ho Chi Minh.	2
3-2	Number of trainings and study tours set up at regional level (as the host country)	Field: District: Central:	-	-	-	-	0
3-3	Number of regional experts exchanged among member countries (number of dispatched experts)	Field: District:	-	-	-	-	-
		Central: RAHO4, NCVD, DAH		• Conducted intensive epidemiological surveillance with support by JICA's PRRS experts. 420 serum samples from pigs of Quang Nam were taken and tested in NCVD. The results were presented in the PRRS working group meeting. • Two Thai experts in AQS visited Danang, and instructed RAHO and SDAH staff on to follow up the regional training. (29 Nov - 5 Dec 2009)	0	Total: 3 times • PRRS progress talk at 5th RJCC in Cambodia (27-29 Jan 2010): 1 • PRRS progress talk at 6th RJCC in Lao PDR (24-25 Jun 2010): 1 • PRRS follow-up trainer (Dr. Tung from NCVD) to Laos NAHC (14-21 Nov 2010) and Cambodia NaVRI by project (19-25 Dec 2010): 1	3
3-4	Frequency of information	Field:	-	-	-	-	-

	sharing on animal diseases among member countries	District: SDAH, DVS		Total 3 time • Regional training on Lab-based Animal Disease Surveillance in Malaysia (11-17 Jan 2009) 1 from SDAH • JICA/DLD Animal Movement Management training in Thailand (18 Jan -14 Feb 2009) 1 from SDAH • 3rd RJCC in Da Nang, Vietnam (16-17 Mar 2009): 36 people (include local people)	3	-	3
		Central: RAHO4, DAH		DAH has an annual, bilateral meeting with Cambodia and Laos respectively, sharing information on animal movements and quarantine data collected at check points. Total: 12 times Vietnam participated in the following activities: Regional 11 • JICA/DLD Animal Movement Control and Quarantine in Thailand (12-19 Oct 2008) • Training course on Lab-based Animal Disease Surveillance in Malaysia (11-17 Jan 2009) • JICA/DLD Animal Movement Control and Quarantine in Thailand (18 Jan-14 Feb 2009) • Training course on Poultry Disease Diagnosis in Malaysia (1-28 Feb 2009) • 1st Regional Epidemiology Study Model Workshop in Thailand (19 - 22 Jul 2009) • Workshop on Animal Movement Harmonization in Thailand (17-21 Aug 2009) • Training course on Animal Disease Surveillance in Malaysia (12-23 Oct 2009) • RJCC meeting i)1st in Thailand ii)2nd in Malaysia iii)3rd in Vietnam iv)4th in Myanmar Japan 1 • PVS workshop in Japan (26-30 Oct 09) 1 officer attended.	12	Total: 9 times Vietnam participated in the following activities: Regional 8 • 2nd Regional Epidemiology Study Model Workshop in Malaysia (11-12 Feb 2010) • JICA/DLD Study Visit on Animal Movement Control and Quarantine System in Thailand (Jul 2010) • 1st Central Laboratory Directors' Meeting in Malaysia (12-13 Jul 2010) • RJCC meeting i) 5th in Cambodia ii) 6th in Lao PDR • 3rd Regional Epidemiology Study Model Workshop in Thailand (8-11 Nov 2010) • Animal Quarantine Management Training in Malaysia (21-27 Nov 2010) • 2nd Central Laboratory Director's Meeting in Thailand (2-3 Dec 2010) Japan 1 • Training Course on Animal Disease Control in Japan (24 Oct 2010 – 27 Aug 2011) 1 veterinary officer from RAHO4 Hosting 1 • 1 PRRS regional workshop and training at Hanoi, Vietnam (20 Sep - 2 Oct 2010): 14 trainee	23
3-5	Number of joint activities implemented with other donor agencies and frequency of	Field:	-	-	-	-	0
		District: SDAH, DVS		The in-country program in Vietnam is being implemented, taking into consideration FAO's AI project. RAHO laboratory	0	(Notes) During the time of ADC2, Quang Nam province	0

	information sharing	Central: RAHO4		network meeting facilitated by FAO helps RAHO4 strengthen its reporting system. The equipment provided by FAO and WB helps RAHO4 develop its technical capacities.		has a project funded by FAO targeting AI, but not cooperate with ADC2. The project coordinator of ADC2 project is also the focal point of other bilateral donor projects.	

(Note)

Central; DAH (Department of Animal Health), NCVD (National Center for Veterinary Diagnosis), RAHO (Regional Animal Health Office) No.4 in Da Nang

District, SDAH-QN (Sub-Department of Animal Health) Quang Nam province, DVS (District Veterinary Services) Thang Bihn, Nam Giang

Field; 120 AHWs in Thang Binh district, 32 AHWs in Nam Giang district

ANNEX I: Tentative Project Design Matrix (PDM)

Name of the project: Regional Cooperation Project for Animal Disease Control among Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam (ADC Project Phase 2)
Target Countries: Cambodia, Lao P.D.R, Malaysia, Myanmar, Thailand and Vietnam
Project Sites: Pilot sites selected at field and local level as well as related authorities on animal health at central level in each member country
Target Group: Staff of the related animal health organizations and animal quarantine points, and rural livestock farmers in each member country
Project Period: 2007-2010

