

インドネシア共和国
家畜衛生ラボ能力向上プロジェクト
終了時評価調査報告書

平成 27 年 6 月
(2015年)

独立行政法人国際協力機構
農村開発部

農 村
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15-068

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序 文

独立行政法人国際協力機構（JICA）は、インドネシア共和国関係機関との討議議事録（R/D）に基づき、技術協力プロジェクト「家畜衛生ラボ能力向上プロジェクト」を2011年11月から4年間の予定で実施してきました。

今般、本プロジェクトの協力期間の終了を2015年11月に控え、進捗や実績を確認のうえで目標及び成果達成に向けた貢献・阻害要因を分析すること、評価5項目（妥当性、有効性、効率性、インパクト及び持続性）の観点から日本・インドネシア国側双方で総合的にプロジェクトを評価すること、及び今後の対策について提言を行うこと、教訓をまとめることを目的として、2015年5月7日から5月27日まで終了時評価調査団を現地に派遣しました。

現地ではインドネシア共和国側の団員と合同評価調査団を形成し、評価結果を合同評価報告書に取りまとめ、インドネシア共和国側の政府関係者と今後の方向性について協議し、ミニッツ（M/M）に署名を取り交わしました。本報告書は、その結果を取りまとめたものであり、今後のプロジェクトの実施にあたり広く活用されることを願うものです。

終わりに本調査にご協力とご支援を頂いた内外の関係者の皆様に対し、心より感謝申し上げます。

2015年6月

独立行政法人国際協力機構
農村開発部部長 北中 真人

目 次

序 文

目 次

プロジェクト位置図

写 真

略語表

評価調査結果要約表（和文）

第1章 終了時評価の概要	1
1-1 調査団派遣の経緯	1
1-2 終了時評価の目的	1
1-3 合同終了時評価チームのメンバー	2
1-4 プロジェクトの枠組み	3
第2章 終了時評価の方法	5
第3章 プロジェクトの実績と実施プロセス	6
3-1 投入	6
3-2 プロジェクトの実績	6
3-3 実施プロセスの検証	20
第4章 評価結果	22
4-1 妥当性	22
4-2 有効性	23
4-3 効率性	25
4-4 インパクト	27
4-5 持続性	29
4-6 結論	31
第5章 提言と教訓	32
5-1 提言	32
5-2 教訓	33
付属資料	
1. 終了時評価調査の日程	37
2. PDM Version 2（2013年5月28日版）	38
3. 評価グリッド	41
3-1 実施プロセスの検証	41
3-2 評価5項目	43
4. 専門家派遣実績	48

5. カウンターパート配置	52
6. カウンターパート研修実績	54
7. プロジェクト供与機材	57
8. ローカルコスト負担	59
9. インドネシア側による土地、建物、オフィス、設備の供与	60
10. プロジェクト成果物一覧	61
11. セミナー開催・発表実績	65
12. プロジェクトの実施体制	69
13. スバンDICの組織体制	69
14. PDMに設定された指標の達成状況	70
15. POに沿った活動実績及び達成度	72
16. PDM指標改定に関する提案	73
17. PDM改訂版（Version 3）（案）	74
18. スバンDICで提供される診断可能な疾病及び診断技術一覧	77
19. Minutes of Meeting（M/M）	79

プロジェクト位置図

インドネシア 家畜衛生ラボ 配置図



● DIC (Disease Investigation Centre) 国立畜産疾病診断センター

インドネシア図例リソースとして引用:

¹ IRCVS (獣医学研究所)

² NVDAL (国立動物医薬品検査所)

スパン家畜疾病診断センター(スパンDIC)



写 真



スバン家畜疾病診断センター（スバンDIC）



施設入口に設置されている無償資金協力建設石碑



センター所長、及び各ラボ長との全体会議



バイオテクノロジー研究室



プロジェクト指導のもと整理された薬剤品



供与機材を用いた実験風景



スバン DIC ラボが指導する KPSBU レンバン酪農組合



レンバン酪農組合組合員の牛舎



個体識別番号（タグ）による管理



スバン DIC ラボが指導する B タイプラボ



合同評価団による評価レポート M/M 署名式



Joint Coordination Committee
による終了時評価 M/M 署名式

略 語 表

略 語	正式名称	日本語
AAHL	Australian Animal Health Laboratory	オーストラリア動物衛生研究所
CFT	Complement Fixation Test	補体結合反応試験
DAH	Directorate of Animal Health	動物衛生局（畜産・動物衛生総局）
DGLAHS	Directorate General of Livestock & Animal Health Services	畜産・動物衛生総局（農業省）
DIC	Disease Investigation Center	家畜疾病診断センター
DINAS	Provincial/District Office	州・県政府事務所
ELISA	Enzyme-Linked Immunosorbent Assay	酵素抗体法
FAO	Food and Agriculture Organization	（国連）食糧農業機関
HPAI	High-Pathogenic Avian Influenza	高病原性鳥インフルエンザ
IDR	Indonesian Rupiah	インドネシアルピア
ILRI	International Livestock Research Institute	国際家畜研究所
IRCVS	Indonesian Research Centre for Veterinary Science	インドネシア獣医学研究所
iSIKHNAS	Integrated Animal Health Information System (Sistem Informasi Kesehatan Hewan Nasional Terintegrasi)	統合家畜衛生情報システム
JCC	Joint Coordination Committee	合同調整委員会
JICA	Japan International Cooperation Agency	独立行政法人国際協力機構
MM	Man Month	人月（人/月）
ND	Newcastle Disease	ニューカッスル病
NVDAL	National Veterinary Drug Assay Laboratory	国立動物医薬品検査所
ODA	Official Development Assistance	政府開発援助
OIE	World Organization for Animal Health (仏: Office International des Epizooties)	国際獣疫事務局
OJT	On-the-Job Training	職場内訓練
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PO	Plan of Operations	活動計画表
PUSKESWAN	Center for Animal Health (Pusat Kesehatan Hewan)	簡易獣医診療所
SOP	Standard Operation Procedure	標準操作手順書

評価調査結果要約表

1. 案件の概要	
国名：インドネシア共和国	案件名：家畜衛生ラボ能力向上プロジェクト
分野：農業開発・農村開発	援助形態：技術協力プロジェクト
所轄部署：農村開発部 農業農村開発第一グループ 第一チーム	協力金額：2億3,000万円
協力期間	R/D： 2011年7月17日～ 2015年7月16日
	先方関係機関： 【実施機関】農業省 畜産・動物衛生総局 動物衛生局 【カウンターパート機関】スバン家畜疾病診断センター (スバン DIC)
	日本側協力機関：農林水産省
	他の関連協力：特になし
1-1 協力の背景と概要	
<p>インドネシア共和国（以下、「インドネシア」と記す）は、畜産業の発展及び生産性向上に対する主要な活動として、長年、家畜疾病対策に取り組んでいる。特に近年、人獣共通感染症を含む動物感染性疾患は社会経済的な損失だけでなくヒトの健康を守る観点からも大きな懸念となっている。</p> <p>わが国の無償資金協力事業で建設されたスバン家畜疾病診断センター（Disease Investigation Center：DIC）はジャカルタ州、西ジャワ州、バンテン州を管轄しているが、この3州はインドネシアでも養鶏業が盛んな地域であるため、家畜疾病対策上、非常に重要な地域となっている。</p> <p>こうした背景の下、インドネシア政府は将来の西ジャワ地域の効果的な家畜疾病対策実現に向けて、スバン DIC の家畜疾病診断サービスにかかわる組織機能強化を目的とした技術協力プロジェクトの実施をわが国政府に要請した。これを受け、独立行政法人国際協力機構（JICA）は農業省畜産・動物衛生総局（Directorate General of Livestock & Animal Health Services：DGLAHS-MOA）を主要なカウンターパート機関とし、2011年7月から2015年7月までの4年間の予定で家畜衛生ラボ能力向上プロジェクト（以下、「本プロジェクト」と記す）を開始した。</p> <p>今回の終了時評価は、2015年7月の事業期間終了を控え、事業全体の活動内容、成果及びプロジェクト目標について評価5項目（妥当性、有効性、効率性、インパクト、持続性）で評価し、成果やプロジェクト目標達成や事業終了後の持続性担保に向けた提言、並びに今後の類似事業の実施にあたっての教訓を抽出することを目的として実施された。</p>	
1-2 協力内容	
(1) プロジェクト概要	
本プロジェクトは、インドネシアに新設されたスバン DIC の能力強化を図り、スバン DIC が管轄する3州の家畜疾病対策の強化をめざすものである。	
(2) 上位目標	
西ジャワ地域（スバン DIC 管轄地域）の家畜疾病対策が強化される。	
(3) プロジェクト目標	
スバン DIC の家畜疾病診断サービスの質・量が向上する。	
(4) 成果	
1) スバン DIC スタッフが基本的かつ体系的な家畜疾病診断技術を習得する。	
2) スバン DIC スタッフの、顧客の立場に立った検体診断サービス（パッシブ・サーベイランス）に係る実施能力が強化される。	

- 3) スパン DIC スタッフのパイロットサイトにおける、疾病調査及び疾病対策技術支援（アクティブ・サーベイランス）の実施能力が強化される。
- 4) スパン DIC スタッフが、管轄地域内の獣医技術者・獣医師・農家に必要な家畜衛生に係る情報提供（ニューズレター、巡回意見交換等）、啓発活動、技術支援活動を継続的に実施する。

(5) 投入（評価時点）

1) 日本側

・ 専門家派遣

長期専門家：延べ 3 名（チーフアドバイザー/家畜衛生管理、業務調整/家畜衛生広報、獣医診断技術/疫学）（合計 121.8 人/月¹）

短期専門家：延べ 17 名（病理診断技術、獣医疫学、寄生虫症診断、獣医公衆衛生、臨床診断、血清診断、病性鑑定、生化学診断、実験室維持管理）（合計 28.1 人/月）

・ ローカルスタッフ雇用

事務職員：延べ 2 名、システムエンジニア：1 名、フィールド・トレーナー：1 名、ドライバー：延べ 4 名

・ 機材供与：デスクトップ/ノート PC、コピー機、乗用車（4WD）、冷却微量遠心機、CCD カメラ&モニター付顕微鏡等検査診断に必要な機器

・ その他の活動費：会議等費用負担等：6,209 万 5,000 IDR（インドネシアルピア）

・ 本邦研修/第三国研修

本邦研修：16 名（人獣共通感染症対策、獣医技術研究、国際獣疫対策上級専門家育成、パラメディック獣医診断技術）

第三国研修：3 名〔東南アジア向け発生源における鳥インフルエンザ診断（マレーシア）：1 名、タイ国ブルセラ病診断・サーベイランス研修：2 名〕

2) インドネシア側

・ カウンターパート（C/P）配置：延べ 64 名（DGLAHS-MOA：延べ 6 名、スパン DIC：延べ 58 名）

・ 施設及び資機材：スパン DIC 内プロジェクト事務室、机、椅子、雑品目、他

・ プロジェクト事務スペースの水道光熱費

・ ローカルコスト：637 億 755 万 8,600 IDR²

2. 評価調査団の概要

日本側	担当分野	氏 名	所 属
	団長・総括	要田 正治	JICA 国際協力専門員
	家畜疾病診断	中尾 哲也	農林水産省 動物検疫所 精密検査部 微生物検査課長
	獣医疫学	山本 健久	農業・食品産業技術総合研究所 動物衛生研究所 ウイルス・疫学研究領域（疫学） 主任研究員
	計画管理	廣中 進司	JICA 農村開発部 農業農村開発第一グループ 第一チーム ジュニア専門員
	評価分析	井上 洋一	(株)日本開発サービス 調査部 主任研究員

¹ プロジェクト期間終了時点の見込値

² 2011～2014年 執行済み 2015年予算申請額

インドネシア側	Dr. Nilma Lubis	Senior Veterinary Officer, Sub Directorate of Animal Disease Surveillance, Directorate of Animal Health, DGLAHS
	Dr. M. Farid. AZ	Senior Veterinary Officer, JICA Project Management Unit, DGLAHS
	Dr. Megawaty Iskandar	Veterinary Officer, Sub Directorate of Institutional and Animal Health Resources, Directorate of Animal Health, DGLAHS
	Ms. Yuliana Susanti	Senior Officer, Subdivision Cooperation and Public Relation, Planning Division, DGLAHS
調査期間	2015年5月8日～5月26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) 成果1

達成された。

プロジェクト開始前の2010年では診断できる疾病の種類は13疾病のみであったが、終了時評価調査時点（2015年5月）では予定した41疾病（75の診断技術）に対する検査診断を自立的に行えるレベルに達している。これらの技術移転を通して検査技術や運用が標準化され、終了時評価調査時点で検査診断プロトコル〔標準操作手順書（Standard Operation Procedure：SOP）〕58種類、マニュアル類3種類、技術資料20種類、様式6種類、その他資料4種類が整備された。

プロジェクト期間終了後も経験を積む必要のある項目もあるが、スバンDICは2014年に国際標準化機構（ISO）よりISO9001（品質マネジメント規格）の認証及びISO17025（試験所の能力に関する規格）の認定を受けていることから、スバンDICは国家規格や国際規格に準拠した試験方法で、十分な技量を有する試験員により正確な結果が出せる試験所であり、その品質が担保されたものと解釈できる。

これらのことから、スバンDICでは基本的かつ体系的な家畜疾病診断技術が確立されたといえることから、終了時評価時点において成果1は達成されたと考えられる。

(2) 成果2

達成された。

プロジェクトは2011年より検体受領から診断の流れに関する改善策の推進、報告システムの開発など、継続的にサービスの改善に取り組んできた。成果1に示したとおり、プロジェクトの努力によってスバンDIC内の診断体制は標準化され、ISO17025の認定を受けたことから、検査所として適切な検査診断サービスが国際的に標準化された体制で実施されていると認められる。

また、中間レビュー時点では診断サービス部長1名による最終診断体制であったが、成果1での検査診断の基本的技術移転、成果3でのアクティブ・サーベイランス等の活動を通して7名のラボチーフの診断結果に基づいた具体的なコメントや適切な最終判断を行える能力を獲得していることが、JICA専門家により認められている。

このように、スバンDIC内では診断体制が整備されたことにより、顧客の立場に立った検体診断サービスにかかわる実施能力は向上したといえる。したがって、終了時評価時点において成果2は達成されたと考えられる。

(3) 成果3

達成された。

疫学ラボスタッフは、JICA 専門家の支援を受けながら、主体的にサンプリングの方法、調査票の作成、得たデータの解析方法等、サーベイランス実施計画を作成している。実際のサーベイランス活動や解析も疫学ラボが中心的な役割を果たしている。また、スバン DIC では年間 100 回以上のアクティブ・サーベイランスが実施されており、その都度適切な提言がフィードバックされていることから、スバン DIC では効果的、効率的なアクティブ・サーベイランスが運用管理されているといえる。

サーベイランスにはすべての獣医スタッフ、パラメディックがサーベイランスに参加する体制となっており、プロジェクト対象疾病のサーベイランスの実施を通じて他の 10～12 疾病のサーベイランス実施運営能力に対しても正の影響があったとスバン DIC のスタッフのインタビューで聞き取られている。また、プロジェクトの牛ブルセラ病及び牛流産サーベイランスの実施を通じて、州・県政府事務所 (Provincial/District Office: DINAS) や各州・各県にある B/C タイプ・ラボ、酪農協のスタッフの防疫意識やサーベイランスにかかわる技術にも一定程度の向上が認められたとともに、スバン DIC との連携、協力体制も強化された。

このように、疫学ラボが中心となって実施されたプロジェクトのアクティブ・サーベイランスを切り口として、スバン DIC で実施するアクティブ・サーベイランス全体の能力向上が図られ、関係機関との連携の下で効果的、効率的なアクティブ・サーベイランスが実施できるようになった。このことから、終了時評価時点での成果 3 は達成されたと考えられる。

(4) 成果 4

達成された。

プロジェクト開始前は管轄地域内の獣医技術者・獣医師に対し DIC スタッフは家畜衛生に係る情報提供 (ニューズレター、巡回意見交換等)、啓発活動、技術支援活動を能動的に行っていなかった。プロジェクト開始後は、成果 4 のホームページやインドネシア語の家畜疾病啓発用パンフレット等を通して、それらの活動が開始されている。また、年 2 回の調整会議で啓発活動、技術支援活動の計画が策定されており、これらの活動が継続的に実施される体制が整えられている。

農家に対する啓発活動や技術支援は、県以下の地方政府畜産部局の役割であり、DIC や州の B タイプ・ラボが直接実施できない現状がある。そのため、彼らを通じた間接的な農家支援にとどまるが、年間 100 回以上実施されているアクティブ・サーベイランスの機会をとらえ、スバン DIC スタッフは可能な範囲で啓発活動、技術支援活動を実施している。

このように、スバン DIC では獣医技術者・獣医師・農家に必要な家畜衛生に係る情報提供、啓発活動、技術支援活動を継続する体制が整備され、成果 1～成果 3 の活動を通してスバン DIC スタッフがそれらの活動を実施する能力が備えられた。したがって、終了時評価時点での成果 4 は達成されたと考えられる。

(5) プロジェクト目標

ほぼ達成された。

2011 年のプロジェクト開始後、スバン DIC で必要な検査・診断機器、設備、材料等が整備されたとともに、JICA 専門家や外部講師による実地訓練、本邦研修や第三国研修によってスタッフの知識、技術は大きく向上し、診断可能な疾病の数、検査実施数も高い精度を維持しながら増加 (年間約 61,000 件) (指標 1) している (成果 1)。これには、成果 2 の活動で実施した業務フローの改善 [検体受領からフィードバックまでの流れの標

準化【各疾病で定められた標準日数内での診断結果の通知】（指標 2）やラボ診断報告システム【各ラボチーフによる適切な最終診断体制の構築】（指標 2）など）や診断結果に基づいた適切な提言に関する能力強化による貢献も大きい。成果 3 では取り組みの必要性の高い牛ブルセラ病及び牛流産に対するアクティブ・サーベイランスをプロジェクトの対象疾病として選定し、パイロットサイトの現状や問題点を明らかにした。

また、スバン DIC では疫学ラボが中心となって、多くのラボがアクティブ・サーベイランスに参加する体制を構築し、サーベイランスの計画立案から実施、解析・評価の一連の活動を実施する能力が向上し（会議やワークショップ等の開催を通じて 2012 年 8 回・2013 年 22 回・2014 年 17 回実施）（指標 3）、他の通常業務として実施されているアクティブ・サーベイランスにも正の影響が認められている。アクティブ・サーベイランスを通して DINAS や B/C タイプ・ラボ、酪農協などの関係機関との連携も強化され、業務の分担なども徐々に進展してきている。

他方、プロジェクトでは成果 4 の活動として計画的に啓発活動や技術支援活動を行う体制が整備されるとともに、ホームページやポスター、パンフレットなども多く作成されている。

スバン DIC の利用者（州/県政府事務所の獣医技術者/獣医師/農家）へスバン DIC 顧客満足度調査を実施した結果、2011 年調査は 87.4%、2014 年調査は 94.8%の利用者が「診断サービスがプロジェクト実施前よりも向上し、「満足」または「ほぼ満足」と回答し、高い満足度を示している（指標 4）。

以上のことから、スバン DIC の家畜疾病診断サービスの質・量は向上したと考えられたため、終了時評価調査時点でプロジェクト目標はほぼ達成されたと考えられる。

3-2 評価結果の要約

(1) 妥当性

プロジェクトの妥当性は終了時評価時点で高く維持されている。

2010 年 10 月に実施された事前評価ではインドネシアの家畜・動物衛生に関する政策及びターゲット・グループのニーズ、日本の援助政策とプロジェクト目標が合致していることが確認されているが、その後の本プロジェクトの妥当性を損ねるような政策の変更やニーズの変化等は認められず、その妥当性は終了時評価時点においても維持されている。

具体的には、2015 年以降の次期「畜産開発中期計画 2015-2019」は作成中であるが、インドネシアの畜産開発のなかの家畜・動物疾病対策の重要性は維持されていることが DGLAHS との面談時に確認された。2013 年には統合家畜衛生情報システムの運用を開始、2014 年には本プロジェクトのアクティブ・サーベイランスの対象疾患であるブルセラ病に対して、2025 年までの撲滅に向けたロードマップを発表しており、効果的な家畜疾病対策に向けた政策的努力を行っている。

他方、インドネシアは 2005 年 7 月に高病原性鳥インフルエンザ（High-Pathogenic Avian Influenza : HPAI）のヒト感染例が確認されて以降、2012 年 8 月 10 日時点において世界で最も多い 191 の感染例（うち 159 の死亡例）³が確認されており、現在も感染例と死亡例の報告が続いている。HPAI は人獣共通感染症であり、効果的な感染制御のためにはヒト感染だけではなく、家畜・動物に対するサーベイランスの実施と早期封じ込めが必須である。本プロジェクトは地域の家畜衛生対策の一端を担う DIC の機能強化を支援するものであり、ブルセラ病及び牛流産サーベイランスの実施能力強化を通して HPAI を含む重要感染症サーベイランスの実施能力強化をめざすものである（ブルセラ病も国家優先疾病の 1 つ

³ インドネシア保健省及びWHOによる公表情報

である)。JICA のインドネシア共和国国別分析ペーパー（2012 年）において「感染症等の地球規模課題への対応能力向上に係る支援を重視する」ことが明記されていることから、プロジェクト目標は日本の援助政策との整合性も維持されるとともに、地球規模課題対応との観点での国際的要求に適うものである。

(2) 有効性

プロジェクトの有効性はおおむね高い。

JICA 専門家の技術移転により 41 疾病に対する診断技術がおおむね確立している（成果 1）。成果 2 では検体診断サービス（パッシブ・サーベイランス）を適切に行うための体制整備やスタッフの能力強化が図られ（成果 2）、プロジェクトで対象とした牛ブルセラ病及び牛流産サーベイランスの実施を通して通常業務として実施されているアクティブ・サーベイランス全体の実施能力が強化される（成果 3）とともに、スバン DIC 内部のラボ間の連携強化やフィールド活動の機会を活用した関係者への啓発活動や技術支援活動も効果的に実施された。また、将来の西ジャワ地域での効果的な家畜疾病対策に向け、DINAS や B/C タイプ・ラボ、酪農協等の関係者に対する啓発活動、技術支援活動を実施する体制もおおむね確立した（成果 4）といえる。これらの成果によってスバン DIC の家畜疾病診断サービスの質的、量的向上は図られた（プロジェクト目標）といえ、各成果、プロジェクト目標測定のための指標もおおむね満たされた。スバン DIC は ISO9001（品質マネジメントシステム）の認証取得及び ISO17025（試験所の能力に関する規格）の認定を受けたことでこれらの達成事項の品質も担保されたと考えられることから、終了時評価時点でプロジェクト目標はおおむね達成されたといえる。

プロジェクト活動を通してスバン DIC スタッフ個々の能力は大きく向上し、検査業務だけでなく疾病監視業務、啓発・技術移転業務の質を落とさずに年間検査数を大幅に伸ばしてきた。また、プロジェクト活動を通して学術的成果も得られ、インドネシア・日本国側双方の努力によって望ましい人材育成が図られたと考えられる。しかしながら、スバン DIC は若い検査施設であり、獣医師及び獣医技術スタッフの年齢の中央値も終了時評価時点でそれぞれ 37 歳及び 32.5 歳である。したがって、プロジェクト期間終了後も継続して新規技術・知識の獲得に向けた努力が継続されることが望まれる。

(3) 効率性

プロジェクトの効率性はおおむね高い。

プロジェクト開始後、活動に必要な機器、機材の調達、設置が行われ、これと並行して対象地域の家畜衛生対策の実情やスバン DIC の業務運用システム、検査機能等にかかわるベースライン調査が実施された。調査結果に基づき、各ラボで 2015 年までに獲得すべき技術・サービスが詳細に規定された「プロジェクト技術到達目標シート」が作成され、同シートに沿って技術移転そのものは JICA 専門家よりおおむね計画どおり実施、中間レビュー時点までにおおむね終了している。中間レビュー以降は日常業務を通じた技術定着が図られ、アクティブ・サーベイランスや関係機関への情報提供や啓発活動、技術移転活動が順調に実施された。

実施される試験や診断の頻度により差があるものの、プロジェクトにより供与された検査機器、機材等は有効に活用されている。これらの機器等は ISO の規格に則って日常的なメンテナンスが適切に実施されている。施設設備に関しても JICA 短期専門家が派遣され、作成されたマニュアルに基づき、ISO の規格に合致したメンテナンスが実施されている。また、終了時評価までに合計 16 名のインドネシア人 C/P が本邦研修に派遣され、多くの知識、技能を獲得し、スバン DIC でのプロジェクト活動、日常業務に有効に活用している。

上記の結果、投入の質・量・タイミングは適切であったと考えられる。

(4) インパクト

プロジェクトの実施によって、以下に示す正のインパクトが確認または期待されている。

これまで示してきたとおり、スバン DIC は診断機能（診断可能な疾病数及び検査方法の増加）の強化が実現し、パッシブ・サーベイランスの機能も強化された。検査診断サービスの品質や検査施設としての適切性は ISO の認証、認定を受けたことで国際的にも担保されたといえる。また、地域全体として家畜疾病対策を効果的に行うためには外部関係者の能力強化も必須であるが、スバン DIC では啓発活動や技術支援活動を継続的に実施する体制が整備され、プロジェクトの活動を通して連携体制も強化されたといえる。

しかしながら、西ジャワ地域全体の家畜疾病対策強化の実現に向けて、スバン DIC は適切な病性鑑定を行うために外部の関係機関への啓発活動、技術支援活動を地道に継続するとともに、DINAS や B/C タイプ・ラボ等との業務分担の促進、スバン DIC スタッフのさらなる能力強化、公衆衛生セクターとの連携促進などの課題に対する取り組みを DGLAHS と協力して推進することが求められる。

以上のことから、プロジェクト期間終了以降、上述した取り組みが順調に進捗すれば、上位目標の達成は大いに期待できる。

このほか、プロジェクトを通して確認、期待される正のインパクトとして、①プロジェクト活動を通じた学術的成果の創出と検査診断業務への貢献、②家畜疾病マップの作成、③スバン DIC と外部関係機関〔DINAS や B/C タイプ・ラボ、簡易獣医診療所（Center for Animal Health : PUSKESWAN）、酪農家等〕との連携強化、④インドネシア側、日本側若手人材の能力強化、が挙げられる。

本プロジェクトの実施に起因する負のインパクトは、終了時評価時点において確認されない。

(5) 持続性

プロジェクトによって生み出された便益の自立発展、自己展開は終了時評価時点においてやや高いと見込まれる。

政策・制度面に関しては、DGLAHS は家畜疾病対策に対して政策的努力を継続しており、家畜疾病監視のための情報システムの構築やブルセラ病撲滅に向けたロードマップの作成などを行っている。終了時評価時点では次期「畜産開発中期計画 2015-2019」のドラフト作成中であるが、上位目標となる西ジャワ地域の家畜疾病対策の強化に向けた政策的コミットメントは、プロジェクト期間終了後も継続されることが見込まれる。

また、組織・財政面に関しては、プロジェクトは将来の持続性を強く意識し、プロジェクトが主催する研修会や出張を伴う疾病調査においても、日本・インドネシア国側機関双方は明確なコストシェアの下でプロジェクト活動を進めている。また、プロジェクトが技術移転を行った診断技術はスバン DIC の通常業務で使用されるものであり、プロジェクト活動として実施された牛ブルセラ病及び牛流産サーベイランスもスバン DIC の通常業務に組み込まれた形で実施されている。したがって、これらの活動はプロジェクト期間終了後もスバン DIC の予算で継続されることが強く見込まれる。

技術面に関しては、スバン DIC で確立した検査診断技術、サービスには SOP が作成され、ISO の規格に則って質の担保がなされている。スバン DIC を含めて公務員は異動が一定程度あるものの、上記品質管理システムにより技術的持続性は高く維持されることが見込まれる。しかしながら、検査診断技術は日々進歩しており、スバン DIC スタッフも常に

新規技術の獲得に向けた努力を継続するとともに、スタッフの離職・異動対策を含めたスバン DIC への技術の定着に向けた対策を講じることも重要である。また、上位目標達成に向けては、これらの取り組みと並行して DINAS や B/C タイプ・ラボ等の関係機関への啓発活動や技術支援活動を継続することも重要である。

3-3 効果発現に貢献した要因

(1) 計画内容に関すること

本プロジェクトは、2009年に日本の無償資金協力によって建設された施設で実施された技術協力プロジェクトであり、既存の施設設備は本プロジェクトでも最大限活用されている。

また、本プロジェクトでは現地の講師リソースを活用するようにデザインされており、講師リストは適宜アップデートされている。また、プロジェクトで作成したマニュアル2種は過去の JICA 技術協力プロジェクトの成果品を活用して作成されている。これらのリソースを効果的かつ効率的に活用したことで、プロジェクト目標を達成するための活動計画内容に大きく貢献した。

(2) 実施プロセスに関すること

プロジェクトで行った検査診断の基本的技術移転や診断体制の整備、関係機関への啓発活動、技術移転活動はスバン DIC の通常業務である。プロジェクトで対象としたブルセラ病及び牛流産に対するアクティブ・サーベイランスについても開始当初より持続性を意識してプロジェクト活動を実施しており、既にスバン DIC の通常業務として実施されているアクティブ・サーベイランス業務のなかに組み込んで実施されている。このことはプロジェクトの持続性を担保するとともに、効率的なプロジェクト活動の実施にも貢献している。

また、関係機関に対する情報提供や啓発活動、技術支援活動（成果4）はアクティブ・サーベイランス（成果3）で関係機関と協働した機会でも実施されており、効率性を高めた。

3-4 問題点及び問題を惹起した要因

(1) 計画内容に関すること

計画内容に関するプロジェクトの有効性の阻害要因は終了時評価時点までに確認されていない。

(2) 実施プロセスに関すること

プロジェクトの支援の下で第三国研修に派遣された1名のスタッフが他の DIC に異動となった。プロジェクトの投入が成果達成に十分還元されなかったとの観点からはプロジェクトの効率性を若干低下させたと考えるが、成果達成に重大な影響はもたらしていない。

3-5 結論

プロジェクトの技術支援によってスバン DIC の検査診断可能な疾病数は大きく増加し（成果1）、適切な診断サービス（パッシブ・サーベイランス）を行う体制が整備されたとともに、サービス運用能力も強化された（成果2）。また、プロジェクトで対象とした牛ブルセラ病及び牛流産サーベイランスの実施を通して通常業務として実施されているアクティブ・サーベイランス全体にも計画立案から実施、分析、フィードバックまでの一連の実施能力が強化された（成果3）。これと並行し、地域全体の効果的な家畜疾病対策強化に向けた関係機関の連携体制も確

立した（成果 4）。これらの成果に加え、スバン DIC は ISO の認証を取得し、家畜疾病診断サービスの品質管理も国際標準で行われているといえる。よってスバン DIC の家畜疾病診断サービスの質的、量的向上は図られたといえ、プロジェクト目標は終了時評価時点で達成されている。

これらの成果を評価 5 項目で分析したところ、妥当性、有効性、効率性及び持続性はいずれも高い、あるいはおおむね高いと評価された。上記の結果を踏まえ、本プロジェクトは予定どおり終了とする。また、インパクトにおいては学術的研究成果の創出や若手人材の育成などの正のインパクトが認められている。

3-6 提言（当該プロジェクトに関する具体的な措置、提案、助言）

(1) 知識、技術の維持向上について

スバン DIC はプロジェクトの実施により検査診断技術やパッシブ・サーベイランス、アクティブ・サーベイランス、啓発活動や技術支援活動にかかわる能力を大きく向上させた。今後もこれらの能力を適切に維持するとともに、新しい知識、技術をさらに獲得するための努力を継続する必要がある。

(2) 病性鑑定システムの強化に向けた関係機関への啓発活動、技術支援活動の継続

地域全体として効果的な家畜疾病対策を実現するには、病性鑑定システムが適切に機能することが求められる。しかしながら、スバン DIC では持ち込まれる検体に質の問題（不十分な検体採取部位や不適切な保存方法、不十分な疫学情報）から、病性鑑定を適切に実施できない事例が認められた。その解決に向けてスバン DIC は新しい SOP の運用を開始したが、スバン DIC は今後も、適切な病性鑑定の実施に必要な検査材料の入手に向けた関係機関への啓発活動や技術支援活動を継続的に実施する必要がある。

(3) 人獣共通感染症の清浄化について

ブルセラ病の清浄化には、感染家畜のとう汰のための補償制度の整備や感染していない家畜の導入など多くの課題が残されている。スバン DIC は関係機関による適切な対応の検討に貢献するため、本病の発生状況や感染状況などについて持続的に正確な情報を提供する必要がある。さらに、合同終了時評価チームは、中央政府、地方政府の当局はプロジェクトの成果を適切に活用し、ブルセラ病や狂犬病等の人獣共通感染症の撲滅に向けた強いコミットメントを示すことを提言する。

(4) 検査診断機器及び施設設備の維持管理について

スバン DIC では ISO の要求事項に基づいて、適切なラボ管理、施設管理が実施されている。スバン DIC は今後も継続して劣化を遅らせるための予防的メンテナンスを実施するとともに、特に検査診断機器については更新のための予算確保もあらかじめ検討しておくことが望ましい。

(5) PDM の改訂について

上位目標の指標 1「スバン DIC における家畜疾病診断のための検体数が 2018 年までに 2015 年と比較して 10%増加する。」について、スバン DIC は 2014 年に約 61,000 件の検査を実施しており、施設の処理能力の上限近くまで増加している。このため、西ジャワ地域の効果的、効率的な家畜疾病対策に向け、簡易な試験を B/C タイプ・ラボと分担することなどにより、地域全体としての検査能力の向上を図ることとしている。一方、B/C タイプ・ラボと協働して検査能力を向上するためには、指標 3「西ジャワ地域における、スバン DIC の家畜衛生に関する啓発・技術支援活動の数が、2018 年までに 2015 年と比較して 20%増

加する」に述べられている啓発活動や技術支援活動を適切に行うことが求められる。このため、指標 1 及び 3 については一体的に評価することが適当と考えられる。また、評価する検査実績の単位について、同一検体について複数の検査が実施される場合があること、現状においても、検体数としての実績の把握は困難で、検査数として把握・評価していることを考慮し、「検体数」を「検査数」に改める。

上記の点を考慮し、合同評価チームは指標 1 及び指標 3 を統合し、「スパン DIC 及び管轄地域の B/C タイプ・ラボ、家畜衛生センターを含めた家畜疾病診断のための検査実施数が 2018 年までに 2015 年と比較して 10%増加する」を上位目標達成度測定のための新たな指標とすることを提案する。

3-7 教訓（当該プロジェクトから導き出された他の類似プロジェクトの発掘・形成、実施、運営管理に参考となる事柄）

プロジェクトは開始当初より持続性を意識して、一連の活動をスパン DIC の通常業務として組み込む形で実施し、診断能力向上や業務体制改善を進めてきた。特に、プロジェクトがパイロットサイト活動としたブルセラ病及び牛流産に関する調査活動は、スパン DIC が通常業務として実施しているアクティブ・サーベイランスのなかに組み込んで実施された。このことが、プロジェクト及びスパン DIC 双方の予算措置や協働を円滑化するとともに、持続性の担保や効率的なプロジェクト活動の実施に貢献した。

このように、可能な限り先方の業務システムのなかでプロジェクト活動を運営することで、技術的、財政的持続性が担保されるものと考えられる。ただし、プロジェクトによって新たに先方業務として開始または継続される必要のあるものに関しては、プロジェクト期間終了までに必要な人材等も含めた業務のコスト分析を行っておくことにも留意が必要である。

第1章 終了時評価の概要

1-1 調査団派遣の経緯

インドネシア共和国（以下、「インドネシア」と記す）は、畜産業の発展及び生産性向上に対する主要な活動として、長年、家畜疾病対策に取り組んでいる。特に近年、人獣共通感染症を含む動物感染性疾患は社会経済的な損失だけでなくヒトの健康を守る観点からも大きな懸念となっている。そのため、これらの疾病発生に係るサーベイランスシステムの強化が動物・家畜疾病対策には重要である。

インドネシアでは家畜疾病対策のために、家畜疾病診断センター（Disease Investigation Center : DIC）が農業省畜産・動物衛生総局（Directorate General of Livestock & Animal Health Services : DGLAHS）の下、全国に8カ所設立されている（メダン DIC、ブキティンギ DIC、ランプン DIC、ワテス DIC、デンパサール DIC、バンジャルバル DIC、マロス DIC、スパン DIC）。これら DIC は A タイプ・ラボと位置づけられ、それぞれ数州を管轄し、家畜疾病診断を実施している。また、各州及び各県レベルには B タイプ及び C タイプ・ラボが配置されている。DGLAHS 下にある A タイプ・ラボでは家畜疾病調査及び診断を実施し、各州にある B タイプ・ラボ、各県にある C タイプ・ラボでは、それぞれ、州・県が策定する家畜疾病対策による家畜疾病管理を行っている。インドネシアでは 2000 年より地方分権化が進められており、このような状況下でこれらの3タイプのラボ間での連携、協働を強化することは、家畜疾病対策を管理するうえで重要である。

わが国は 2009 年に無償資金協力プロジェクト「鳥インフルエンザ等重要家畜疾病診断施設整備計画」により、スパンに DIC 施設を新設し、併せて既存のメダン DIC 及びランプン DIC 施設の一部改修支援を行った。スパン DIC は首都ジャカルタから約 100km 東に位置し、以前はワテス DIC が管轄していたジャカルタ州、西ジャワ州、バンテン州を新たに管轄している。この3州はインドネシアでも養鶏業が盛んな地域であるため、家畜疾病対策上、非常に重要な地域となっている。新設されたスパン DIC には 47 名のスタッフ（うち技術スタッフは獣医師 21 名・獣医技術者 16 名）が配置されていたが、これらスタッフの多くは実務経験に乏しく、診断技術も十分でない者が多い。

こうした背景の下、インドネシア政府は将来の西ジャワ地域の効果的な家畜疾病対策実現に向けて、スパン DIC の家畜疾病診断サービスにかかわる組織機能強化を目的とした技術協力プロジェクトの実施をわが国政府に要請した。これを受け、独立行政法人国際協力機構（JICA）は 2011 年 7 月から 2015 年 7 月までの 4 年間の予定で「家畜衛生ラボ能力向上プロジェクト」（以下、「本プロジェクト」と記す）を開始し、現在派遣中の長期専門家 2 名と短期専門家（延べ 15 名）による協力を実施中である。

今回の終了時評価では、2015 年 7 月の事業期間終了を控え、事業全体の活動内容、成果及びプロジェクト目標について評価 5 項目（妥当性、有効性、効率性、インパクト及び持続性）に基づいて評価し、成果やプロジェクト目標達成や事業終了後の持続性担保に向けた提言、並びに今後の類似事業の実施にあたっての教訓を抽出することを目的とする。

1-2 終了時評価の目的

終了時評価の目的は以下に示すとおりである。

- (1) 最新 PDM (Version 2) (付属資料 2) に基づいてプロジェクトの全体的な進捗をレビューし、評価 5 項目の評価基準に従って評価時点でのプロジェクト成果を評価する。
- (2) プロジェクトの成果及び目標に対する促進要因及び阻害要因を特定する。
- (3) 上記の分析結果に基づいてインドネシア側と共同で残りのプロジェクト期間での活動方針について協議する。
- (4) プロジェクト期間終了までのプロジェクト目標の着実な達成に向けた提言を行うとともに、必要に応じて PDM の見直しを行う。
- (5) 合同終了時評価報告書に調査結果を取りまとめる。

1-3 合同終了時評価チームのメンバー

合同終了時評価チーム (以下、評価チーム) の構成は以下のとおりである。

<日本側>

担当分野	氏名	所属	現地派遣期間
団長・総括	要田 正治	JICA 国際協力専門員	2015 年 5 月 17 日～ 2015 年 5 月 27 日
家畜疾病診断	中尾 哲也	農林水産省 動物検疫所 精密検査部 微生物検査課長	2015 年 5 月 17 日～ 2015 年 5 月 27 日
獣医疫学	山本 健久	農業・食品産業技術総合研究所 動物衛生研究所 ウイルス・疫学研究領域 (疫学) 主任研究員	2015 年 5 月 17 日～ 2015 年 5 月 27 日
計画管理	廣中 進司	JICA 農村開発部 農業農村開発第一グループ 第一チーム ジュニア専門員	2015 年 5 月 17 日～ 2015 年 5 月 27 日
評価分析	井上 洋一	(株)日本開発サービス 調査部 主任研究員	2015 年 5 月 7 日～ 2015 年 5 月 27 日

<インドネシア側>

氏名	所属
Dr. Nilma Lubis	Senior Veterinary Officer, Sub Directorate of Animal Disease Surveillance, Directorate of Animal Health, DGLAHS
Dr. M. Farid. AZ	Senior Veterinary Officer, JICA Project Management Unit, DGLAHS
Dr. Megawaty Iskandar	Veterinary Officer, Sub Directorate of Institutional and Animal Health Resources, Directorate of Animal Health, DGLAHS
Ms. Yuliana Susanti	Senior Officer, Subdivision Cooperation and Public Relation, Planning Division, DGLAHS

現地調査は、2015年5月8日から26日にかけて実施され、サイト視察、インタビュー、プロジェクト報告書等の関連文書レビューを行った（付属資料1）。

1-4 プロジェクトの枠組み

プロジェクトの実施機関及び関連機関、対象地域、受益者は、以下のとおりである。また、最新PDMであるVersion 2（付属資料2）に示されるプロジェクトの要約（プロジェクト目標、成果、活動）を以下に示す。

- (1) ターゲット・グループ：スバン DIC の職員
- (2) プロジェクト・サイト：スバン DIC
- (3) 実施機関：農業省 DGLAHS 動物衛生局（Directorate of Animal Health : DAH）
- (4) 最新の PDM（2013年5月23日：Version 2）

上位目標	西ジャワ地域（スバン DIC 管轄地域）の家畜疾病対策が強化される。
プロジェクト目標	スバン DIC の家畜疾病診断サービスの質・量が向上する。
成果	<p>成果1: スバン DIC スタッフが基本的かつ体系的な家畜疾病診断技術を習得する。</p> <p>成果2: スバン DIC スタッフの、顧客の立場に立った検体診断サービス（パッシブ・サーベイランス）に係る実施能力が強化される。</p> <p>成果3: スバン DIC スタッフのパイロットサイトにおける、疾病調査及び疾病対策技術支援（アクティブ・サーベイランス）の実施能力が強化される。</p> <p>成果4: スバン DIC スタッフが、管轄地域内の獣医技術者・獣医師・農家に必要な家畜衛生に係る情報提供（ニュースレター、巡回意見交換等）、啓発活動、技術支援活動を継続的に実施する。</p>
活動	<p>活動1</p> <p>1-1. スバン DIC スタッフが、スバン DIC の診断技術の現状及びニーズ調査を実施する。</p> <p>1-2. スバン DIC スタッフが、調査結果に基づき、ラボに必要な診断技術（疾病の種類、診断方法、レベル等）及び習得度目標値を設定する。</p> <p>1-3. スバン DIC スタッフが、ラボごとに診断技術の技術習得計画を策定する。</p> <p>1-4. スバン DIC スタッフが、講師リソース〔日本人専門家、スバン DIC、他 DIC、インドネシア獣医学研究所（Indonesian Research Centre for Veterinary Science : IRCVS）、国立動物医薬品検査所（National Veterinary Drug Assay Laboratory : NVDAL）、大学の畜産学科職員〕の候補者リストを作成する。</p> <p>1-5. スバン DIC スタッフが、講師リソースから計画された診断技術の移転をインドネシア国内、日本、第三国研修を通じて受ける。</p> <p>1-6. スバン DIC スタッフが、講師リソースによる診断技術の熟達度試験（Proficiency Test 等）を受取る。</p> <p>活動2</p> <p>2-1. スバン DIC スタッフが、スバン DIC における診断検体の受領と診断の流</p>