November, 2007 PDM ver 3

Narrative Summary	Verifiable Indicators	Means of Verification	Important Assumptions
Overall Goal: The surveillance structure for animal diseases is established among member countries.	Establishment of sustainable structure in the field of animal diseases among member countries	1) Project Impact Survey Reports	Suitable policy on animal disease surveillance is applied in each member country.
Project Purpose: The surveillance structure for animal diseases is established between field (pilot site), local and central level in each member country.	1) Number of staffs who have enough capacity on animal disease surveillance 2) Number of epidemiological data collected and analyzed in each member country	1) Interviews for related animal health organizations, Project Monitoring Reports, 2) Annual Reports from animal health departments, Interviews for related animal health organizations, Project Monitoring Reports,	1. Suitable policy on animal disease surveillance is applied in the pilot site. 2. No catastrophic disease outbreaks in the pilot sites.
Output: Output 1: Surveillance techniques for animal diseases are strengthened in each member country. Output 2: Surveillance information system for animal diseases is strengthened in each member country. Output3: Regional structure for animal disease surveillance is built among member countries.	1-1 Number of diagnostic methods improved or newly adopted at related animal health organization 1-2 Number of technicians at related animal health organizations, who take part in the training course 1-3 Number of diagnostic methods improved or newly adopted at animal quarantine points 1-4 Number of times related animal health organizations provide rural livestock farmers with technical advice and diagnostic services 1-5 Number of diagnostic reagents newly produced or utilized at field, local and central level 2-1 Establishment of the appropriate information network system connecting field, local and central level in each member country 2-2 Number of newly trained personnel in charge of work related to information of animal disease control 2-3 Number of data on animal diseases collected in the pilot site through passive and active surveillance 3-1 Establishment of RJCC and RPS 3-2 Number of regional workshops held among member countries 3-3 Number of trainings and study tours set up at regional level 3-4 Number of regional experts exchanged among member countries 3-5 Frequency of information sharing on animal diseases among member countries. 3-6 Number of joint activities implemented and frequency of information sharing	1-1 Interviews for related animal health organizations, Project Monitoring Reports 1-2 Training Reports, Project Monitoring Reports 1-3 Interviews for animal quarantine points, Project Monitoring Reports 1-4 Activity Reports, Project Monitoring Reports 1-5 Interviews for the organization producing diagnostic reagents, Project Monitoring Reports 2-1 Project Monitoring Reports 2-2 Training Reports, Project Monitoring Reports 2-3 Project Monitoring Reports, 3-1 Project Monitoring Reports 3-2 Workshop Reports, Project Monitoring Reports 3-3 Training and Study Tour Reports, Project Monitoring Reports 3-4 Reports by the Regional Experts, Project Monitoring Reports 3-5 Project Monitoring Reports 3-6 Project Monitoring Reports	Villagers and related authorities in the pilot site collaborate with the project.

Activities:	Input		
Activities 0: 0-1 To agree upon the basic concept and design of the Project in each member country 0-2 To review the current surveillance mechanism, particularly at local and field level in each member country 0-3 To confirm the model area in the pilot site in each member country, and determine the site activities Activities 1: 1-1 To strengthen diseases diagnosis on animal diseases at related animal health organizations (at field, local and central level) 1-2 To strengthen diseases diagnosis at animal quarantine points 1-3 To strengthen technical advice and diagnostic services for rural livestock farmers by related animal health organizations 1-4 To strengthen preparation techniques of diagnostic reagents and its supplying system (*excluding the veterinary biologics produced on commercial basis) Activities 2: 2-1 To strengthen information reporting system between each level (field, local and central level) 2-2 To utilize the results of diagnosis at related animal health organizations (field, local and central level) and animal quarantine points as animal disease information (Passive Surveillance) 2-3 To conduct the epidemiological survey on the specific diseases at selected areas (Active Surveillance) Activities 3: 3-1 To establish Regional Joint Coordination Committee (RJCC) and Regional Project Secretariat (RPS) 3-2 To formulate annual plans including regional activities such as dispatch of regional experts, organizing regional workshops/trainings/study tours in member countries. 3-3 To implement, monitor and evaluate the regional Project activities. 3-4 To share the information of animal diseases among member countries 3-5 To implement the joint activities with other donor agencies such as OIE, FAO and share animal disease information	Japan 1. Dispatch of Japanese Experts 1) Long-term Experts Chief Advisor Project Coordinator Expert in the technical field of Animal Disease Control 2) Short-term Experts 2. Provision of machinery and equipment 3. Acceptance of trainees 1) Training in Japan 2) Training in member countries	Member Countries (Cambodia, Lao P.D.R., Malaysia, Myanmar, Thailand and Vietnam) 1. Provision of building and facilities 2. Arrangement of C/Ps National Project Director National Project Manager National Coordinator Other necessary personnel 3. Dispatch of regional experts to other member countries 4. Acceptance of trainees from other member countries 5. Cost for administration of project coordination	Preconditions: 1. Member countries maintain good international relations. 2. The Government of each member country secures the allocation of human resources and budget for the project.