れの現状を分析する。

- 2-2. スバン DIC スタッフが、フィールドからの診断用検体送付の現状を分析する。
- 2-3. スバン DIC スタッフが、スバン DIC における診断用検体受領と診断の流れの改善策を策定する。
- 2-4. スバン DIC スタッフが、スバン DIC における診断サービスの改善策を実施する。
- 2-5. スバン DIC スタッフが、改善策実施後をモニタリング（検体受領・診断フロー、所要日数、顧客の意見等）し、フィードバックする。

活動 3

- 3-1. スバン DIC スタッフが、畜産振興地域のなかからパイロットサイト選定のための事前現地調査を行う。
- 3-2. スバン DIC スタッフが、疾病調査と対策活動のためのパイロットサイトを選定する。
- 3-3. スバン DIC スタッフが、パイロットサイトの B/C タイプ・ラボと連携して、地域の畜産振興特性を考慮した疾病調査を計画し実施する。
- 3-4. スバン DIC スタッフが、パイロットサイトの調査結果を分析し、提言レポートを作成する。
- 3-5. スバン DIC スタッフが、パイロットサイトにおける活動実施による家畜衛生状況のモニタリングとフィードバックを行う。

活動 4

- 4-1. スバン DIC スタッフが、スバン DIC の管轄地域 3 州の獣医技術者・獣医師・農家への情報提供、情報交換のために定期刊行ニューズレターを発行する。
- 4-2. スバン DIC スタッフが、パイロットサイトの B/C タイプ・ラボと連携し、獣医技術者・獣医師・農家との情報交換のために必要な、その他の手段（巡回意見交換会等）または場づくりの活動を検討し、実施する。
- 4-3. スバン DIC スタッフが、パイロットサイトの獣医技術者・獣医師・農家に必要な衛生改善の啓発活動・技術支援活動を計画する（他の JICA プロジェクトの啓発活動用の成果品を活用する）。
- 4-4. スバン DIC スタッフが、パイロットサイトの B/C タイプ・ラボと連携し、獣医技術者・獣医師・農家に継続可能な啓発活動・技術支援活動を実施する。
- 4-5. スバン DIC スタッフが、活動のモニタリングと次にとるべきアクションへのフィードバックを行う。

第2章 終了時評価の方法

終了時評価は「JICA 事業評価ガイドライン」第1版及び第2版（それぞれ2010年6月、2014年5月）に沿って実施された。実績・実施プロセスの確認と5項目評価を行うための調査項目について、何をどのように実施したらよいか具体的な方法を検討するため、評価設問、必要な情報・データ、情報源、データ収集方法について一覧表で示した評価グリッド（附属資料3-1、3-2）を作成した。

評価チームのメンバーは評価グリッドに基づき、カウンターパート（Counterpart：C/P）や各関係機関、JICA 専門家に対して質問票やインタビューを実施し、プロジェクトのレビューを実施した。

調査結果は日本-インドネシア合同でPCM（プロジェクト・サイクル・マネジメント）の常法に則り、最新のPDM Version 2に基づいてプロジェクト成果の到達度の確認及び評価5項目での分析を実施し、合同評価報告書を取りまとめた。

本終了時評価に用いた評価5項目の概説を表-1に示す。

表-1 評価5項目の概説

評価5項目	概説
妥当性	プロジェクトの目標（PDMのプロジェクト目標、上位目標）が、受益者のニーズと合致しているか、援助国側の政策と日本の援助政策との整合性はあるかなど、「援助プロジェクトの正当性」を検討する。終了時評価での妥当性評価は、現状・実績に基づいて検証作業を行う。
有効性	PDMの「プロジェクトの成果」の達成度合いと、それが「プロジェクト目標」の達成にどの程度結びついたかを検討する。終了時評価での妥当性評価は、現状・実績に基づいて検証作業を行う。
効率性	プロジェクトの「投入」から生み出される「成果」の程度を把握する。各投入のタイミング、量、質の適切度を検討する。終了時評価での効率性評価は、現状・実績に基づいて検証作業を行う。
インパクト	プロジェクトが実施されたことにより生じる直接・間接的な正負の影響を検討する。終了時評価でのインパクトは、予測・見込みに基づいて検証作業を行う。
持続性	援助が終了した後も、プロジェクト実施による便益が持続されるかどうか、自立発展に必要な要素を見極めつつ、プロジェクト終了後の自立発展の見通しを検討する。終了時評価での持続性評価は、予測・見込みに基づいて検証作業を行う。

第3章 プロジェクトの実績と実施プロセス

3-1 投入

(1) 日本側投入実績

以下に、2014年12月時点のプロジェクトに対する日本側からの投入を示す。詳細は付属資料4～9を参照のこと。

構成	投入
JICA 専門家の派遣	長期専門家：延べ3名（チーフアドバイザー/家畜衛生管理、業務調整/家畜衛生広報、獣医診断技術/疫学）（合計121.8人/月、プロジェクト期間終了時点の見込値） 短期専門家：延べ17名（病理診断技術、獣医疫学、寄生虫症診断、獣医公衆衛生、臨床診断、血清診断、病性鑑定、生化学診断、実験室維持管理）（合計28.1人/月）
ローカルスタッフ雇用	事務職員：延べ2名、システムエンジニア：1名、フィールド・トレーナー：1名、ドライバー：延べ4名
資機材の提供	デスクトップ/ノート PC、コピー機、乗用車（4WD）、冷却微量遠心機、CCDカメラ&モニター付顕微鏡等検査診断に必要な機器
本邦研修/第三国研修	本邦研修：17名（人獣共通感染症対策、獣医技術研究、国際獣疫対策上級専門家育成、パラメディック獣医診断技術） 第三国研修：3名〔東南アジア向け発生源における鳥インフルエンザ診断（マレーシア）：1名、タイ国ブルセラ病診断・サーベイランス研修：2名〕
その他の活動費	会議等費用負担等：6,209万5,000IDR（インドネシアルピー）

(2) インドネシア側投入実績

以下に、2014年12月現在のプロジェクトに対するインドネシア側からの投入を示す。詳細については付属資料8及び9を参照のこと。

構成	投入
C/P 配置	延べ64名 －農業省 DGLAHS：延べ6名 －スバン DIC：延べ58名
施設及び資機材	スバン DIC 内プロジェクト事務室、机、椅子、雑品目、他
現地活動費	637億755万8,600IDR（2011～2014年執行済み 2015年予算申請額）

3-2 プロジェクトの実績

(1) プロジェクト活動の実績

成果に係るプロジェクト活動実績を以下に示す。

成果1：スバン DIC スタッフが基本的かつ体系的な家畜疾病診断技術を習得する。	
活動	達成事項
1-1. スバン DIC スタッフが、スバン DIC の診断技術の現状及びニーズ調査を実施する。	<ul style="list-style-type: none"> ・ プロジェクト開始直後より、以下の対象、内容のベースライン調査を実施した。 <ul style="list-style-type: none"> －DIC 内部 <ul style="list-style-type: none"> 診断能力、個々の疾病の診断数、日常業務や設備等の状況 －DIC 外部

	<p>地域の畜産業の状況、地方自治体や農業協同組合等 27 施設に対する質問票による調査（一般情報、疾病疑い家畜からの検体提出、能動的サーベイランス、家畜衛生に関する研修、DIC から依頼者への調査結果やコメント等のフィードバック）</p> <ul style="list-style-type: none"> ・ 上記の調査結果に基づいて PDM 指標の目標値等が決定され、2012 年 3 月 14 日に開催された第 1 回合同調整委員会（Joint Coordination Committee : JCC）で Version 1 として承認された。
<p>1-2. スパン DIC スタッフが、調査結果に基づき、ラボに必要な診断技術（疾病の種類、診断方法、レベル等）及び習得度目標値を設定する。</p>	<ul style="list-style-type: none"> ・ ベースライン調査の分析結果に基づき、プロジェクト対象サイト及び対象疾病の選定、プロジェクト活動計画の策定が行われ、第 1 回 JCC で承認された。 ・ また、同調査の分析に基づき、スパン DIC の 8 つのラボごとに達成すべき技術/サービスが詳細に項目化され、技術向上のための方法や達成指標、達成時期等を示した「プロジェクト技術到達目標シート」が作成された。
<p>1-3. スパン DIC スタッフが、ラボごとに診断技術の技術習得計画を策定する。</p>	<ul style="list-style-type: none"> ・ 同シートの作成は 2012 年第 1 四半期に実施され、第 3 四半期までにすべてのラボで完成した。
<p>1-4. スパン DIC スタッフが、講師リソース（日本人専門家、スパン DIC、他 DIC、IRCVS、NVDAL、大学の畜産学科職員）の候補者リストを作成する。</p>	<ul style="list-style-type: none"> ・ JICA 短期専門家はプロジェクト活動計画（PO）に従って計画され、必要な時期に必要な期間派遣された。終了時評価時点までに延べ 17 名の短期専門家が派遣された（延べ 842 日、28.1 人/月）。 ・ これに加え、各分野でインドネシア国内の講師リストが 2012 年第 1 四半期までに作成され、プロジェクトの研修等に活用された。 ・ インドネシアの国内講師リソースは多くの機関から選定（主に大学教授）され、研修を通じて派遣元の機関との関係も構築されている。 ・ 講師リストは適宜アップデートされている。
<p>1-5. スパン DIC スタッフが、講師リソースから計画された診断技術の移転をインドネシア国内、日本、第三国研修を通じて受ける。</p>	<ul style="list-style-type: none"> ・ 終了時評価調査時点で合計 16 名の C/P が日本の機関（動物衛生研究所、北海道大学、帯広畜産大学）で「獣医学技術研究」、「人獣共通感染症対策」、「パラメディック獣医学診断技術」、「国際獣疫対策上級専門家育成」のテーマで研修を受けている（終了時評価時点で 1 名が研修中、プロジェクト期間終了時点での見込み人/月は 103.5）。 ・ 第三国研修は、1 名がマレーシアにおいて「東南アジア向け発生源における鳥インフルエンザ診断」（2011 年 10 月、0.8 人/月）、2 名がタイにて「ブルセラ病診断・サーベイランス研修」（2012 年 6 月、合計 0.6 人/月）に参加した。 ・ 国内研修は、合計 41 の研修にスパン DIC 職員や B タイプ・ラボ職員、地方自治体職員などプロジェクト関係者が多数参加した。 ・ なお、プロジェクトは JICA 専門家及びスパン DIC 職員が発表者となるセミナー・会議を 65 回開催し、発表タイトル数は 133 である。

<p>1-6. スバン DIC スタッフが、講師リソースによる診断技術の熟達度試験 (Proficiency Test 等) を受ける。</p>	<ul style="list-style-type: none"> • 2013 年まで国際獣疫事務局 (World Organization for Animal Health : OIE) が認証したオーストラリア動物衛生研究所 (Australian Animal Health Laboratory : AAHL) による Proficiency Test、及びインドネシア国内のラボの平準化を目的とした独自の検査規格の 2 種類が存在していた。 • 農業大臣は 2012 年にワテス DIC を鳥インフルエンザの国家リファラルラボと指定し、ワテス DIC が 2013 年より検査の制度保証メカニズムを運営している。 • スバン DIC では、他の DIC や NVDAL などの検査施設間の平準化を目的とした Proficiency/比較試験がブルセラ病、HPAI、狂犬病などについて延べ 103 回実施されている。 • なお、ISO 認証 (成果 1 の達成度を参照) に伴い、毎年の Proficiency Test (または他 DIC との診断結果比較) が義務づけられたため、今後確実に継続される見込みである。
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<p>成果 2 : スバン DIC スタッフの、顧客の立場に立った検体診断サービス (パッシブ・サーベイランス) に係る実施能力が強化される。</p>	
<p style="text-align: center;">活 動</p>	<p style="text-align: center;">達成事項</p>
<p>2-1. スバン DIC スタッフが、スバン DIC における診断検体の受領と診断の流れの現状を分析する。</p>	<ul style="list-style-type: none"> • 2011 年第 4 四半期から 2012 年第 1 四半期にかけて実施されたベースライン調査により、スバン DIC の検体の流れ、診断及び診断用検体送付の現状が調査、分析された。 • スバン DIC の各ラボで課題は異なるものの、成果 1 で確認された新規技術の獲得や検査技術の向上の必要性のほかに、検査実施に必要な機材、器具の整備や業務の効率化、機器メンテナンスの必要性などの課題が明確にされた。 • また、搬入される検体の質 (採取部位の不足、検体量の不足、不適切な保存方法、疫学情報の不足等) の問題も確認された。
<p>2-2. スバン DIC スタッフが、フィールドからの診断用検体送付の現状を分析する。</p>	<ul style="list-style-type: none"> • 2011 年第 4 四半期から 2012 年第 1 四半期にかけて、スバン DIC 全体で検体受領と検査診断の流れに関する改善策を取りまとめた。 • 2012 年 3 月に実施された第 1 回 JCC 以降、スバン DIC は上記計画に基づいて報告システムを開発するなど、継続的に検査診断サービスの改善に取り組んでいる。 • 終了時評価時点では、各ラボのチーフがおおむね適切な最終診断を行える能力を備えていることが JICA 専門家により確認されている。また、2014 年にはスバン DIC は ISO17025 の認定を受けており、検査施設としての管理体制が国際的な規格に準じていることが証明されている。 • 上記のとおり DIC 内部の検体診断サービス体制は大きく向上したが、終了時評価調査時点でも検体の質や依頼検体に付随する疫学情報の記載が不十分な場合も多く、今後も引き続き B/C タイプ・ラボの職員も含む依頼元への啓発・教育が必要である。
<p>2-3. スバン DIC スタッフが、スバン DIC における診断用検体受領と診断の流れの改善策を策定する。</p>	<ul style="list-style-type: none"> • 2011 年第 4 四半期から 2012 年第 1 四半期にかけて、スバン DIC 全体で検体受領と検査診断の流れに関する改善策を取りまとめた。 • 2012 年 3 月に実施された第 1 回 JCC 以降、スバン DIC は上記計画に基づいて報告システムを開発するなど、継続的に検査診断サービスの改善に取り組んでいる。 • 終了時評価時点では、各ラボのチーフがおおむね適切な最終診断を行える能力を備えていることが JICA 専門家により確認されている。また、2014 年にはスバン DIC は ISO17025 の認定を受けており、検査施設としての管理体制が国際的な規格に準じていることが証明されている。 • 上記のとおり DIC 内部の検体診断サービス体制は大きく向上したが、終了時評価調査時点でも検体の質や依頼検体に付随する疫学情報の記載が不十分な場合も多く、今後も引き続き B/C タイプ・ラボの職員も含む依頼元への啓発・教育が必要である。
<p>2-4. スバン DIC スタッフが、スバン DIC における診断サービスの改善策を実施する。</p>	<ul style="list-style-type: none"> • 2011 年第 4 四半期から 2012 年第 1 四半期にかけて、スバン DIC 全体で検体受領と検査診断の流れに関する改善策を取りまとめた。 • 2012 年 3 月に実施された第 1 回 JCC 以降、スバン DIC は上記計画に基づいて報告システムを開発するなど、継続的に検査診断サービスの改善に取り組んでいる。 • 終了時評価時点では、各ラボのチーフがおおむね適切な最終診断を行える能力を備えていることが JICA 専門家により確認されている。また、2014 年にはスバン DIC は ISO17025 の認定を受けており、検査施設としての管理体制が国際的な規格に準じていることが証明されている。 • 上記のとおり DIC 内部の検体診断サービス体制は大きく向上したが、終了時評価調査時点でも検体の質や依頼検体に付随する疫学情報の記載が不十分な場合も多く、今後も引き続き B/C タイプ・ラボの職員も含む依頼元への啓発・教育が必要である。

<p>2-5. スバン DIC スタッフが、改善策実施後をモニタリング（検体受領・診断フロー、所要日数、顧客の意見等）し、フィードバックする。</p>	<ul style="list-style-type: none"> スバン DIC は ISO9001 及び ISO17025 規格の要求事項に基づき、検体診断サービス体制のモニタリングが定期的実施されている。 これに加え、スバン DIC は毎年顧客満足度調査を実施しており、顧客の立場に沿ったサービスの向上に努めている。
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成果 3：スバン DIC スタッフのパイロットサイトにおける、疾病調査及び疾病対策技術支援（アクティブ・サーベイランス）の実施能力が強化される。

活 動	達成事項
<p>3-1. スバン DIC スタッフが、畜産振興地域の中からパイロットサイト選定のための事前現地調査を行う。</p>	<ul style="list-style-type: none"> 2011 年第 4 四半期から 2012 年第 1 四半期にかけて実施されたベースライン調査により、パイロットサイト選定のための基礎情報を収集した。 国家的優先疾病と指定された 5 つの疾病〔狂犬病、高病原性鳥インフルエンザ（High-Pathogenic Avian Influenza : HPAI）、ブルセラ病、炭疽、豚コレラ〕のうち、罹患率が高く対策が十分でない牛ブルセラ病を対象疾病として選定した。特にスバン DIC の所在地である西ジャワ州では乳牛数が多く、高い罹患率が見込まれているものの、正確なサーベイランスデータは得られていなかった。ジャカルタ首都特別州では東ジャカルタ地域で補体結合反応試験（Complement Fixation Test : CFT）の陽性率が高い〔15.3%（25/163）〕というデータが得られていることを考慮し、ここをパイロットサイトに選定した。バンテン州ではブルセラ病の報告数はゼロであったことから、ブルセラ病の清浄性の確認が必要とされた。
<p>3-2. スバン DIC スタッフが、疾病調査と対策活動のためのパイロットサイトを選定する。</p>	<ul style="list-style-type: none"> また、2014 年からは牛ブルセラ病に関連して牛流産サーベイランスを開始した。牛流産サーベイランスはバンテン州の水牛と西ジャワ州レンバン地区の乳牛を対象としていたが、西ジャワ州政府の要請によりパンガレン県でも実施することとした。
<p>3-3. スバン DIC スタッフが、パイロットサイトの B/C タイプ・ラボと連携して、地域の畜産振興特性を考慮した疾病調査を計画し実施する。</p>	<ul style="list-style-type: none"> プロジェクト開始後、獣疫学分野の JICA 短期専門家を中心としてスバン DIC の疫学ラボの現状と問題点を把握し、サーベイランス地域の選定方法、サンプリング手法、データ解析手法に関する技術移転を行った。その後、2012 年 1 月から 2 月にかけて、細菌診断担当の JICA 長期専門家がブルセラを分離・同定するマニュアルを作成し、選択培地の作製、ブルセラ・アボルタスの培養を開始した。 牛ブルセラ病について、2012 年 4 月から 7 月にかけて技術移転された「実用的な疫学の概念」、「疫学的解析を目的とした野外調査の方法」、「疫学的手法によるデータ解析方法」を基礎とし、牛ブルセラ病サーベイランスを実施した。調査した 5,400 頭の血清についてローズベンガル凝集試験によるスクリーニングを行った結果、抗体陽性率は 3.2%（173/5,400）であった。 2013 年から実施された乳牛の牛ブルセラ病サーベイランスの結果は以下のとおりである。

－DKI ジャカルタ

東ジャカルタ県の酪農コロニーで B タイプ・ラボと協働し、全頭の個体識別体制の構築とブルセラ病調査を実施したところ、1,567 頭中 128 頭（8.2%）が陽性であった。

－西ジャワ州

ブルセラ病サーベイランスを実施し、県ごとの有病率を推定した。州全域 433 農場のブルセラ抗体保有率は約 4%と推定された。

－バンテン州

水牛飼養農家への質問票調査及びブルセラ病調査を実施したところ、調査した 1,955 頭のすべてが陰性であった。一方で、バンテン州で水牛を飼育している農家の約 20%で流産が発生していることが明らかとなった。なお、バンテン州で本格的なブルセラ病サーベイランスを実施したのは、これが初めてである。

- 2014 年 3 月から 7 月にかけて、DKI ジャカルタ、西ジャワ州、バンテン州の 3 州で牛及び水牛 8,026 頭のブルセラ病サーベイランスを実施した結果、抗体保有率は 0.57%であった。抗体保有率は 29 県中 23 県で 0.0%であったが、スメダン県で 6.8%、バンドン県で 4.2%、東ジャカルタ県で 3.7%と、有病率に偏りがあることが確認された。
- 牛流産サーベイランスは 2014 年 9 月から 11 月にかけて西ジャワ州パンガレン地区及びレンバン地区で実施された。スバン DIC の疫学ラボが JICA 専門家の助言を受けながら、アクティブ・サーベイランスの計画策定、調査票の作成、データ解析を主導的に行い、細菌ラボ（ブルセラ、サルモネラ、カンピロバクター）、ウイルスラボ（アルボウイルス）、寄生虫ラボ（血中及び糞便中の寄生虫）、病理ラボが参加、実施しており、ブルセラを中心とする細菌、ウイルス、寄生虫の流産への影響を調査した。主な調査結果は以下のとおりである。

－ブルセラ病

CFT での血清中のブルセラ抗体陽性率は 6.3%（760 検体中 48 検体）であった。また、臍ぬぐい液 50 検体から分離したブルセラを疑う株の 1 つが生化学的性状検査と PCR 検査でブルセラ・アボルタスであることが確認され、2014 年にスバン DIC で過去の疑い検体から確認された 2 例を併せ、合計 3 頭からのブルセラ・アボルタスを確認した。

－牛の早、流、死産の一因となるアルボウイルスについて、526 血清検体中 383 検体（72.8%）でアルボウイルスの一種であるアカバネウイルスに対する抗体陽性を示した。また、中和反応を用いた抗体保有率と抗体価を測定した。

- なお、スバン DIC と本プロジェクトとの共同作業の 1 つとして、HPAI を中心としたスバン DIC のサーベイランス事業におけるサルモネラ分離のための糞便採取を継続し、分離したサルモネラの血清型別を行っている。さらに、鶏糞便に加えて

	<p>病鶏も採取し、病理組織学的検査と細菌学的検査を継続している。その結果、スバン DIC において初めて、鶏からマイコプラズマを分離した（2012年4月）。</p>
<p>3-4. スバン DIC スタッフが、パイロットサイトの調査結果を分析し、提言レポートを作成する。</p>	<ul style="list-style-type: none"> プロジェクトは各州のパイロットサイトにおいて関係者〔州・県政府事務所（Provincial/District Office : DINAS）、Bタイプ・ラボ、酪農協等〕や酪農家を対象として適宜会議やワークショップを開催し、サーベイランス結果の共有を行うとともに今後のサーベイランス計画や対策について協議した。バンテン州の疾病リスク分析結果、ジャカルタ州の個体識別体制構築についても、各種報告書や会議で示した。 プロジェクト全体としても、管内調整会議等を毎年実施し、分析した調査結果を関係機関に提示している。 ただし、アクティブ・サーベイランスの包括的な分析は終了時評価時点で継続中であり、最終的な提言レポートは疫学ラボスタッフによる日本での解析結果も踏まえ作成する予定であり、完成は2015年10月頃となる見込みである。
<p>3-5. スバン DIC スタッフが、パイロットサイトにおける活動実施による家畜衛生状況のモニタリングとフィードバックを行う。</p>	<ul style="list-style-type: none"> 活動3-4に記載したとおり、サーベイランスの結果は適宜関係者に共有されている。 また、家畜衛生状況のモニタリングを目的に、家畜疾病マップを毎年作成し関係機関に配付している。同マップはB/Cタイプ・ラボや簡易獣医診療所（Center for Animal Health : PUSKESWAN）の検査実績もスバン DIC の実績に統合されている。また、検査数、陽性数、検査地点も把握できる。

<p>成果4：スバン DIC スタッフが、管轄地域内の獣医技術者・獣医師・農家に必要な家畜衛生に係る情報提供（ニューズレター、巡回意見交換等）、啓発活動、技術支援活動を継続的に実施する。</p>	
活 動	達成事項
<p>4-1. スバン DIC スタッフが、スバン DIC の管轄地域3州の獣医技術者・獣医師・農家への情報提供、情報交換のために定期刊行ニューズレターを発行する。</p>	<ul style="list-style-type: none"> 2010年10月及び2012年2月にプロジェクト紹介パンフレットをそれぞれ500部、1,000部作成し、中央レベルの関係機関、州・県の畜産局、農協、農家等に配付した（付属資料10）。 ニューズレターの代替えとして、インターネットへのアクセスが可能である獣医技術者、獣医師等向けに2011年12月にスバン DIC のホームページを立ち上げ、毎月セミナー開催情報、管内家畜疾病発生状況などの内容の情報を発信している。ホームページの活用の事例として、DINAS や Bタイプ・ラボは DIC が毎年示す疾病マップを活用して、翌年度のサーベイランス計画を立てている。また、診断可能項目や価格の確認等にもホームページは利用されている。今後はホームページ上で診断依頼・結果確認をできるようにするほか、技術関連情報をより充実させるよう、疫学ラボが中心となり計画が進められている（完成はプロジェクト期間終了後の見込み）。なお、ニューズレターは JICA 専門家が中心となって、2013年10月に1回発行されている。

	<ul style="list-style-type: none"> ・ 2012年2月に、プロジェクトはB/Cタイプ・ラボや酪農家を対象とした家畜疾病啓発に関するインドネシア語のパンフレット8種類を各1,000部作成し、中央レベルの関係機関、州・県の畜産局、農協に配付した。2013年3月には同パンフレットの改訂版を作成し、同様に配付している。また、これらのパンフレットはスバンDICが実施するアクティブ・サーベイランスの機会にも畜産農家等に配付されている。 ・ プロジェクト及びスバンDIC紹介のカレンダーをインドネシア側予算にて100部作成し、関係機関に配付した(2012年1月、2013年1月、2014年1月、2015年1月)。 ・ 2013年2月に「BSE診断のための牛脳サンプリング手法」の技術紹介ビデオを40部作成し、州・県畜産局(食肉処理場)、国立・州立関係機関へ配付した。 ・ 2013年7月には、西ジャワ州で2008～2011年にかけて実施された「乳牛生産病対策改善計画プロジェクト」が作成したマニュアルを改訂し、「乳房炎コントロールマニュアル」を作成、関係機関に20部配付した。 ・ プロジェクトは「タイ及び周辺国における家畜疾病防除計画プロジェクト(2001～2006年)」及び「ウガンダ国家畜疾病診断・管理体制強化計画プロジェクト(2010～2014年)」を参考に、2015年3月に「診断フローチャートマニュアル -インドネシアにおける重要家畜疾病のための参考書-」(英文)を作成した。終了時評価時点では英語からインドネシア語へスバンDICが作業中であり、作業が終了次第、関係機関へ配付する予定である(50部)。 ・ その他、年報や家畜疾病マップも作成し、関係者に配付している。
<p>4-2. スバンDICスタッフが、パイロットサイトのB/Cタイプ・ラボと連携し、獣医技術者・獣医師・農家との情報交換のために必要な、その他の手段(巡回意見交換会等)または場づくりの活動を検討し、実施する。</p>	<ul style="list-style-type: none"> ・ 2011年9月より管内年次調整会議を毎年2回行い、関係機関〔中央政府(DGLAHS、動物検疫所、家畜衛生研究所、NVDAL)、州(DINAS、Bタイプ・ラボ)、県(DINAS、Cタイプ・ラボ、PUSKESWAN)]を集めて啓発活動・技術支援活動計画の策定と評価を行う体制とした。 ・ B/Cタイプ・ラボやPUSKESWAN、酪農協等を対象とする研修会も2013年6月以降実施されている。C/Pが講師となった研修会・セミナーは終了時評価までに合計7回実施されており、参加者は合計171名であった。
<p>4-3. スバンDICスタッフが、パイロットサイトの獣医技術者・獣医師・農家に必要な衛生改善の啓発活動・技術支援活動を計画する。(他のJICAプロジェクトの啓発活動用の成果品を活用する。)</p>	<ul style="list-style-type: none"> ・ スバンDICは2012年に研修者宿泊棟を建設し、B/Cタイプ・ラボやPUSKESWAN獣医師、獣医技術者に対する数多くの診断技術研修を実施している。 ・ また、活動4-1で示したとおり、ホームページやニューズレター、パンフレットの配付などを通して啓発活動を実施している。 ・ 家畜衛生状況のモニタリングを目的に、家畜疾病マップを毎年作成し関係機関に配付している。詳細は活動3-5を参照のこと。

<p>4-4. スパン DIC スタッフが、パイロットサイトの B/C タイプ・ラボと連携し、獣医技術者・獣医師・農家に継続可能な啓発活動・技術支援活動を実施する。</p>	<ul style="list-style-type: none"> ・ インドネシア政府主催の家畜衛生展示会にブースを出展し、スパン DIC の業務について広報活動を行った（2012 年 9 月・バンドン、2013 年 10 月・パダン、2014 年 6 月・マラン）。 ・ 家畜農家に対してはサーベイランスの機会に啓発活動を実施している。しかしながら、農家に対する啓発活動や技術支援は、県以下の地方政府畜産部局の役割であり、DIC や州の B タイプ・ラボが直接実施できない現状がある。そのため、彼らを通じた間接的な農家支援にとどまるが、県・郡の DINAS によるアクティブ・サーベイランス時の農家選定及び仲介、DIC の診断結果フィードバックに基づいた農家指導やワクチン接種等を行っている。 ・ これらの活動に加え、活動 1-5 で示したとおり、プロジェクトは JICA 専門家及びスパン DIC 職員が発表者となるセミナー・会議（65 回開催し、発表タイトル数は 133）を通して、啓発活動、技術支援活動を実施している（付属資料 11）。また、家畜疾病サーベイランス指針に係る農業大臣公布検討会議（2011 年）や全国家畜衛生技術・学会会議（2012 年）など、インドネシアの中央政府レベルでの会議等にも JICA 専門家、DIC スタッフが参加し、意見交換やプロジェクト関連成果の共有を行っている。 ・ なお、他の JICA プロジェクトの啓発活動用成果品の活用状況については、活動 4-1 を参照のこと。
<p>4-5. スパン DIC スタッフが、活動のモニタリングと次にとるべきアクションへのフィードバックを行う。</p>	<ul style="list-style-type: none"> ・ 関係機関を集めた調整会議を年 2 回実施し、計画と評価を行っている。 ・ 特にパイロットサイト活動では、その年のサーベイランス結果を検討し、次のアクションへフィードバックしている。

(2) 成果の達成

1) 成果 1

成果 1 の指標の達成度を以下に示す。

<p>成果 1：スパン DIC スタッフが基本的かつ体系的な家畜疾病診断技術を習得する。</p>	
指 標	達成度
<p>1-1. スパン DIC の対象 8 ラボの診断技術習得度が、2013 年 6 月までにラボごとに設定された「プロジェクト技術到達目標シート」の目標値に達する。</p>	<ul style="list-style-type: none"> ・ 中間レビュー（2013 年 5 月）までにシートに設定された診断技術・サービスにかかわる技術移転はおおむね終了していたが、DIC スタッフの技術は習熟途上であるとされていた。 ・ 終了時評価時点ではさらなる技術移転を行うとともにスタッフの習熟度も向上し、移転された技術はおおむね望ましいレベルまで向上した。

プロジェクトの開始後、技術移転する診断に必要な検査・診断機器、設備、材料等が整備された。「プロジェクト技術到達目標シート」に記載された技術・サービスの技術移転は中間レビュー時点（2013 年 5 月）までにおおむね終了している。それ以降は OJT（実地訓練）や上記したセミナー等を通して技術・サービスの質が向上し、診断に要する時間も短縮された。スパン DIC の検査精度が向上したことは、Proficiency Test 結果待ちでも説明できる。また、プロジェクト開

始前の 2010 年では診断できる疾病の種類は 13 疾病のみであったが、終了時評価調査時点（2015 年 5 月）では予定した 41 疾病（75 の診断技術）に対する検査診断を自立的に運営できるレベルに達している（付属資料 18 を参照）。これらの技術移転を通して検査技術や運用が標準化され、終了時評価調査時点で検査診断プロトコル〔標準操作手順書（Standard Operation Procedure: SOP）〕58 種類、マニュアル類 3 種類、技術資料 20 種類、様式 6 種類、その他資料 4 種類が整備された。

上述のとおり、スバン DIC では測定技術それぞれに作成された SOP に沿って標準化された試験/検査が実施される体制が整えられている。移転された検査診断技術は 75 種類であり、プロジェクト期間終了後も経験を積む必要のある項目もあるが、スバン DIC は 2014 年に国際標準化機構（ISO）より ISO9001（品質マネジメント規格）の認証及び ISO17025（試験所の能力に関する規格）の認定を受けていることから、スバン DIC は国家規格や国際規格に準拠した試験方法で、十分な技量を有する試験員により正確な結果が出せる試験所であり、その品質が担保されたものと解釈できる。また、ISO 規格に準拠する形で国内外の機関による Proficiency Test を定期的を実施することが規定されていることから、外部精度保証システムも適切に整備されたといえる。施設設備等のメンテナンスのための JICA 専門家も派遣され、作成されたマニュアル⁴に基づいた管理が実施される体制となっている。

これらのことから、スバン DIC では基本的かつ体系的な家畜疾病診断技術が確立されたといえることから、終了時評価時点において成果 1 は達成されたと考えられる。

2) 成果 2

成果 2 の指標の達成度を以下に示す。

成果 2：スバン DIC スタッフの、顧客の立場に立った検体診断サービス（パッシブ・サーベイランス）に係る実施能力が強化される。	
指 標	達成度
2-1. スバン DIC の獣医スタッフ 1 名以上が、検体の診断において各ラボの試験結果を踏まえた最終診断ができるようになったことをプロジェクトに認定される。	<ul style="list-style-type: none"> ・ 中間レビュー時点までは成果 1 にかかわる基本的診断技術移転が中心であったため、診断サービス部長が 1 名で最終診断を行っていた（診断結果に基づいたコメントは 12 名の獣医スタッフが月替わりで担当）。 ・ 終了時評価時点では、各ラボのチーフが Diagnostician（診断担当）として月替わりで最終診断を担当する体制となっている。7 名のチーフとも、おおむね適切な最終診断ができていることが病性鑑定（Comprehensive Diagnosis）の JICA 短期専門家により認定された。
2-2. スバン DIC の各ラボのチーフが、ラボの試験結果を踏まえた適切なコメントをフィードバックできるようになる。	<ul style="list-style-type: none"> ・ 7 名のラボチーフはアクティブ・サーベイランス等のプロジェクト活動を通して現場の畜産業の実態に関する理解が深まり、検査結果のフィードバックも、診断結果に基づいたコメントもより具体的になっている。

ベースライン調査では、検査診断の基本的技術の獲得や向上（成果 1）に加えて、スバン DIC 内外の検体フローや検査診断サービス運用の標準化・効率化等、病性鑑定システム改善のため課題が明らかにされた。これに対し、プロジェクトは 2011 年より検体受領から診断の流れに関する改善策の推進、報告システムの開発など、継続的にサービスの改善に取り組んできた。成果 1

⁴ DICメダン、DICランブンを対象としたマニュアルである。

に示したとおり、プロジェクトの努力によってスパン DIC 内の診断体制は標準化され、ISO17025 の認定を受けたことから、検査所として適切な検査診断サービスが国際的に標準化された体制で実施されていると認められる。

また、上記指標の達成度でも示したとおり、中間レビュー時点では診断サービス部長 1 名による最終診断体制であったが、成果 1 での検査診断の基本的技術移転、成果 3 でのアクティブ・サーベイランス等の活動を通して 7 名のラボチーフの診断結果に基づいた具体的なコメントや適切な最終判断を行える能力を獲得していることが、JICA 専門家により認められている。

このように、スパン DIC 内では診断体制が整備されたことにより、顧客の立場に立った検体診断サービスにかかわる実施能力は向上したといえる。したがって、終了時評価時点において成果 2 は達成されたと考えられる。

しかしながら、プロジェクト枠組み外ではあるが、B/C タイプ・ラボや PUSKESWAN (DINAS が直接の依頼者となる)、畜産農家などの依頼者による検体採取や保存、送付方法に不適切なケース〔患者に関する疫学情報等が不足している、送付される家畜の臓器の数(種類)が少なくして診断できない、臓器が凍結されていて病理組織学的診断ができない、臓器がホルマリン漬けにされていて微生物の検査ができないなど〕も多く、病性鑑定のみならず検査そのものできない場合が多いことが認められていた。このような状況に対し、スパン DIC は病性鑑定を行う条件を満たさない検体は依頼者に返送するとともに、検体採取部位や量、保存方法等を指導するような SOP を 2015 年 1 月に承認し、運用を開始している。

3) 成果 3

成果 3 の指標の達成度を以下に示す。

成果 3：スパン DIC スタッフのパイロットサイトにおける、疾病調査及び疾病対策技術支援（アクティブ・サーベイランス）の実施能力が強化される。	
指 標	達成度
3-1. スパン DIC スタッフによって、アクティブ・サーベイランスが計画・実施・分析・フィードバックの枠組みに基づいて毎年実施される。	<ul style="list-style-type: none"> スパン DIC では、プロジェクト対象疾病、通常業務全体として、年度初めにアクティブ・サーベイランス計画を作成している。 プロジェクト開始前は診断サービス部長が疾病調査の計画立案・実施の指揮をとっていたが、プロジェクト開始後はすべての獣医スタッフ及びパラメディックがアクティブ・サーベイランスに参加する体制となり、活動結果の分析と翌年の計画立案への反映について関係者とともに毎年議論されるようになった。
3-2. スパン DIC の各ラボのチーフが、パイロットサイトの疾病調査結果に基づいた家畜疾病対策の提言を作成できるようになる。	<ul style="list-style-type: none"> プロジェクト開始前は疾病調査結果に基づく提言は行われていなかったが、アクティブ・サーベイランスは年間 100 回以上実施されるようになり、各ラボのチーフを含む獣医スタッフが調査責任者となって、調査結果に基づく提言をその都度現場にフィードバックするようになった。

スパン DIC ではプロジェクトで対象としている牛ブルセラ病及び牛流産に対してアクティブ・サーベイランスを実施している。これに加え、スパン DIC では通常業務として鳥インフルエンザ (Avian Influenza : AI)、狂犬病、豚コレラ、寄生虫症、炭疽、出血性敗血症、海外悪性伝染病 (牛海綿状脳症、口蹄疫、牛伝染性鼻気管炎等)、繁殖障害、畜産食品 (肉・卵・牛乳) など

年間 10～12 種類のアクティブ・サーベイランスを実施し、1 回のサーベイランスで対象とする畜種は 1 種類であるが、1 頭の家畜から複数種のサンプルを採取し、複数の対象疾病に対するサーベイランスとしている。また、獣医公衆衛生学ラボは、肉、卵、牛乳等の家畜製品に対するサーベイランスを実施している。

プロジェクトでは牛ブルセラ病及び牛流産をパイロットサイトにおけるアクティブ・サーベイランスの対象疾病としているが、プロジェクト開始当初は疫学ラボには疫学や調査手法、解析手法に関する知識・経験は十分でなく、効果的・効率的なサーベイランスの実施と、それに伴う疫学的根拠の十分なデータ解析とはなっていなかった。かかる状況のもと、JICA 専門家は 2012 年のサーベイランス実施に先立ってサーベイランス地域の選定方法、サンプリング手法、データ解析手法に関する技術移転を行った。疫学ラボスタッフは、JICA 専門家の支援を受けながら、主体的にサンプリングの方法、調査票の作成、得たデータの解析方法等、サーベイランス実施計画を作成している。実際のサーベイランス活動や解析も疫学ラボが中心的な役割を果たしている。また、指標 3-2 で示したとおり、スバン DIC では年間 100 回以上のアクティブ・サーベイランスが実施されており、その都度適切な提言がフィードバックされていることから、スバン DIC では効果的、効率的なアクティブ・サーベイランスが運用管理されているといえる。

スバン DIC の持続性を念頭に、プロジェクトではプロジェクトの対象疾患である牛ブルセラ病及び牛流産サーベイランスを、スバン DIC の通常業務として実施されるアクティブ・サーベイランスに組み込んでいる。上記指標の達成度にも示したとおり、サーベイランスにはすべての獣医スタッフ、パラメディックが参加する体制となっており、プロジェクト対象疾病のサーベイランスの実施を通じて他の 10～12 疾病のサーベイランス実施運営能力にも正の影響があったとスバン DIC のスタッフのインタビューで聞き取られている。2015 年 5 月からは DGLAHS が主導する牛繁殖障害のアクティブ・サーベイランスが開始されており、本プロジェクトで得られた知識、技能は有効に活用される見込みである。また、プロジェクトの牛ブルセラ病及び牛流産サーベイランスの実施を通じて、DINAS や B/C タイプ・ラボ、酪農協のスタッフの防疫意識やサーベイランスにかかわる技術にも一定程度の向上が認められたとともに、スバン DIC との連携、協力体制も強化された。連携に関する一例として、2014 年にレンバンで実施された第 2 回、第 3 回牛流産サーベイランスには DIC スタッフと JICA 専門家は同行せず、DINAS と酪農協スタッフのみで実施されたが、陽性検体についてはスバン DIC で確認試験が実施されている。

このように、疫学ラボが中心となって実施されたプロジェクトのアクティブ・サーベイランスを切り口として、スバン DIC で実施するアクティブ・サーベイランス全体の能力向上が図られ、関係機関との連携の下で効果的、効率的なアクティブ・サーベイランスが実施できるようになった。このことから、終了時評価時点での成果 3 は達成されたと考えられる。

4) 成果 4

成果 4 の指標の達成度を以下に示す。

指 標	達成度
4-1. スバン DIC スタッフによって、管轄地域の獣医技術者・獣医師・農家を対象としたニューズレターが、2012 年 6 月以降、年 2 回定期発行されるようになる。	<ul style="list-style-type: none"> プロジェクト開始前は、スバン DIC はニューズレター等による情報提供等は実施していなかった。 プロジェクトはニューズレターの代替えとして 2011 年 12 月にホームページを立ち上げ、毎月ニュース等の情報発信を行っている。インターネットへのアクセスのない対象に向けて紙媒体でも、スバン DIC 組織紹介や家畜疾病の啓発パンフ（10 種類）、年報、家畜疾病マップ等を発行し、関係者に配付している。その他、スバン DIC 紹介ビデオやカレンダー、マニュアル等を作成し、関係機関に配付している（詳細は活動 4-1 を参照）。
4-2. スバン DIC の各ラボのチーフが、パイロットサイトの獣医技術者・獣医師・農家に対する啓発活動・技術支援活動の計画を、2013 年 12 月以降、毎年策定できるようになる。	<ul style="list-style-type: none"> 2011 年 9 月より管内年次調整会議を毎年 2 回行い、関係機関を集めて啓発活動・技術支援活動計画の策定と評価を行う体制とした。活動 4-2 で示したとおり、B/C タイプ・ラボや PUSKESWAN、酪農協等を対象とする研修会も 2013 年 6 月以降実施されている。C/P が講師となった研修会・セミナーは終了時評価までに合計 7 回実施されており、参加者は合計 171 名であった。JICA 専門家が講師となる研修も実施されている。 また、アクティブ・サーベイランスはさまざまな対象疾病に対して年間合計 100 回以上、計画に沿って実施されており、スバン DIC スタッフはフィールド活動の機会に地域の獣医技術者、獣医師、農家等に対する啓発活動、技術支援活動を継続的に実施している。
4-3. 上記 4-2 で計画された活動の実施率が、年間で 90%以上となる。	<ul style="list-style-type: none"> 予算等の問題により年度途中で計画を修正することはあるが、基本的には毎年ほぼ 100%実施されている。

プロジェクト開始前は管轄地域内の獣医技術者・獣医師に対し DIC スタッフによる家畜衛生に係る情報提供（ニューズレター、巡回意見交換等）、啓発活動、技術支援活動を能動的に行っていなかった。プロジェクト開始後は、成果 4 のホームページやインドネシア語の家畜疾病啓発用パンフレット等を通して、それらの活動が開始されている。また、年 2 回の調整会議で啓発活動、技術支援活動の計画が策定されており、これらの活動が継続的に実施される体制が整えられている。

農家に対する啓発活動や技術支援は、県以下の地方政府畜産部局の役割であり、DIC や州の B タイプ・ラボが直接実施できない現状がある。そのため、彼らを通じた間接的な農家支援にとどまるが、年間 100 回以上実施されているアクティブ・サーベイランスの機会をとらえ、スバン DIC スタッフは可能な範囲で啓発活動、技術支援活動を実施している。また、DKI ジャカルタ、西ジャワ州、バンテン州には合計 41 の県・市があるが、スバン DIC のモニタリングのカバー率はプロジェクト開始前の 78% (32/41) から 2014 年には 100% (41/41) に増加している。

このように、スバン DIC では獣医技術者・獣医師・農家に必要な家畜衛生に係る情報提供、啓発活動、技術支援活動を継続する体制が整備され、成果 1～成果 3 の活動を通してスバン DIC スタッフがそれらの活動を実施する能力が備えられた。したがって、終了時評価時点での成果 4 は

達成されたと考えられる。

しかしながら、成果 2 の達成度で示したとおり、スバン DIC での病性鑑定のための検体の問題（採取部位、保存方法等）により正確な診断ができないケースが散見されている。これらの問題はプロジェクトの枠組み外の問題であり、成果 4 の活動で診断依頼元に対する技術支援活動も限界があることから、スバン DIC はプロジェクト期間終了後も根気よく活動を継続する必要性が強く示唆される。

(3) プロジェクト目標の達成度

プロジェクト目標の指標の達成度を以下に示す。

プロジェクト目標：スバン DIC の家畜疾病診断サービスの質・量が向上する。	
指 標	達成度
1. スバン DIC における年間家畜疾病診断数・診断疾病の種類が、プロジェクト終了時点で 35,000 検体、16 種類以上となる。	<ul style="list-style-type: none"> ・ JICA 専門家による技術移転が進むにつれて検査実施数、診断サービス提供可能な疾病の種類が大幅に増加した。 ・ 2014 年の検査実施数は 61,156 件、実際に診断された疾病の種類は 32 種類であり、指標の目標値を大幅に超えており、スバン DIC の検体受け入れ能力の上限に近いレベルに達している。
2. スバン DIC の検体診断サービスにおいて、プロジェクトで定めた日数内で診断結果を顧客にフィードバックできるようになる。	<ul style="list-style-type: none"> ・ 2011 年に実施されたベースライン調査結果にて、診断結果のフィードバックに要する時間は 1 週間程度の場合が多く、3 週間以上の場合も 2 割程度ある状況であることが明らかになった。診断の種類によって異なるものの診断結果のフィードバックは標準的な日数を大きく超えるものであった。 ・ プロジェクトは検体受領・診断フローの改善や診断技術移転に取り組み、7 名のラボチーフが適切な最終診断を行う体制が整えられた。これらにより、各疾病で定められた標準日数内に診断結果が顧客にフィードバックされている。細菌培養や病理組織診断では 2 週間程度を要するが、その他の血清診断や寄生虫症検査は 2 日間程度で結果を通知している。
3. スバン DIC スタッフがパイロットサイトにおいて、地域特性を考慮した家畜疾病調査の計画・立案、実施、モニタリング、フィードバックを 1 年に 2 回/サイト以上実施できるようになる。	<ul style="list-style-type: none"> ・ 牛ブルセラ病及び牛流産に対して、地域特性を考慮したパイロットサイト活動が計画され、それぞれ 2012 年、2014 年からアクティブ・サーベイランスが実施されている。計画・実施・モニタリング・フィードバックは、会議やワークショップ等の開催を通じて、毎年実施されている（2012 年：8 回、2013 年：22 回、2014 年：17 回）。 ・ スバン DIC は通常業務としてのアクティブ・サーベイランス、プロジェクト活動としてのアクティブ・サーベイランスにかかわらず、調査結果に基づいた提言を現場にフィードバックしている。
4. スバン DIC の利用者〔州・県政府事務所（DINAS）の獣医技術者・獣医師・農家〕のうち調査対象者の 80% が「診断サービスがプロジェクト実施前より向上した」と回答する。	<ul style="list-style-type: none"> ・ スバン DIC 顧客満足度調査結果（「満足」＋「ほぼ満足」）：2011 年 87.4%、2014 年 94.8%

2011年のプロジェクト開始後、スバン DIC で必要な検査・診断機器、設備、材料等が整備されたとともに、JICA 専門家や外部講師による実地訓練、本邦研修や第三国研修によってスタッフの知識、技術は大きく向上し、診断可能な疾病の数、検査実施数も高い精度を維持しながら増加している（成果 1）。これには、成果 2 の活動で実施した業務フローの改善（検体受領からフィードバックまでの流れの標準化やラボ診断報告システムの構築など）や診断結果に基づいた適切な提言に関する能力強化による貢献も大きい。

成果 3 では取り組みの必要性の高い牛ブルセラ病及び牛流産に対するアクティブ・サーベイランスをプロジェクトの対象疾病として選定し、パイロットサイトの現状や問題点を明らかにした。また、スバン DIC では疫学ラボが中心となって、多くのラボがアクティブ・サーベイランスに参加する体制を構築し、サーベイランスの計画立案から実施、解析・評価の一連の活動を実施する能力が向上し、他の通常業務として実施されているアクティブ・サーベイランスにも正の影響が認められている。アクティブ・サーベイランスを通して DINAS や B/C タイプ・ラボ、酪農協などの関係機関との連携も強化され、業務の分担なども徐々に進展してきている。

他方、プロジェクトでは成果 4 の活動として計画的に啓発活動や技術支援活動を行う体制が整備されるとともに、ホームページやポスター、パンフレットなども多く作成されている。

表－2 Performance of DIC Subang in Diagnostic Services

	Year					
	2010	2011	2012	2013	2014	
Number of tests performed	14,875	32,016	47,466	50,544	61,157	
Number of samples received	Passive	N/A	N/A	10,392	9,841	N/D
	Active	N/A	N/A	19,555	41,052	N/D
Kinds of diagnosable diseases	15	22	22	31	32	

出所：スバン DIC

また、スバン DIC は国際基準に則った検査診断にかかわる品質管理、試験所運営を実現するための努力を継続しており、2013年に ISO9001 の認証及び 2014年には ISO17025 の認定を受けている。このことは、スバン DIC ではプロジェクト期間終了後も ISO 規格に準じた検査診断にかかわる品質管理や適切な試験所の運営がなされることを意味している。他方、診断依頼元による不適切な検体採取・処理、DINAS や B/C タイプ・ラボ、農協等とのさらなる連携や業務分担、技術移転活動のカバー率拡大などプロジェクトの枠組み外の課題も発現した。これに対し、スバン DIC は病性鑑定を適切に行うための新たな取り組みを 2015年1月より開始している（成果 2 の達成度を参照）。しかしながら、検査コストの増加の対応策等も考慮されているが、新しい取り組みであることから、今後も継続して新システムが適切に機能するか注視する必要がある。これと並行して、スバン DIC はこれまでの活動を着実に継続するとともに、DINAS、B/C タイプ・ラボ等の関係機関のさらなる能力強化も将来の西ジャワ地域の家畜疾病対策強化には必要である。

以上のことから、スバン DIC の家畜疾病診断サービスの質・量は向上したと考えられたため、終了時評価調査時点でプロジェクト目標は高いレベルで達成されていると考えられる。

3-3 実施プロセスの検証

(1) プロジェクト・マネジメントと関係者間のコミュニケーション

プロジェクト開始後は JICA 専門家の支援により定例会議が発足し、はじめの数カ月間は JICA 専門家も参加していたが、その後は月例会議として継続されている。プロジェクト活動のマネジメントとして個別の会議開催を頻繁には行っていないが、プロジェクト活動に応じて適宜関係部署等との会議を開催し、活動の計画策定、モニタリング、評価はおおむね適切に実施され、年に 1 回実施される JCC で関係者全体に共有されている。日常的な専門家の活動報告やプロジェクトの進捗は JICA 専門家の作成する月例報告書で DGLAHS 及びスバン DIC のすべてのラボに共有されている。また、スバン DIC 外の関係者（DGLAHS、DINAS、B/C タイプ・ラボ、酪農協など）とは 2011 年 9 月以降半期ごとに管内調整会議が実施されており、JICA 専門家も参加している。また、終了時評価までに延べ 17 名の短期専門家がスバン DIC に派遣されており、着任時の活動計画の打合せや離任時の報告会が DGLAHS（終了時評価時点 32 回）及びスバン DIC で実施されており、離任後も必要に応じて email 等のコミュニケーションは継続されている。JICA 専門家は開発パートナー会議にこれまで 5 回出席し、他の機関とプロジェクトの進捗や成果について共有している。これらの会議機会やアクティブ・サーベイランスを協働で実施したことなどにより、スバン DIC 内外の関係者のコミュニケーションは良好に維持され、プロジェクト・マネジメントとしても適切であったと考えられる。

他方、派遣された JICA 短期専門家の約 2/3 は海外での業務経験が乏しい若手専門家であった。英語によるコミュニケーションに苦慮する場合もあったが、スバン DIC 内での技術移転はおおむね適切に実施された。スバン DIC 外の関係者との英語でのコミュニケーションが困難な場合もあったが、適宜、プロジェクトの業務調整員（JICA 長期専門家）が通訳を行った。なお、プロジェクトでは人材育成の観点から、スバン DIC スタッフによるセミナー等でのプレゼンテーションを英語で実施するよう推進するなどの取り組みを継続している。

(2) オーナーシップ及び自立性

インドネシア側 C/P 機関は実施機関、関係機関とも本プロジェクトに対して強いオーナーシップを発揮している。具体的には、本邦研修や JICA 専門家による実地訓練以降の活動はインドネシア側機関主導で実施されており、JICA 専門家（長期及び短期専門家）が側面支援を行いながら、必要に応じて技術的支援を行っている。

インドネシア側関係機関もスバン DIC の機能強化を重視し、プロジェクト開始後はスバン DIC の予算は 2010 年の約 56 億 IDR から 2015 年は約 3 倍の 144 億 IDR に増額している。また、プロジェクトは持続性を念頭に、ブルセラ病サーベイランス等のプロジェクト活動はスバン DIC の通常業務に組み込んで実施してきた。プロジェクトが主催する研修会や出張を伴う疾病調査においても、DIC 側が JICA 側で負担できない旅費、日当、会議費などの経費を負担することにより共同開催という形で実施している。試薬等消耗品の購入もおおむねインドネシア側機関の負担で購入されており、2011 年から 2015 年までのインドネシア側負担率は約 82% である。さらに、インドネシア側負担で研修参加者用宿舎、公衆衛生ラボ、発電機小屋、研修棟の建設、鶏舎の増設が行われた。

このように、スパン DIC はプロジェクト期間を通して主体的にプロジェクト活動を実施しており、インドネシア側の高い財政的コミットメントも示された。

第4章 評価結果

4-1 妥当性

以下に示す理由から、プロジェクトの妥当性は終了時評価時点で高く維持されている。

- (1) インドネシアにおける家畜・動物衛生に関する政策及びターゲット・グループのニーズ、日本の援助方針とプロジェクト目標の一致性

2010年10月に実施された事前評価ではインドネシアの家畜・動物衛生に関する政策及びターゲット・グループのニーズ、日本の援助政策とプロジェクト目標が合致していることが確認されているが、その後本プロジェクトの妥当性を損ねるような政策の変更やニーズの変化等は認められず、その妥当性は終了時評価時点においても維持されている。

具体的には、詳細計画策定調査及び中間レビューで確認されたとおり、「畜産開発中期計画 2015-2019」において、地方分権化が進められるなか、国家規格となるような家畜衛生プログラムの新システム構築に向けた取り組みを行うことが重要な課題の1つとされている。本プロジェクトでは西ジャワ地域の家畜・動物衛生を担うスパン DIC の機能強化をプロジェクト目標として支援し、プロジェクト活動を通してスパン DIC の検査機能だけでなく、パッシブ・サーベイランス、アクティブ・サーベイランスを強化するとともに、DINAS や B/C タイプ・ラボなどの関係機関との連携強化、能力向上を支援していることから、インドネシアの政策とプロジェクト目標の一致性は高く維持されていると考えられる。

2015年以降の次期政策は作成中であるが、インドネシアの畜産開発のなかの家畜・動物疾病対策の重要性は維持されていることが DGLAHS との面談時に確認された。2013年には統合家畜衛生情報システム (Integrated Animal Health Information System : iSIKHNAS) の運用を開始、2014年には本プロジェクトのアクティブ・サーベイランスの対象疾患であるブルセラ病に対して、2025年までの撲滅に向けたロードマップを発表しており、効果的な家畜疾病対策に向けた政策的努力を行っている。

他方、インドネシアは2005年7月に HPAI のヒト感染例が確認されて以降、2012年8月10日時点において世界で最も多い191の感染例 (うち159の死亡例) (保健省及び WHO による公表情報) が確認されており、現在も感染例と死亡例の報告が続いている。HPAI ヒト感染の拡大は感染力の強いウイルス (新型インフルエンザ) への変異を引き起こし、インドネシア国内のみならず世界中に多大な感染者と死者を出す可能性が危惧される。そのため、HPAI ヒト感染の早期検知・早期対応により、新型インフルエンザによる社会的影響を最小限に抑制することが、インドネシア国内のみならず、国際社会においても強く求められている。HPAI は人獣共通感染症であり、効果的な感染制御のためにはヒト感染だけではなく、家畜・動物に対するサーベイランスの実施と早期封じ込めが必須である。

本プロジェクトは地域の家畜衛生対策の一端を担う DIC の機能強化を支援するものであり、ブルセラ病及び牛流産サーベイランスの実施能力強化を通して HPAI を含む重要感染症サーベイランスの実施能力強化をめざすものである (ブルセラ病も国家優先疾病の1つである)。JICA のインドネシア共和国国別分析ペーパー (2012年) において「感染症等の地球規模課題への対応能力向上に係る支援を重視する」ことが明記されていることから、プロジェクト目標は日本の援助政策との整合性も維持されているとともに、地球規模課題対応との観

点での国際的要求に合うものである。

(2) 実施方法の適切性

1) 本プロジェクトで採用した支援アプローチの適切性

本プロジェクトでは、スバン DIC の検査技術の拡大、強化（成果 1）だけでなく、DIC として果たすべき機能であるパッシブ・サーベイランス（成果 2）及びアクティブ・サーベイランス（成果 3）の実施体制強化を支援している。これらの取り組みはスバン DIC の家畜疾病診断サービスの質的、量的向上をめざすプロジェクト目標達成に必要な項目を網羅しており、理論的な破綻もなく、目標達成への成果としてのロジックは成立している。

他方、西ジャワ地域の家畜疾病対策の強化（上位目標）に向けては、DGLAHS や DINAS、B/C タイプ・ラボ、地域の酪農協等の能力強化やスバン DIC との連携が必要である。これを念頭に、プロジェクトは成果 4 で外部関係者に対する情報提供や啓発活動、技術支援活動を継続的に実施できる体制整備をプロジェクト活動として PDM に設定していることから、プロジェクトで採用した支援アプローチは非常に高い。

2) ジェンダーや民族、社会的階層、環境等に対する配慮

本プロジェクトを実施するうえで、ジェンダーや民族、社会的階層、環境等に対して特別な配慮が必要となる活動はない。

4-2 有効性

以下の理由から、プロジェクトの有効性はおおむね高い。

(1) プロジェクト目標の達成見込み

成果及びプロジェクト目標の達成度でも示したとおり、プロジェクトの実施によりスバン DIC の検査・診断機器や必要な設備が整備され、JICA 専門家の技術移転により 41 疾病に対する診断技術がおおむね確立している（成果 1）。成果 2 では検体診断サービス（パッシブ・サーベイランス）を適切に行うための体制整備やスタッフの能力強化が図られ（成果 2）、プロジェクトで対象とした牛ブルセラ病及び牛流産サーベイランスの実施を通して通常業務として実施されているアクティブ・サーベイランス全体の実施能力が強化される（成果 3）とともに、スバン DIC 内部のラボ間の連携強化やフィールド活動の機会を活用した関係者への啓発活動や技術支援活動も効果的に実施された。また、将来の西ジャワ地域での効果的な家畜疾病対策に向け、DINAS や B/C タイプ・ラボ、酪農協等の関係者に対する啓発活動、技術支援活動を実施する体制もおおむね確立した（成果 4）といえる。これらの成果によってスバン DIC の家畜疾病診断サービスの質的、量的向上は図られた（プロジェクト目標）といえ、各成果、プロジェクト目標測定のための指標もおおむね満たされた。スバン DIC は ISO9001（品質マネジメントシステム）の認証取得及び ISO17025（試験所の能力に関する規格）の認定を受けたことでこれらの達成事項の品質も担保されたと考えられることから、終了時評価時点でプロジェクト目標はおおむね達成されたといえる。

プロジェクト活動を通してスバン DIC スタッフ個々の能力は大きく向上し、検査業務だけでなく疾病監視業務、啓発・技術移転業務の質を落とさずに年間検査数を大幅に伸ばしてきた。また、プロジェクト活動を通して学術的成果も得られ、インドネシア・日本国側双方の

努力によって望ましい人材育成が図られたと考えられる。しかしながら、スバン DIC は若い検査施設であり、獣医師及び獣医技術スタッフの年齢の中央値も終了時評価時点でそれぞれ 37 歳及び 32.5 歳である。したがって、プロジェクト期間終了後も継続して新規技術・知識の獲得に向けた努力が継続されることが望まれる。特に成果 1 に関する検査診断技術の習得に関して、スバン DIC は予定したすべての疾病の検査診断サービスを提供できるようになっているが、簡易試験キットや酵素抗体法（Enzyme-Linked Immunosorbent Assay : ELISA）法を用いた比較的簡易な抗体検査のみである疾病もある。いくつかの疾病に関しては病原体の分離同定ができないものもあり、正確な診断、病性鑑定にはさらなる検査技術の習得や診断学にかかわると知識・経験の蓄積も必要となり、今後の課題として整理される。

他方、成果 2 の達成度で示したとおり、適切な病性鑑定を行うための検体の質（採取部位の不足や不適切な保存方法、疫学情報の不足等）に関する課題があったが、2015 年 1 月よりスバン DIC では運用上の対策を講じている。適切な病性鑑定システムの運用は将来の適切な家畜疾病対策に必要であることから、本件は「インパクト」の項で検討する。

(2) 成果及びプロジェクト目標達成のための外部条件

1) 成果達成のための外部条件「技術移転されたスタッフが、プロジェクト期間中に異動にならない」の現状

終了時評価時点までに第三国研修を受けたスタッフ（獣医師）のうち、1 名が外部へ異動となった。また、中間レビューまではスバン DIC 全体としての人員不足により、数名がラボと総務部との兼務となっていたケースがみられたが、現在は人員の増加もあって問題はおおむね解消している。また、プロジェクトは終了時評価までに診断セミナーを合計 65 回開催し、133 回のプレゼンテーションを行っている。これにより移転された技術の共有に向けた努力は継続され、確立した診断技術に対する SOP の整備、ISO9001 規格に準じた品質マネジメントを行っていることにより、スバン DIC スタッフの離職・異動による成果達成への影響は最小限にとどめられた。

2) プロジェクト目標達成のための外部条件「プロジェクト効果を維持するのに十分な予算・人員が、スバン DIC に継続的に割り当てられる」の現状

上述のとおり、スバン DIC 全体として人材不足があるものの、プロジェクトによる技術移転により多くの検査を実施できる人材数が増え、プロジェクト開始当初からスバン DIC での検査件数は大きく増加したが、品質の保証された検査結果を提供できている。また、予算に関してもプロジェクト開始後に徐々に増加し、終了時評価調査時点では開始時のおよそ 3 倍となっており、試薬等を含む消耗品購入経費は、ほぼスバン DIC の経費により賄われている。

3) プロジェクト目標達成のための外部条件「家畜疾病対策に関する事業がインドネシア政府により政策的・制度的に継続される」の現状

妥当性の項で示したとおり、プロジェクト期間を通して成果やプロジェクト目標達成に影響を及ぼすようなインドネシアにおける家畜疾病対策にかかわる政策的・制度的な変更等はなかった。

(3) 有効性への促進要因

1) プロジェクト活動を通じた学術的成果

日常業務を通じて学術研究を行い、終了時評価までに 6 報のスバン DIC スタッフが筆頭著者である論文が審査のある国際誌に掲載されている。このような研究を通して、スバン DIC スタッフは仮説の立案、研究方法の決定、データ収集と解析、解釈を行い、論文として取りまとめる経験を得た。このことはインドネシアの感染症対策に資するものであるとともに、アクティブ・サーベイランスの効果的な実施（計画立案から結果の取りまとめまで）に貢献したと考えられる。

2) インドネシア側 C/P の技術・知識獲得に対する意欲

スバン DIC 職員は獣医師（Veterinarian）、獣医技術者（Paravets）のほか、総務部門等を含めると総勢約 80 名であり、そのほとんどは新規採用の職員である。しかしながら、彼らは 80 倍の競争率をクリアして採用になったスタッフであり、新規技術の習得や新たな知識の獲得に対する意欲は非常に高い。よって、スバン DIC には優秀な C/P 人材が確保されていたといえる。特に獣医技術者は経験の浅い職員が多く、プロジェクト開始時は限られた疾病に対して比較的簡易な検査を実施できる程度であったが、4 年間という限られた期間で検査診断を行える疾患数を大きく伸ばし、それに伴い診断数も年間 6 万回を上回る。アクティブ・サーベイランスについても、プロジェクト開始前はやみくもにサンプリングを行っていたところを終了時評価時点では計画策定から結果の取りまとめまでの一連の作業を自立的に実施できるようになっている。このことはプロジェクトの有効性を大きく高めたと考えられる。

(4) 有効性に対する阻害要因

有効性に対する阻害要因は、プロジェクト期間を通して観察されなかった。

4-3 効率性

プロジェクトの投入が成果達成に転化されない事例があるが、プロジェクトの効率性はおおむね高い。

(1) プロジェクト活動の進捗管理

プロジェクト開始後、活動に必要な機器、機材の調達、設置が行われ、これと並行して対象地域の家畜衛生対策の実情やスバン DIC の業務運用システム、検査機能等にかかわるベースライン調査が実施された。調査結果に基づき、各ラボで 2015 年までに獲得すべき技術・サービスが詳細に規定された「プロジェクト技術到達目標シート」が作成され、同シートに沿って技術移転そのものは JICA 専門家よりおおむね計画どおり実施、中間レビュー時点までにおおむね終了している。中間レビュー以降は日常業務を通じた技術定着が図られ、アクティブ・サーベイランスや関係機関への情報提供や啓発活動、技術移転活動が順調に実施された。

プロジェクト開始以降、JICA 専門家のアドバイスに基づき、DIC 全体の業務を管理する月例会議が実施されている。また、プロジェクト活動としての会議は定期的には実施されていないが、必要に応じた会議の実施や、プロジェクト月例報告書の共有等を通じて情報共有や進

渉管理が実施されている。

(2) 提供された機器及び材料の有効利用

実施される試験や診断の頻度により差があるものの、プロジェクトにより供与された検査機器、機材等は有効に活用されている。これらの機器等は ISO の規格に則って日常的なメンテナンスが適切に実施されている。施設設備に関しても JICA 短期専門家が派遣され、作成されたマニュアルに基づき、ISO の規格に合致したメンテナンスが実施されている。ただし、一部の機器（組織切片作成のためのマイクローム及びガスクロマトグラフィー）は修理が必要な状況である。他方、現在は施設、機器等も比較的新しいが、今後、それらのライフスパンを適切に維持するために、適切な予防的メンテナンスを継続するとともに、更新の予算等も考慮する必要がある。

(3) 本邦研修及び第三国研修で獲得した知識・技能の有効利用

終了時評価までに合計 17 名のインドネシア人 C/P が本邦研修に派遣され、多くの知識、技能を獲得し、スバン DIC でのプロジェクト活動、日常業務に有効に活用している。

他方、本邦研修やスバン DIC 内での実地訓練で獲得した知識・技術はセミナー等や OJT を通じてスバン DIC 内外の関係者に共有され、確立した技術は SOP を作成するなどスバン DIC での定着が図られている。

上記の結果より、投入の質・量・タイミングは適切であったと考えられる。

(4) 効率性に対する促進要因

1) 既存資源の有効活用

本プロジェクトは、2009 年に日本の無償資金協力によって建設された施設で実施された技術協力プロジェクトであり、既存の施設設備は本プロジェクトでも最大限活用されている。

また、本プロジェクトでは現地の講師リソースを活用するようにデザインされており、講師リストは適宜アップデートされている。また、プロジェクトで作成したマニュアル 2 種は過去の JICA 技術協力プロジェクトの成果品を活用して作成されている（活動 4-1 を参照）。

2) スバン DIC の通常業務を意識したプロジェクト活動の実施

プロジェクトで行った検査診断の基本的技術移転や診断体制の整備、関係機関への啓発活動、技術移転活動はスバン DIC の通常業務である。プロジェクトで対象としたブルセラ病及び牛流産に対するアクティブ・サーベイランスについても開始当初より持続性を意識してプロジェクト活動を実施しており、既にスバン DIC の通常業務として実施されているアクティブ・サーベイランス業務のなかに組み込んで実施されている。このことはプロジェクトの持続性を担保するとともに、効率的なプロジェクト活動の実施にも貢献している。

また、関係機関に対する情報提供や啓発活動、技術支援活動（成果 4）はアクティブ・サーベイランス（成果 3）で関係機関と協働した機会でも実施されており、効率性を高めている。

3) プロジェクト活動の費用分担

インドネシア側機関の本プロジェクトに対するオーナーシップは高く、特に大きな財政的コミットメントが得られている。このことが、インドネシア側機関の主体的なプロジェクト活動の実施に加えて、共同事業としての理想的な経費負担に大きく貢献していると考えられる。

(5) 効率性に対する阻害要因

上記「本邦研修及び第三国研修で獲得した知識・技能の有効利用」で示したとおり、プロジェクトの支援の下で第三国研修に派遣された1名のスタッフが他のDICに異動となった。プロジェクトの投入が成果達成に十分還元されなかったとの観点からはプロジェクトの効率性を若干低下させたと考えるが、成果達成に重大な影響はもたしていない。

(6) その他

派遣されたJICA短期専門家は海外での業務経験が必ずしも多くない若手の人材もおり、スバンDICでも英語でのコミュニケーションを十分に行えない若手スタッフがいた。これにより英語による技術移転やプレゼンテーションに苦慮するケースもあった。しかしながら、双方の努力によって最終的には必要な技術移転も行われ、成果達成を大きく阻害することはなかった。

4-4 インパクト

プロジェクトの実施によって、以下に示す正のインパクトが確認または期待されている。

(1) 上位目標達成の可能性

これまで示してきたとおり、スバンDICは診断機能（診断可能な疾病数及び検査方法の増加）の強化が実現し、パッシブ・サーベイランスの機能も強化された。検査診断サービスの品質や検査施設としての適切性はISOの認証、認定を受けたことで国際的にも担保されたといえる。また、地域全体として家畜疾病対策を効果的に行うためには外部関係者の能力強化も必須であるが、スバンDICでは啓発活動や技術支援活動を継続的に実施する体制が整備され、プロジェクトの活動を通して連携体制も強化されたといえる。

しかしながら、成果2の達成度でも示したとおり、プロジェクトの努力によってスバンDICの診断体制はおおむね確立したといえるが、持ち込まれる検体の質の問題（必要な疫学情報の入手や検体採取部位の不足、不適切な検体の保存状態など）により、病性鑑定を適切に行えない場合も少なくなかった。このような状況に対し、スバンDICは病性鑑定を行う条件を満たさない検体は依頼者に返送するとともに、検体採取部位や量、保存方法等を指導するようなSOPを2015年1月に承認し、運用を開始している。検査数増加によるクライアントの検査費用負担増が懸念されるが、死亡例については、費用負担が困難な場合はDINAS経由でスバンDICに死亡例報告を行うことで、スバンDICの調査活動としてサンプル採取と検査が行われるため、クライアントの費用負担の問題を回避しているとのことである。終了時評価までの約4カ月間でこの対応策に大きな問題は生じていないが、今後も引き続きシステムが効果的に機能するかを注視するとともに、外部の関係機関に対する情報共有や啓発

活動、技術支援活動を地道に継続していくことが求められる。

また、プロジェクトでの検査診断法に関する技術移転が進むにつれて、スバン DIC での診断数は 2010 年の約 15,000 件から 2014 年には約 61,000 件と大きく増加した。これはスバン DIC としての検体処理能力としてはほぼ上限であると考えられる。プロジェクト期間終了後は上位目標達成に向けてパッシブ・サーベイランスでの病性鑑定実施件数の増加や関係機関への啓発活動・技術支援活動の強化が必要となるが、スバン DIC でのこれ以上の業務量増加は困難である。他方、プロジェクト活動を通して B/C タイプ・ラボのスタッフの能力も一定程度向上し、主要な家畜疾病に対する簡易な検査はおおむね適切に実施できる。調整会議等で既に業務分担が協議され始めており、実際にアクティブ・サーベイランスをスバン DIC の支援なしに実施するなどの成果も得られている。プロジェクト期間終了後も関係機関との効率的な業務分担がより一層進められることが望ましい。

他方、「有効性」の項でも示したとおり、スバン DIC スタッフの能力強化はおおむね期待する程度に強化されたといえる。しかしながら、獣医畜産学、検査診断学等は日進月歩で進歩する。プロジェクト期間は JICA 専門家からの直接指導や email 等で指導を受ける機会があったが、プロジェクト期間終了後は最新の技術に触れる機会は限定的となる可能性も否めない。スバン DIC はプロジェクト期間終了後も継続的なスタッフの研修を実施する計画をすることとしているが、インターネット等も活用して常に最新の情報、技術に触れておくことが望ましい。また、家畜疾病には AI をはじめとして多くの人獣共通感染症があることから、効果的な家畜疾病対策には公衆衛生セクターとの効果的な連携、協働が必要である。

(2) その他の正のインパクト

1) プロジェクト活動を通じた学術的成果の創出と検査診断業務への貢献

スバン DIC はプロジェクト開始以降の 2013 年に果たすべき組織機能として研究機能が追加され、感染症対策に資する研究の実施や学位取得を推進しており、2015 年 3 月現在で 6 名のスタッフが大学院の修士課程、博士課程に進学している。また、プロジェクト活動を通していくつかの学術的成果を上げている。具体的には、インドネシアで初めて牛からのクリプトスポリジウムの分離とマウスへの実験感染の世界で 3 番目の成功例、インドネシアで初めてのアカバネウイルスの分離、抗バベシア病薬スクリーニングのための蛍光検出法の評価⁵など、学術的に重要な成果も得られており、国際学術誌にも発表されている。なお、これらの学術的成果は DIC での業務に直接的に資するものであり、検査所としての機能を一層強化するものである。一例を挙げれば、DIC スバンでアカバネウイルスの分離が成功したことにより、このウイルスを用いた中和反応による牛の抗体保有状況の調査が可能となった。このような学術研究は西ジャワ州のみならず、インドネシア全体の家畜衛生に資するものであり、プロジェクト期間終了後もこのような取り組みが継続されることが望ましい。

2) 家畜疾病マップの作成

プロジェクト開始前の家畜疾病発生状況に関する疫学的データは、スバン DIC だけでなく B/C タイプ・ラボや動物検疫事務所も所有しており、調査対象の重複などそれぞれの

⁵ 本邦研修の参加者が日本の大学で実施した研究成果

一タの信頼性も十分確保されていなかった。プロジェクト開始後はスパン DIC 管轄地域内のデータ集計様式等が標準化され、スパン DIC に集約されている。これにより家畜疾病マップの信頼性は向上し、同マップに基づいて DINAS などは活動計画を作成していることから、今後より効果的、効率的な家畜疾病対策が実施されることが見込まれる。

3) スパン DIC と外部関係機関（DINAS や B/C タイプ・ラボ、PUSKESWAN、酪農家等）との連携強化

アクティブ・サーベイランスや啓発活動・技術支援活動などのプロジェクト活動を協働で実施したことにより、スパン DIC と外部関係機関の協力体制が構築された。プロジェクトはスパン DIC の機能強化に重点が置かれたが、将来の効果的な家畜疾病対策を実現するためには、関係機関の能力強化、連携強化が不可欠であることから、プロジェクトを通じた連携強化は将来の家畜疾病対策に正の影響をもたらすことが期待できる。終了時評価時点でも、プロジェクトが支援して発足した年 2 回の調整会議によりアクティブ・サーベイランスの分担調整が適切に行われており、以前のような調査対象の重複等はなくなっている。また、啓発活動や技術支援活動についても関係機関の予算の分担等も効果的に実施されており、現時点でも効果的、効率的な感染症対策活動への正のインパクトが認められる。

4) インドネシア側、日本側若手人材の能力強化

プロジェクトではプレゼンテーションを英語で行うよう支援するなど、インドネシア人 C/P の英語能力向上を推奨しており、特に若手人材の英語能力の向上が図られた。これによりインターネット等を活用した学術論文などへのアクセスが容易になり、将来の能力向上に貢献するものと期待される。また、JICA 短期専門家として派遣された日本人若手人材も、海外での業務経験を獲得することにより、日本にない疾病に対処する技術者としての能力向上も期待できる。

(3) 負のインパクト

本事業の実施に起因する負のインパクトは、終了時評価時点において確認されない。

4-5 持続性

プロジェクトによって生み出された便益の自立発展、自己展開は終了時評価時点においても一定程度見込まれる。

(1) 政策的、制度的側面

「妥当性」の項で示したとおり、DGLAHS は家畜疾病対策に対して政策的努力を継続しており、家畜疾病監視のための情報システムの構築やブルセラ病撲滅に向けたロードマップの作成などを行っている。終了時評価時点では次期「畜産開発中期計画 2015-2019」のドラフト作成中であるが、DGLAHS での面談では、畜産開発のなかの家畜疾病対策の重要性は維持されていることが示された。また、農業省はスパン DIC の研修機関としての機能も期待し、独自予算で研修員のためのドミトリーを建設している。このように、上位目標となる西ジャワ地域の家畜疾病対策の強化に向けた政策的コミットメントは、プロジェクト期間終了後も継続されることが見込まれる。

他方、プロジェクトではアクティブ・サーベイランスの対象疾患としてブルセラ病を選択

し、パイロットサイトの調査により有病率を明らかにしている。ブルセラ病の清浄化については、感染家畜のとう汰のための補償制度の整備や清浄地域以外からの家畜の導入制限など多くの課題があるが、スバン DIC が本病の発生状況や感染状況などについて持続的に正確な情報を提供することにより、関係機関による適切な対応の検討に貢献することが期待できる。

(2) 財政的側面

「有効性」の項でも示したとおり、プロジェクトは将来の持続性を強く意識し、プロジェクトが主催する研修会や出張を伴う疾病調査においても、日本・インドネシア国側機関双方は明確なコストシェアの下でプロジェクト活動を進めている。また、プロジェクトが技術移転を行った診断技術はスバン DIC の通常業務で使用されるものであり、プロジェクト活動として実施された牛ブルセラ病及び牛流産サーベイランスもスバン DIC の通常業務に組み込まれた形で実施されている。したがって、これらの活動はプロジェクト期間終了後もスバン DIC の予算で継続されることが強く見込まれる。試薬等の消耗品購入の 80%以上がスバン DIC の予算で賄われていることや、スバン DIC に割り当てられる予算がプロジェクト開始前から約 3 倍に増加していることから、財政的持続性は期待できる。

また、スバン DIC を中心として DINAS や B/C タイプ・ラボ、PUSKESWAN 等の関係機関との連携も進められている。調整会議で費用分担も含めた活動計画が協議されていることから、スバン DIC だけではなく、上位目標達成に連携が必要な関係機関の財政的持続性も一定程度期待できる。

(3) 技術的側面

「有効性」で示したとおり、スバン DIC で確立した検査診断技術、サービスには SOP が作成され、ISO の規格に則って質の担保がなされている。スバン DIC を含めて公務員は異動が一定程度あるものの、上記品質管理システムにより技術的持続性は高く維持されることが見込まれる。しかしながら、検査診断技術は日々進歩しており、スバン DIC スタッフも常に新規技術の獲得に向けた努力を継続するとともに、スタッフの離職・異動対策を含めたスバン DIC への技術の定着に向けた対策を講じることも重要である。

他方、「インパクト」の項で示したとおり、スバン DIC はパッシブ・サーベイランスでの病性鑑定を適切に実施するための運用上の取り組みを開始したところである。これにより病性鑑定に必要な検体が適切に採取、保存されることが見込まれるが、同時に B/C タイプ・ラボや PUSKESWAN の獣医師等への技術支援活動も地道に継続していくことが必要である。スバン DIC との面談では啓発活動、技術支援活動をプロジェクト期間終了後も継続することを表明しているが、家畜のオーナーである酪農家等への啓発活動は DINAS が担当する。特に専門的知識の乏しい酪農家等の知識を向上させ、態度・行動を変容させるには長い年月と努力を要し、広範囲にわたる管轄地域の酪農家をカバーするには、DINAS は地道な努力を継続することが求められる。スバン DIC や B/C タイプ・ラボもこれまで同様、DINAS に対して必要な技術的支援を継続することが望ましい。

なお、スバン DIC は 5 年ごとに各ラボの技術習得計画を作成することとしており、終了時評価時点では次期計画を策定しているところである。

(4) 総合的持続性

終了時評価時点でプロジェクト期間終了後の持続性を予測するには限界があるが、本プロジェクトの持続性は一定程度見込まれる。

4-6 結論

プロジェクトの技術支援によってスバン DIC の検査診断可能な疾病数は大きく増加し(成果 1)、適切な診断サービス(パッシブ・サーベイランス)を行う体制が整備されたとともに、サービス運用能力も強化された(成果 2)。また、プロジェクトで対象とした牛ブルセラ病及び牛流産サーベイランスの実施を通して通常業務として実施されているアクティブ・サーベイランス全体にも計画立案から実施、分析、フィードバックまでの一連の実施能力が強化された(成果 3)。これと並行し、地域全体の効果的な家畜疾病対策強化に向けた関係機関の連携体制も確立した(成果 4)。これらの成果に加え、スバン DIC は ISO の認証を取得し、家畜疾病診断サービスの品質管理も国際標準で行われているといえる。よってスバン DIC の家畜疾病診断サービスの質的、量的向上は図られたといえ、プロジェクト目標は終了時評価時点で達成されている。

これらの成果を評価 5 項目で分析したところ、妥当性、有効性、効率性及び持続性はいずれも高い、あるいはおおむね高いと評価された。上記の結果を踏まえ、本プロジェクトは予定どおり終了とする。また、インパクトにおいては学術的研究成果の創出や若手人材の育成などの正のインパクトが認められた。

他方、インパクトに関連して、上位目標である効果的な家畜疾病対策の実施の実現可能性は一定程度見込めるものの、その実現をより強固なものとするために、合同評価チームは第 5 章で関係機関に向けていくつかの提言を行う。

第5章 提言と教訓

5-1 提言

(1) 知識、技術の維持向上について

スバン DIC はプロジェクトの実施により検査診断技術やパッシブ・サーベイランス、アクティブ・サーベイランス、啓発活動や技術支援活動にかかわる能力を大きく向上させた。今後もこれらの能力を適切に維持するとともに、新しい知識、技術をさらに獲得するための努力を継続する必要がある。

(2) 病性鑑定システムの強化に向けた関係機関への啓発活動、技術支援活動の継続

地域全体として効果的な家畜疾病対策を実現するには、病性鑑定システムが適切に機能することが求められる。しかしながら、スバン DIC では持ち込まれる検体に質の問題（不十分な検体採取部位や不適切な保存方法、不十分な疫学情報）から、病性鑑定を適切に実施できない事例が認められた。その解決に向けてスバン DIC は新しい SOP の運用を開始したが、スバン DIC は今後も、適切な病性鑑定の実施に必要な検査材料の入手に向けた関係機関への啓発活動や技術支援活動を継続的に実施する必要がある。

(3) 人獣共通感染症の清浄化について

ブルセラ病の清浄化には、感染家畜のとう汰のための補償制度の整備や感染していない家畜の導入など多くの課題が残されている。スバン DIC は関係機関による適切な対応の検討に貢献するため、本病の発生状況や感染状況などについて持続的に正確な情報を提供する必要がある。さらに、合同終了時評価チームは、中央政府、地方政府の当局はプロジェクトの成果を適切に活用し、ブルセラ病や狂犬病等の人獣共通感染症の撲滅に向けた強いコミットメントを示すことを提言する。

(4) 検査診断機器及び施設設備の維持管理について

スバン DIC では ISO の要求事項に基づいて、適切なラボ管理、施設管理が実施されている。スバン DIC は今後も継続して劣化を遅らせるための予防的メンテナンスを実施するとともに、特に検査診断機器については更新のための予算確保もあらかじめ検討しておくことが望ましい。

(5) PDM の改訂について

上位目標の指標 1「スバン DIC における家畜疾病診断のための検体数が 2018 年までに 2015 年と比較して 10%増加する。」について、スバン DIC は 2014 年に約 61,000 件の検査を実施しており、施設の処理能力の上限近くまで増加している。このため、西ジャワ地域の効果的、効率的な家畜疾病対策に向け、簡易な試験を B/C タイプ・ラボと分担することなどにより、地域全体としての検査能力の向上を図ることとしている。一方、B/C タイプ・ラボと協働して検査能力を向上するためには、指標 3「西ジャワ地域における、スバン DIC の家畜衛生に関する啓発・技術支援活動の数が、2018 年までに 2015 年と比較して 20%増加する」に述べられている啓発活動や技術支援活動を適切に行うことが求められる。このため、指標 1 及び

3 については一体的に評価することが適当と考えられる。また、評価する検査実績の単位について、同一検体について複数の検査が実施される場合があること、現状においても、検体数としての実績の把握は困難で、検査数として把握・評価していることを考慮し、「検体数」を「検査数」に改める。

上記の点を考慮し、合同評価チームは指標 1 及び指標 3 を統合し、「スバン DIC 及び管轄地域の B/C タイプ・ラボ、家畜衛生センターを含めた家畜疾病診断のための検査実施数が 2018 年までに 2015 年と比較して 10%増加する」を上位目標達成度測定のための新たな指標とすることを提案する（付属資料 16、17 を参照）。

5-2 教訓

プロジェクトは開始当初より持続性を意識して、一連の活動をスバン DIC の通常業務として組み込む形で実施し、診断能力向上や業務体制改善を進めてきた。特に、プロジェクトがパイロットサイト活動としたブルセラ病及び牛流産に関する調査活動は、スバン DIC が通常業務として実施しているアクティブ・サーベイランスのなかに組み込んで実施された。このことが、プロジェクト及びスバン DIC 双方の予算措置や協働を円滑化するとともに、持続性の担保や効率的なプロジェクト活動の実施に貢献した。

このように、可能な限り先方の業務システムのなかでプロジェクト活動を運営することで、技術的、財政的持続性が担保されるものと考えられる。ただし、プロジェクトによって新たに先方業務として開始または継続される必要のあるものに関しては、プロジェクト期間終了までに必要な人材等も含めた業務のコスト分析を行っておくことにも留意が必要である。

付 属 資 料

1. 終了時評価調査の日程
2. PDM Version 2 (2013年5月28日版)
3. 評価グリッド
 - 3-1 実施プロセスの検証
 - 3-2 評価5項目
4. 専門家派遣実績
5. カウンターパート配置
6. カウンターパート研修実績
7. プロジェクト供与機材
8. ローカルコスト負担
9. インドネシア側による土地、建物、オフィス、設備の供与
10. プロジェクト成果物一覧
11. セミナー開催・発表実績
12. プロジェクトの実施体制
13. スバンドICの組織体制
14. PDMに設定された指標の達成状況
15. POに沿った活動実績及び達成度
16. PDM指標改定に関する提案
17. PDM改訂版 (Version 3) (案)
18. スバンドICで提供される診断可能な疾病及び診断技術一覧
19. Minutes of Meeting (M/M)

1. 終了時評価調査の日程

Schedule of The Terminal Evaluation

Annex 1

As of 25, May 2015

Date		Japanese Members				Hotel	
		JICA Leader	JICA Planning & Management	Veterinary Epidemiology	Livestock Disease Diagnosis		Evaluation & Analysis
7-May	Thu					Move from Tokyo to Jakarta	Jakarta
8-May	Fri					8:30 - 9:00 Visit to JICA Office 9:00 - 10:30 TV Meeting 11:00 - 14:00 Meeting with JICA Expert	Jakarta
9-May	Sat					Documentation	Jakarta
10-May	Sun					Documentation	Jakarta
11-May	Mon					10:00 - 11:00 Interview with DGLAHS 13:00 - 14:00 Interview with B type Labo (Jakarta Province) 14:00 - 19:00 Move from Jakarta to Subang	Subang
12-May	Tue					8:00 - 16:00 Interview with DIC Subang (Center President / Executives / Maintenance Staffs / Respective Laboratory Staffs.)	Subang
13-May	Wed					8:00 - 12:00 Interview with DIC Suban (Respective Laboratory Staffs.) 13:00 - 16:00 Site visit of DIC Suban	Subang
14-May	Thu					9:00 - 17:00 Move from Suban to Serang (Banten Province)	Serang
15-May	Fri					9:00 - 10:00 Interview with DINAS Banten 11:00 - 12:00 Interview with B type Labo (Banten) 13:00 - 16:00 Move From Serang (Banten Province) to Jakarta	Jakarta
16-May	Sat					Documentation	Jakarta
17-May	Sun					Move from Tokyo to Jakarta Documentation	Jakarta
18-May	Mon					8:30 - 10:00 Visit to DGLAHS Visit to JICA Office 10:00 - 11:30 Interview to the Head of DIS Subang : Ms.Liliek Indrayani 17:30 - 18:00 Visit to JICA Indonesia Office	Jakarta
19-May	Tue					8:00 - 12:30 Move from Jakarta to Subang 13:00 - 16:00 Interview with DIC Subang (Center President / Executives / Respective Laboratory Staffs.)	Subang
20-May	Wed					8:00 - 10:00 Move from Subang to Lembang (West Jawa Province) 9:30 - 11:00 Interview with KPSBU Lembang (Dairy Cooperative) 11:00 - 12:30 Site Visit to dairy farmers (2 farmers : Mr.Ermin/ Mr. Diki) 14:00 - 15:00 Interview with B type Labo (West Jawa Province) 15:00 - 17:00 Move from Lembang (West Jawa Province) to Subang	Subang
21-May	Thu					8:00 - 12:00 Tour of DIC Subang facilities & Interview with DIC Subang researchers. 13:00 - 15:30 Check the contents of the terminal evaluation report within JICA Evaluational Team	Subang
22-May	Fri					8:00 - 11:30 Joint review team meeting (Prepare draft of JTER) 14:00 - 19:00 Move from Subang to Jakarta	Jakarta
23-May	Sat					Documentation	Jakarta
24-May	Sun					Documentation	Jakarta
25-May	Mon					9:00 - 15:00 Joint review team meeting (Prepare final draft of JTER and M/M) 15:00 - 16:00 Signing on the JTER	Jakarta
26-May	Tue					9:00 - 12:00 JCC (Signing on M/M) 14:00 - 15:00 Report to JICA Office 21:25 Leave from Jakarta	Airplane
27-May	Wed					Arrive in Tokyo	

Annex 2

Project Design Matrix (PDM)

Project Name Project on Capacity Development of Animal Health Laboratory
Target Group Staff of Diseases Investigation Center (DIC) Subang
Project Duration Four (4) years, July 17, 2011 – July 16, 2015
Project Site DIC Subang
Implementing Agency Directorate of Animal Health DGLAHS-MoA and JICA

Date: May 28, 2013
Version 2

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
Overall Goal Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.	1 Number of test samples for animal disease diagnoses at DIC Subang in West Java region increases 10% by the year of 2018 in comparison with the number in 2015. 2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018. 3 Number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java region goes up 20% by the year of 2018 in comparison with the number in 2015.	1 Monitoring Report 2 Monitoring Report 3 Monitoring Report, Survey on target groups in West Java region by DIC Subang (Terminal evaluation survey and final survey)	
Project Purpose The quality and quantity of animal disease diagnosis service at DIC Subang are improved.	1 The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project. 2 The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project. 3 The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year. 4 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.	1 Monitoring Reports 2 Diagnosis records at DIC Subang 3 Observation at the time of mid-term review and terminal evaluation. 4 Monitoring Reports, The results of questionnaire survey on users at the time of mid-term review and terminal evaluation (questionnaire survey to be done by the project monitoring activity 2-5).	The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously. Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project.
Outputs Output 1 The DIC Subang staff obtain basic and systematic diagnosis for animal diseases. Output 2 The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.	1-1 The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013. 2-1 More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory. 2-2 Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.	1-1 The results of examination by the Project 2-1 Records of comments for diagnosis results 2-2 The results of certification by the Project	The staff of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period.

<p>Output 3 The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.</p> <p>Output 4 The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.</p>	<p>3-1 Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.</p> <p>3-2 Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.</p> <p>4-1 DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.</p> <p>4-2 Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.</p> <p>4-3 Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.</p>	<p>3-1 Record of surveys</p> <p>3-2 Records of Recommendations for animal disease control measures</p> <p>4-1 Records of issued Newsletter</p> <p>4-2 The plan and records of awareness and technical support activities</p> <p>4-3 The plan and records of awareness and technical support activities</p>	
<p>Activities</p> <p>Output 1</p> <p>1-1 The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang.</p> <p>1-2 Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and target levels of the techniques for each laboratory.</p> <p>1-3 The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory in DIC Subang.</p> <p>1-4 The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc.</p> <p>1-5 The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.</p> <p>1-6 The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.</p> <p>Output 2</p> <p>2-1 The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang.</p> <p>2-2 The staff of DIC Subang analyzes the current situation of sample submission from the fields.</p> <p>2-3 The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be planed in Output 4)</p> <p>2-4 The staff of DIC Subang conducts the improved diagnostic services.</p> <p>2-5 The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.</p>	<p style="text-align: center;">Inputs</p> <p><u>Indonesian side</u></p> <ol style="list-style-type: none"> 1. Assignment of counterpart personnel 2. Salary, Travel expense, accommodation cost and daily allowance of counterpart personnel 3. Project office space and communication device etc. 4. Budget for operational cost for the Project implementation (electricity etc.) 5. Procurement of Reagents and consumables. <p><u>Japanese side</u></p> <ol style="list-style-type: none"> 1. Dispatch of Experts (1) Long-term Experts : <ul style="list-style-type: none"> - Chief Advisor / Animal Health Administration - Project Coordinator / Animal Health Information - Veterinary Diagnosis / Epidemiology (assigned in half period of the project) (2) Short-term experts: from Japan or from third country Relevant experts in specific subjects of animal health will be dispatched, when necessity arises, for the smooth implementation of the Project within the framework of the Project. 	<p>Sufficient budget to conduct the necessary diagnosis is secured by Indonesian side.</p>	

<p>Output 3</p> <p>3-1 The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.</p> <p>3-2 The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.</p> <p>3-3 The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.</p> <p>3-4 The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.</p> <p>3-5 The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feed-back.</p> <p>Output 4</p> <p>4-1 The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java region.</p> <p>4-2 The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-3 The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)</p> <p>4-4 The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-5 The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions.</p>	<p>2. Counterparts training in Japan or in third country</p> <p>3. Provision of machinery / equipment</p> <p>4. Budget for operational cost for the Project implementation</p>	<p style="text-align: center;">Pre-Conditions</p> <p style="text-align: center;">-</p>
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Evaluation Grids

Annex 3-1

[Verification of Implementation Process] The Project on Capacity Development of Animal Health Laboratory

Evaluation Item	Evaluation Classification		Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Small				
Probability of achievement of the Project	Overall Goal	Whether "Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened" is logically correct as the Overall Goal.	Verification of logical relationship	Verification by the Evaluation Team	① Project documents ② Views of related players	① Document review ② Interview
		Whether it is expected that the benefit/outcomes derived from the Project is autonomously deployed or disseminated to non-targeted areas after the termination of the Project.	Verification of sustainability	Information indicating their sustainability	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
	Project Purpose	Whether the Project Purpose of "The quality and quantity of animal disease diagnosis service at DIC Subang are improved" is expected to be achieved by the end of the project period.	① Degree of achievement of Objectively Verifiable Indicators (OVIs) ② Comprehensive analysis	① Achievements of OVIs ② Views of related player	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
	Outputs	Whether the Output 1 of "The DIC Subang staff obtains basic and systematic diagnosis for animal diseases" is achieved or expected to be achieved by the end of the project period.	Degree of achievement of OVIs	① Achievements of OVIs ② Views of related players	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
		Whether the Output 2 of "The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened" is achieved or expected to be achieved by the end of the project period.		① Achievements of OVIs ② Views of related players	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
		Whether the Output 3 of "The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened" is achieved or expected to be achieved by the end of the project period.		① Achievements of OVIs ② Views of related players	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
		Whether the Output 4 of "The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites" is achieved or expected to be achieved by the end of the project period.		① Achievements of OVIs ② Views of related players	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
Inputs	Inputs from the Japan Side	Whether JICA Experts were dispatched as scheduled.	Comparison of plan with actual result	Results of Input	① Input records ② Project reports	Document review
		Whether equipment for project activities was provided as planned.		Results of Input (incl. Information for status of utilization)	① Input records ② Project reports	① Document review ② Direct observation
		Whether C/Ps' training in Japan and/or third countries were implemented as planned.		Results of acceptance of trainees	① Input records ② Project reports	Document review
		Whether local cost from JICA side were implemented as scheduled.		Budget and implementation result	① Input records ② Project reports	Document review
	Inputs from the Indonesian Side	Whether C/Ps were appropriately allocated enough to implement project activities.	Comparison of plan with actual result	① Achievement of Input ② Views of related players	① Input records ② JICA Experts, C/P	① Document review ② Interview
		Whether office space for JICA experts was provided.		Achievement of Input	① Input records ② JICA Experts, C/P	① Document review ② Interview
		Whether local cost from Indonesian side were implemented appropriately.		① Achievement of Input ② Views of related players	① Input records ② JICA Experts, C/P	① Document review ② Interview

[Verification of Implementation Process] The Project on Capacity Development of Animal Health Laboratory

Evaluation Item	Evaluation Classification		Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Small				
Implementation Process	Planned activities	Whether the project activities were implemented as scheduled.	Comparison of plan with actual result	Accomplishment of project activities	Project reports	① Document review ② Questionnaire
		Whether the PDM was updated in accordance with surroundings of the Project under the agreement amongst relevant parties.				Vicissitude of PDMs and its reasons for modification
	Technical transfer	Whether methods and/or approaches of technical transfer were appropriate.		Methods and contents of technical transfer	① Project reports ② JICA Experts, C/P	① Document review ② Interview
	Management system	Who, how and how often the progress of the Project was monitored, and consequent findings were reflected to the operation of the Project.		① Progress monitoring system ② Feedback system	① Project reports ② JICA Experts	① Document review ② Questionnaire
		How the decision-making process for modification of the project activities, assignment of personnel, etc. was.		Process for decision-making	① Project reports ② JICA Experts	① Document review ② Questionnaire
		How the communication and cooperative relationship amongst players in the Project was.		JCC and other meeting	① Project reports ② Views of related players	① Document review ② Questionnaire
		Whether Project information was effectively shared.		JCC and/or other meetings	① Project reports ② Views of related players	① Document review ② Questionnaire
	Ownership and Autonomy	How ownership and autonomy of implementing bodies including C/Ps and beneficiaries were.		Contribution, attitude, etc. for the project activities.	① Project reports ② Views of related players	① Document review ② Questionnaire ③ Interview
	中間レビュー時の 提言へのフォロー アップ状況	[Recommendations 1] Longer assignment of C/Ps to appropriate position in DIC Subang during the project period		Countermeasures taken by the Project and current status	Information from parties and/or persons	① Questionnaire ② Interview
		[Recommendations 2] Systematical collaboration among DIC Subang, provincial and district DINAS including B/C-type Lab		Countermeasures taken by the Project and current status	Information from parties and/or persons	① Questionnaire ② Interview
		[Recommendations 3] Application of new methods introduced by the Project should be referred to the national manual		Countermeasures taken by the Project and current status	Information from parties and/or persons concerned	① Questionnaire ② Interview
		[Recommendations 4] □Revision of OVIs of PDM		Countermeasures taken by the Project and current status	Information from parties and/or persons concerned	① Questionnaire ② Interview
		[Recommendations 5] Implementation of Laboratory Management		Countermeasures taken by the Project and current status	Information from parties and/or persons concerned	① Questionnaire ② Interview
	Problems on implementation process	Whether there were obstacles or problems for the implementation of the project activities.		Contributing and inhibitory factors	① Project reports ② Views of related players	① Document review ② Questionnaire ③ Interview

Evaluation Grids

Annex 3-2

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification		
	Major	Middle	Small						
Relevance	Priority	Consistency of the Project Purpose with policies for livestock and animal health in Indonesia		Consistency verification	National policies	① Document for livestock and animal health-related policies ② Directorate General of Livestock and Animal Health Services, the Ministry of Ministry of Agriculture (DGLAHS-MOA)	① Document review ② Interview		
		Priority of the strengthening of animal disease diagnosis services in Type-A labs in the policies for livestock and animal health in Indonesia			National policies	① Document for livestock and animal health-related policies ② DGLAHS-MOA	① Document review ② Interview		
		Consistency with Japan's ODA policies and JICA's aid policies	Relativity with prioritized area in Japan's ODA policies		Prioritized area in Japan's ODA policies for Indonesia	Japan's ODA policies for Indonesia	Document review		
			Relativity with prioritized area in JICA's aid policies		Place of agricultural assistance in the JICA's aid policies	Position Paper, Thematic Guidelines, Rolling Plan, etc.	Document review		
		Necessity	Relevance of target group		Consistency of needs of target group with the Project Purpose		① Experiences /performances of C/Ps ② Competency of DIC Subang for testing/diagnostic service provision	① Project documents ② JICA Experts, C/P	① Document review ② Interview ③ Direct Observation
	Appropriateness of implementation method	Appropriateness of adoption of assistance approach to strengthen the function of DIC Subang for the control of livestock and animal diseases				Background and/or process for selection of assistance approach	① JICA ex-ante evaluation report ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
		Special consideration	Special assiduties for gender issues, social grades, environment, ethnic groups, etc.			Views of related players	① JICA Experts ② JICA HQ	① Document review ② Questionnaire	
		Japan's technical superiority				① Japan's Assistance experiences for livestock and animal health area ② Skills and experiences of experts	① Project documents ② JICA HQ ③ JICA Experts	① Document review ② Interview	
	Effectiveness	Achievements	Status of the achievements of Outputs		Status of the achievements of OVIs for Outputs		① Status of achievements of OVIs ② Project activities and its accomplishments	① Project documents ② JICA Experts, C/P	① Document review ② Interview

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Middle	Small				
			<Output 1> Whether the DIC Subang staff obtains basic and systematic diagnosis for animal diseases	Comprehensive confirmation of actual status	Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
			<Output 2> Whether the capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.		Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
			<Output 3> Whether the capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened		Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
			<Output 4> Whether the DIC Subang staff conducts the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.		Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
		Probability of the achievement of the Project Purpose	Whether the quality and quantity of animal disease diagnosis service at DIC Subang is or is expected to be strengthened to an expected extent.	Systematic judgment	① Status of achievements of OVIs ② Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
	Cause-and-effect relationship	Whether the Project Purpose was attained as a result of the achievements of Outputs	Whether there was no logical error from the aspect of cause-and-effect relationship.	Verification of logical relationship	Verification by Evaluation Team	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Whether there was any other effective approaches for the achievement of the Project Purpose	Verification of implementation approaches	① Verification by Evaluation Team ② Views of related parties	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
	Contributing and hindering factors	Appropriateness of the important assumptions	Whether important assumptions are appropriate from aspects of current situation.	Confirmation current situation	Verification by Evaluation Team	① Project documents ② JICA Experts, C/P	① Document review ② Interview
			Whether important assumptions are appropriate from aspects of current situation and logical relationship	Verification of logical relationship	Verification by Evaluation Team	① Project document ② JICA Experts, C/P	① Document review ② Interview
		Whether important assumptions are fulfilled.	Confirmation of the current status of "Sufficient budget to conduct the necessary diagnosis is secured by the Indonesian side".		Budget allocation of the Indonesian side to the Project	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
Confirmation of the current status of " The staffs of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period".				Turnover of C/Ps	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
	Other expected and/or unexpected external factors		Other expected and/or unexpected external factors	① JICA Experts, C/P ② Project documents	① Interview ② Questionnaire ③ Document review		

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification	
	Major	Middle	Small					
Efficiency	Time resource	Whether Outputs were attained as scheduled.			Progress control of the project activities	① Project documents ② Views of related players	① Document review ② Questionnaire ③ Interview	
	Quality, quantity and timing of inputs	Whether quality, quantity and timing of inputs were appropriate.	Whether the number and period, areas of expertise and timing of dispatch of JICA expert were appropriate.		Comparison of results and plan	① Record of dispatch of experts ② Attitude and performance of experts	① Input records ② Project documents ③ JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Whether types, quantity and timing of installation were appropriate.			① Record of equipment provision ② Utilization status of equipment	① Input records ② JICA Experts, C/P	① Document review ② Questionnaire ③ Direct observation ④ Interview
			Whether equipment and materials provided by the Project are appropriately utilized for achieving Outputs.			① Utilization status of materials ② Input records and operational status	① Project reports ② Input records	① Document review ② Questionnaire ③ Direct observation
			Whether timing, contents and duration of training in Japan and/or third countries were appropriate, and how the training contributed for the achievement of Outputs.			① Acceptance of trainees ② Views of related parties	① Input records ② Trainees ③ JICA Experts	① Document review ② Questionnaire ③ Interview
			Whether timing, contents, duration follow-up of on-site trainings were appropriate.			① Records of on-site trainings ② Accomplishments of trainings	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Whether the overseas activities costs from Japanese side has been appropriately implemented.			Overseas activities cost from Japan side	① Input records ② JICA Experts	① Document review ② Interview
			Whether allocation of Indonesian C/Ps and budget for the Project were appropriate.			Allocation of C/P personnel and local costs from Indonesia side	① Input records ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Collaboration with existing resources	Utilization of Japanese resources		Whether recommendations and/or points of note at the JCC and/or the Project Assistance Commission in Japan contributed for the achievement of Outputs.		Accomplishment of the project activities
	Whether there was any collaboration with other Japanese resources contributed for the achievement of Outputs.				Accomplishment of the project activities	① Project documents ② JICA Experts	① Document review ② Questionnaire	
	Collaboration with other development partners	Whether there were any collaboration with other development partners contributed for the achievement of Outputs.		Benefits derived from collaborative activities with other development partners.	① Project documents ② JICA Experts ③ Other development partners	① Document review ② Questionnaire		
	Contributing and hindering factors	Whether there were any contributing factors to efficiency.			Views of related parties	① Project documents ② JICA Experts, C/P	① Document review ② Interview	
		Whether there were any hindering factors to efficiency.			Views of related parties	① Project documents ② JICA Experts, C/P	① Document review ② Interview	

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification	
	Major	Middle	Small					
Impact	Cause-and-effect relationship	Whether there are any discrepancy between Overall Goal and Project Purpose. (OVIs for Overall Goal will be verified.)		Verification of logical relationship	Policies related to livestock and animal health, etc.	① Policies related to livestock and animal health ② Verification by Evaluation Team	Document review	
	Probability of achievement of the Overall Goal	Whether Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) is strengthened to an desired level, by Indonesian self-help endeavor in 3 to 5 years after the end of the Project.		Exploration based on the current status	① Degree of achievement of the Project Purpose ② Verification of Sustainability	① Project documents ② Views of related players	① Document review ② Questionnaire ③ Interview	
		Hindering factors for the achievement of the Overall Goal	Whether the important assumption of "The measures and policies concerning of animal disease control will be implemented by the government of Indonesia communisly" is appropriate at the time of the Terminal Evaluation, and expected to be fulfilled in 3 to 5 years time after the end of the project period.		Verification of logical relationship	Possibility of unfulfillness of the assumption	① Views of related players ② Verification by Evaluation Team	① Document review ② Interview
			Whether the important assumption of "Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project" is appropriate at the time of the Terminal Evaluation, and expected to be fulfilled in 3 to 5 years time after the end of the project period.		Verification of logical relationship	Possibility of unfulfillness of the assumption	① Views of related players ② Verification by Evaluation Team	① Document review ② Interview
			Whether other hindering factor for the achievement of Overall Goal are envisaged.			Other necessary information	① Views of related players ② Verification by Evaluation Team	① Document review ② Interview
		Other impacts	Whether there are any positive and/or negative impacts confirmed and/or expected to be generated other than Overall Goal	Positive impacts		Other necessary information	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview
	Negative impacts				Other necessary information	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview	
Sustainability	Probability of maintaining the benefits derived from the Project	Political and institutional aspects	Whether policies related to livestock and animal health would be maintained and/or enhanced in Indonesia.		Policies related to livestock and animal health in Indonesia	① DGLAHS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview	
			Whether political assistance to enhance the benefits derived from the Project will be discussed for the dissemination of them to other area in Indonesia.		① Policies related to livestock and animal health in Indonesia ② Disposition and policies of DGLAHS-MOA	① DGLAHS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview	
	Financial aspect	Whether the budget and human recourse allocation for maintaining activities will be secured.		Policies to livestock and animal health and budget allocation	① DGLAHS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview		

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Middle	Small				
			Whether the budget and personnel for the enhancement of the benefit will be allocated.		Policies and budget allocation	① DGHALS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview
		Technical aspect	Whether the improved capacities of DIC Subang in diagnosis service provision for livestock and animals will be maintained and enhanced autonomously after the end of the project period.		① Possibility of continuation of monitoring activity ② Opportunities to update technical skills	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview
			Whether personnel for the deployment of the benefits are natured.		Administrative ability for deployment of the benefits	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview
		Contributing and hindering factors	Whether the important assumptions for sustaining the benefits will be maintained.		Views of related players	① Project reports ② JICA Experts	① Document review ② Interview
			Whether countermeasures against contributing and hindering factors for sustainability were discussed by the Project and C/Ps.		Views of related players	① Project reports ② JICA Experts	① Document review ② Interview
	Comprehensive sustainability	Whether the comprehensive sustainability is secured or not, in the view of above-mentioned aspects.			Analytical evaluation by the Evaluation Team	① Project documents ② JICA Experts, C/P ③ Views of related players	① Document review ② Interview

(2) Results of Experts' Activities

(long-term)

No	Names	Field	Organization	Results of Activity
1	Dr. KISHIMA Masato	Chief Advisor / Animal Health Administration	National Institute of Animal Health, Japan	<p>< As a Chief Advisor ></p> <p>1) Started the seminar in DIC Subang, 2) Made report meeting at DGLAHS at the end of the period of short-term experts, 3) Made an action plan in pilot sites, 4) Made a study of how to collect diagnostic material, 5) Advised on the efficient operation of active surveillance, 6) Third-country training in Thailand, 7) Attended meetings</p> <p>< As a Expert of Bacteriology ></p> <p>1) Introduction of the basic concepts for the implementation of diagnosis of animal diseases and surveillance, 2) Isolation and identification of pathogenic agents from the specimens collected from the field, 3) Isolation of bacteria and mycoplasmas from organs of chicken collected from the field continuously, 4) System for the storage and management of isolated bacteria strains, 5) Introduction and manufacture of materials, required for the diagnosis of bacterial diseases of livestock</p> <p>< Techniques related to the diagnosis of viral disease ></p> <p>1) Transfer the diagnostic techniques of viral disease, 2) Transfer the techniques of isolation and identification of virus from the diagnostic samples</p>
2	Dr. KOIKE Ikuo	Veterinary Diagnosis / Epidemiology	Unaffiliated	<p>< Coordination to implement the project ></p> <p>1) Administration, 2) Budget management & procurement, 3) Accounting, 4) Equipment provision, 5) Management of Project progress, 6) Coordination of Project Monthly & Quarterly report, 7) Arrangement for short-term expert dispatch, 8) Arrangement for counterpart training in Japan and third country, 9) Arrangement and coordination of diagnostic seminar in DIC Subang, 10) Other arrangement, 11) Coordination of in-house diagnostic seminar, 12) Coordination with related organization, 13) Establishment of internet environment & Web site of DIC Subang, 14) Making project leaflet, 15) Project baseline survey, - Research on the current diagnostic situation, -Research on the field disease situation, - Training demand of the stakeholders</p>
4	Mr. MAEDA Yasuyuki	Coordinator / Animal Health Information	JICA	<p>< Coordination to implement the project ></p> <p>1) Administration, 2) Budget management & procurement, 3) Accounting, 4) Equipment provision, 5) Management of Project progress, 6) Coordination of Project Monthly & Quarterly report, 7) Arrangement for short-term expert dispatch, 8) Arrangement for counterpart training in Japan and third country, 9) Arrangement and coordination of diagnostic seminar in DIC Subang, 10) Other arrangement, 11) Coordination of in-house diagnostic seminar, 12) Coordination with related organization, 13) Establishment of internet environment & Web site of DIC Subang, 14) Making project leaflet, 15) Project baseline survey, - Research on the current diagnostic situation, -Research on the field disease situation, - Training demand of the stakeholders</p>

(short-term)

No	Names	Field	Organization	Results of Activity
1	Dr. SHIBAHARA Tomoyuki (1)	Pathological Diagnosis	National Institute of Animal Health, Japan	<p>< Necropsy, basic theory of histopathology, making and observation method of tissue sections (HE staining) ></p> <p>1) Handling of animals, 2) Method of blood collection, 3) Autopsy techniques, 4) Sampling, 5) Macroscopical photography, 6) Recording, 7) Trimming, 8) Tissue processing, 9) Embedding, 10) Making sections, 11) HE staining, Special stains (Gram stain, acid-fast stain, stained Grocott's stain), 13) Immunohistochemistry (avian influenza), 14) Mounting, 15) Using a microscope, 16) Microscopical photography, 17) Creating a presentation, 18) Methods of the output, 19) Presentation, 20) Writing a paper</p>
2	Dr. KOBAYASHI Sota (1)	Veterinary Epidemiology	National Institute of Animal Health, Japan	<p>< Introduction and survey to select the pilot site candidate farm by epidemiological technique ></p> <p>1) Investigation of needs in epidemiology lab - Environment of pilot site - Facility / capacity in the lab - Technical issues, 2) Setting up of the grand design on the activities for coming years cooperating with team members, 3) Role of epi lab so far, 4) Member's needs, 5) Surveillance in future, 6) Experience of data analyses, 7) Next action for brucellosis, 8) Principle of epidemiology, 9) Evaluation of diagnostic tests, 10) "R" was installed in the PC in epi lab, 11) Some basic data analyses, 12) Reference documents to start self-learning, 13) Paper reading started, 14) Sample size for the prevalence estimation, 15) Random sampling technique by spreadsheet</p>
3	Dr. MATSUBAYASHI Makoto	Diagnosis of Parasitic Disease	National Institute of Animal Health, Japan	<p>< Techniques to examine cryptosporidium parasites in the feces and making paper for international journal ></p> <p>1) Floating methods using sugar for the diagnosis of intestinal parasite, 2) Sedimentation methods, 3) Floating methods using NaCl, 4) Identification for Nematoda and Cestoda eggs, 5) Detection and identification of protozoan oocysts, 6) Iodine staining of protozoan cysts and its identification, 7) Counting number of oocysts, cysts, and eggs of parasites, 8) Taking pictures of oocysts, cysts, and eggs of parasites, 9) Measuring of oocysts, cysts, and eggs of parasites in diameter, 10) Immunofluorescent staining using specific monoclonal antibody, 11) Identification of Trematoda eggs, 12) Histopathological diagnosis of intestine infected with protozoa, 13) Collecting samples in livestock fields, 14) Summarization of sample information</p>
4	Dr. MIKAMI Osamu	Pathological Diagnosis	National Institute of Animal Health, Japan	<p>< Introduction of special staining methods such as specific immune staining method and observation techniques of tissue sections ></p> <p>1) IHC (specific detection of influenza A virus in chicken), 2) Gram staining (Hucker-Conn method), 3) Ziehl-Neelsen staining, 4) Löffler's methylene blue staining, 5) PAS reaction, 6) Masson's trichrome staining, 7) Berlin blue staining, 8) Rapid embedding method, 9) Decalcification method (preparation of bone sample), 10) Necropsy procedure, 11) Sampling procedure for histopathological examination, 12) Sampling procedure for BSE examination, 13) Trimming procedure for brain (mammal and chicken), 14) Embedding, 15) Sectioning, 16) H&E staining (adjustment of automatic stainer), 17) Knowledge necessary to histopathological diagnosis, 18) Basics of presentation</p>

No	Names	Field	Organization	Results of Activity
5	Dr. KOBAYASHI Sota (2)	Veterinary Epidemiology	National Institute of Animal Health, Japan	< Training and the transfer of the basic theory of epidemiology, Seminar on veterinary epidemiology, Data collection system on brucellosis surveillance, Sampling methods and procedures, Data analyzing method, Pilot site activity planning> 1) Transferring techniques in epidemiology, - Knowledge & techniques, - Collection of the prior information, - Data analysis on the specific software (SPSS & R) 2) Support on planning and implementation of the activities for the pilot sites, - Database preparation - Activity plan in Banten & Jakarta, - Drafting questionnaire for Banten province, 3) Training course on veterinary epidemiology and data analysis for the participants from all DICs and B/C type labs in West Java area (2 weeks)
6	Dr. FUJISAKI Kozo	Diagnosis of Parasitic Disease	Unaffiliated	< Diagnostic techniques on Theileria disease and chicken Leucocytozoonosis, Observation of protozoa in the blood smear, Detection of antibodies, Anatomy of mites for the sample preparation of PCR method> 1) Diagnostic techniques of leucocytozoonosis in chicken by Giemsa staining of blood smears and serological methods, 2) Collection of blood from chicken for determination of leucocytozoon parasites in the blood and the presence of antibodies, 3) Diagnostic techniques of theileriasis in cattle by Giemsa staining of blood smears and PCR technique, 4) Dissection of ticks under dissecting microscope for preparation of specimens for PCR.
7	Dr. SHIBAHARA Tomoyuki (2)	Pathological Diagnosis	National Institute of Animal Health, Japan	< Improvement of theory and techniques related to the pathological diagnosis: HE staining and immunostaining, Special staining and positive control production for immunohistochemical staining, Sample collection method for BSE diagnosis > 1) Diagnostic criteria (OIE standard), 2) Handling of animals, 3) Autopsy techniques (cattle, goat, pig), 4) Sampling, 5) Macroscopical photography, 6) Recording, 7) Trimming, 8) Improved tissue processing, 9) Embedding 10) Making sections, 11) HE staining, 12) Special stains (Improved Gram stain and acid-fast stain), 13) Immunohistochemistry (e.g. Salmonellosis, infectious bronchitis), 14) Method for producing the positive control (e.g. Salmonella O4, O9 and Avian influenza), 15) Mounting (AEC), 16) Using a microscope, 17) Microscopical photography, 18) Creating a presentation, 19) Methods of the output, 20) Presentation, 21) Writing a paper (Indonesian Journal of veterinary pathology (IJVP) (Jurnal Patologi Veteriner Indonesia)), 22) Method of creating manuals
8	Mr. MIYAMOTO Toru (1)	Veterinary Public Health	National Institute of Animal Health, Japan	< Analytical techniques of residual pesticides and antibiotics in livestock products using high-performance liquid chromatography (HPLC)> 1) Basic theory of Chromatography, 2) Basic theory and basic operating procedure of HPLC, 3) Basic theory and basic operating procedure of GC, 4) Basic techniques for analysis of pesticides and antibiotics, 5) Analytical method for quinolone antibiotics in animal products using HPLC, 6) Analytical method for organochlorine pesticides in animal products using GC, 7) Validation method for analysis, 8) How to arrange data and to make reports, 9) How to make presentation
9	Dr. ANRI Akira	Clinical Diagnosis	Unaffiliated	< Transferring techniques of bacteria culture in milk that is necessary to mastitis control of cattle > 1) Survey of current status and issues of mastitis control measures in the pilot site, 2) Transfer of bacteria examination techniques in milk necessary for mastitis control, 3) Conducting seminars on mastitis control for dairy farmers, 4) Making "Manual of mastitis control for cattle" (Indonesian)
10	Dr. SHIRAFUJI Hiroaki	Serological Diagnosis	National Institute of Animal Health, Japan	< Culture techniques of cell lines, isolation of arboviruses, identification of virus by genetic test, antibody testing by neutralization test > 1) Cell culture, 2) Virus isolation, 3) Virus isolation and identification, 4) Antibody test (neutralization test), 5) Pilot surveillance of arbovirus, 6) Seminar on arbovirus infection
11	Mr. MIYAMOTO Toru (2)	Veterinary Public Health	National Institute of Animal Health, Japan	< Transfer the detection technique of hormone (Trenbolone) remaining in the beef and cattle liver > 1) Acquiring techniques of analysis of the residual hormone (Trenbolone) using HPLC, 2) Verification and improvement of measuring techniques and protocols
12	Dr. KOBAYASHI Sota (3)	Veterinary Epidemiology	National Institute of Animal Health, Japan	< Transfer the Epidemiological concepts, theory, method, Brucellosis surveillance and abortion surveillance, sampling method, Data collection and analyzing method> 1) Analysis of risk factors on feeding management related to abortion occurrence of buffalo in Banten, 2) Formulated the abortion surveillance plan for the dairy cooperatives in West Java, 3) Hierarchly structure of diagnostic reporting system of DIC Subang, 4) Statistical analysis techniques
13	Mr. OKADA Motohiro (1)	Laboratory Facility Maintenance	Nihon Sekkei, Inc.	< Investigation of current situation of Laboratory Facility Maintenance in DIC Subang, Medan and Lampung > 1) Confirmation of maintenance staff (educational background and experience), 2) Situation of equipment management, 3) Implementation status of fumigation, 4) Exchange status of HEPA filters, 5) Utilization status of manuals and drawing, 6) Confirmation of issues reported by the project
14	Dr. TAGUCHI Masaji	Comprehensive Diagnosis	Unaffiliated	< Technical transfer of comprehensive diagnosis especially for the viral disease> 1) cell culture techniques, virus isolation and neutralization test, 2) Implementation of abortion surveillance in terms of the viral disease, 3) Arbovirus isolation, 4) Akabane virus neutralization test, 5) Research on prevalence of Akabane virus antibody in West Java Province, 6) Recommendations on comprehensive diagnosis in DIC Subang

No	Names	Field	Organization	Results of Activity
15	Mr. OKADA Motohiro (2)	Laboratory Facility Maintenance	Nihon Sekkei, Inc.	< Conduct training on Laboratory Facility Maintenance in DIC Subang, DIC Medan and DIC Lampung (Air conditioning, Automatic control system, Fumigation and HEPA exchange) > 1) Adjustment of air volume balance in BSL Lab, 2) Formalin fumigation, 3) Exchange of HEPA filter, 4) Training by contractors, 5) Training by manufacturers
16	Mr. OKADA Motohiro (3)	Laboratory Facility Maintenance	Nihon Sekkei, Inc.	< Conduct training on Laboratory Facility Maintenance in DIC Subang, DIC Medan and DIC Lampung (Air conditioning, Water supply and drainage, Water treatment system and Generator) > 1) Training and repairing of the air conditioner, 2) Failure check and training on wastewater treatment system, 3) General training on plumbing system, 4) Improvement of air filters in Poultry House, 5) Checking failure of ATS equipment, 6) Award the Training Certification, 7) Hearing of training outcomes
17	Dr. TAKAHASHI Yuji	Biochemical Diagnosis	National Institute of Animal Health, Japan	< Transfer the techniques of Biochemical diagnosis > 1) Transfer the biochemical diagnostic technique using a spectrophotometer and ELISA reader, 2) The measuring method of serum component (Albumin, ASAT (GOT), Bilirubin, Cholesterol, Gamma-GT, NEFA, β -Hydroxybutyrate (Ketone body), Ca, Mg, P, method of measuring Urea), 3) Application of biochemical diagnostic techniques in abortion surveillance of cattle

5. カウンターパート配置

Assignment of Counterpart

Annex 5

No	Name of Counterpart	Position / Organization	Field in charge	Term of Assignment		2011			2012			2013			2014			2015			Remark
				From	To	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	
1	Dr. Prabowo Reputiyo Canorus, DVM, Ph.D	Director General Directorate General of Livestock and Animal Health Services (DGLAHS), Ministry of Agriculture	Project Director	2011.7.17	2011.12.31																Moved
2	Dr. Ir. Syukur Iwanoro, MS, MBA	Director General Directorate General of Livestock and Animal Health Services (DGLAHS), Ministry of Agriculture	Project Director	2012.1.1	-																
3	Dr. Pudjantono, Ph.D	Director Directorate of Animal Health (DAH), DGLAHS	Project Manager	2011.7.17	-																
4	Dr. Budiantono, DVM, M.Sc	Head Disease Surveillance Sub-Directorate, DAH	Deputy Project Manager	2011.7.17	2012.1.31																Moved (BPM/SOJ)
5	Dr. Widjajanti, DVM	Head Disease Surveillance Sub-Directorate, DAH	Deputy Project Manager	2012.2.1	2012.7.31																Moved (DGLAHS)
6	Dr. Muhammad Syihl, DVM	Head Disease Surveillance Sub-Directorate, DAH	Deputy Project Manager	2012.8.24	-																Moved (DGLAHS)
7	Dr. Muhammad Syihl, DVM	Director DIC Subang	Deputy Project Manager	2011.7.17	2012.8.23																Moved (DGLAHS)
8	Dr. Liliek Indrayani, DVM	Director DIC Subang	Deputy Project Manager	2012.8.24	-																
9	Dr. Sodikun, DVM, MV.Sc	Coordinator of Virology Laboratory, Head Section of Veterinary Services	Veterinarian (Virology)	2011.7.17	-																
10	Dr. Trian Mahawan	Coordinator of Virology Laboratory	Veterinarian (Virology)	2011.7.17	-																
11	Dr. Yuliyanti	Staff of Virology Laboratory	Veterinarian (Virology)	2011.7.17	-																
12	Dr. Suryo Prasomo Edi	Staff of Serology Laboratory	Veterinarian (Virology)	2011.7.17	-																Graduate school (2014.9-2016.8)
13	Dr. Niken Respati Maharani	Staff of Virology Laboratory	Veterinarian (Virology)	2014.3	-																
14	Mr. Afri Ibrahim	Staff of Serology Laboratory	Paramedic	2011.7.17	-																
15	Mr. Sulyan Talazani, Amd	Staff of Virology Laboratory	Paramedic	2014.6	-																
16	Dr. Puan Eko Wibowo	Coordinator of Virology Laboratory, Head of Veterinary Services Section	Veterinarian (Epidemiology)	2011.7.17	-																
17	Dr. Satryo Setyo Utomo	Staff of Epidemiology Laboratory	Veterinarian (Epidemiology)	2011.7.17	-																
18	Dr. Aprizal Panus	Staff of Epidemiology Laboratory (Transferred from Serology Lab in 2014)	Veterinarian (Virology)	2011.7.17	-																Graduate school (2011.2-2014.10)
19	Dr. Witnham Sodik	Staff of Epidemiology Laboratory	Veterinarian (Epidemiology)	2011.7.17	2013.10.30																Moved (Parveta)
20	Dr. Agus Hartadi	Chief of Animal Experimental Lab (Transferred from Admin in 2014)	Veterinarian	2011.7.17	-																
21	Mr. Firman Duk K	Staff of Epidemiology Laboratory	Paramedic	2011.9.1	-																University (2014.9-2016.8)
22	Ms. Selviyanti Nurusia	Staff of Epidemiology Laboratory (Transferred from Administration in 2013)	Paramedic	2013.2.1	-																
23	Mr. Iprat Hukmatul Ibro	Staff of Epidemiology Laboratory (Transferred from Virology Lab in 2014)	Paramedic	2011.7.17	-																
24	Mr. Redi Permana, S Kom	Staff of Epidemiology Laboratory	Contract	2012.1	-																
25	Dr. Suharno	Coordinator of Parasitology Laboratory	Veterinarian (Parasitology)	2011.7.17	-																
26	Dr. Sylvia Maharani Ananta, M.Sc	Staff of Parasitology Laboratory	Veterinarian (Parasitology)	2011.7.17	2013.3.1																Moved 2013 (DGLAHS)
27	Dr. Isrok Mulkus Saifi	Staff of Parasitology Laboratory (Transferred from Biotech Lab in 2012)	Veterinarian (Parasitology)	2011.7.17	-																Graduate school (2014.1-2016.1)
28	Ms. Fitri Dah Angreini	Staff of Parasitology Laboratory (Transferred from Virology Lab in 2015)	Paramedic	2011.7.17	-																
29	Mr. Dudi Widi, Amd	Staff of Parasitology Laboratory	Paramedic		-																University (2014.9-2015.8)
30	Mr. Tasmya	Staff of Parasitology Laboratory	Paramedic	2013.8	-																

Counterpart Training

Annex 6

(1) Counterpart Training in Japan

T: Number of Trainee, LT: Number of local trainer

No	Name of Counterpart	Field in charge	Name of training Course	Term of Training		Supporting Organization	Remarks	2011				2012				2013				2014				2015													
				From	To			7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7					
1	Dr. Satriyo Setyo Usono	Staff of Epidemiology Laboratory, DIC Subang	Zoonosis Control in Japan	2011.8.15	2011.9.15	JICA	Hokkaido University																														
2	Dr. Ali Rahmawan	Staff of Bacteriology Laboratory, DIC Subang	Zoonosis Control in Japan	2011.8.15	2011.9.15	JICA	Hokkaido University																														
3	Dr. Rinto Sukoco	Staff of Pathology Laboratory, DIC Subang	Research on Veterinary Technology in Japan	2010.3.16	2011.10.15	JICA	NTIAH																														
4	Dr. Isak Malikus Sufi	Staff of Biotechnology Laboratory, DIC Subang	Research on Veterinary Technology in Japan	2010.3.16	2011.10.15	JICA	NTIAH																														
5	Dr. Bagyaningyus Anggorawan	Head of Bacteriology Laboratory, DIC Subang	Research on Veterinary Technology in Japan	2012.3.27	2012.10.27	JICA	NTIAH																														
6	Dr. Iran Mahawan	Staff of Virology Laboratory, DIC Subang	Zoonosis Control in Japan	2012.8.12	2012.9.13	JICA	Hokkaido University																														
7	Mr. Afif Ibrahim	Staff of Virology Laboratory, DIC Subang	Zoonosis Control in Japan	2012.8.12	2012.9.13	JICA	Hokkaido University																														
8	Mr. Guswanto	Staff of Public Health Laboratory, DIC Subang	Advanced Research Course on International Animal Health	2012.10.22	2013.8.24	JICA	Obihiro University of Agriculture and V.M.																														
9	Dr. Suryo Purnomo Edi	Staff of Serology Laboratory, DIC Subang	Research on Veterinary Technology in Japan	2013.3.27	2013.10.30	JICA	NTIAH																														
10	Dr. Pntik Allamaada	Staff of Public Health Laboratory, DIC Subang	Advanced Research Course on International Animal Health	2013.10.22	2014.8.22	JICA	Obihiro University of Agriculture and V.M.																														
11	Mr. Eka Mahudin	Staff of Pathology Laboratory, DIC Subang	Training on Veterinary Diagnosis for Paramedics	2014.2.2	2014.4.26	JICA	NTIAH																														
12	Mrs. Enis Siti Matiamah	Head of Bacteriology Laboratory, DIC Subang	Training on Veterinary Diagnosis for Paramedics	2014.2.2	2014.4.26	JICA	NTIAH																														
13	Dr. Suharno	Staff of Parasitology Laboratory, DIC Subang	Research on Veterinary Technology in Japan	2014.3.27	2014.10.30	JICA	NTIAH																														
14	Mr. Afif Ibrahim	Staff of Virology Laboratory, DIC Subang	Training on Veterinary Diagnosis for Paramedics	2015.1.18	2015.4.11	JICA	NTIAH																														
15	Mr. Lukman	Staff of Biotechnology Laboratory, DIC Subang	Training on Veterinary Diagnosis for Paramedics	2015.1.18	2015.4.11	JICA	NTIAH																														
16	Dr. Aprizal Panus	Staff of Epidemiology Laboratory, DIC Subang	Research on Veterinary Technology in Japan	2015.3.29	2015.10.31	JICA	NTIAH																														

(2) Counterpart Training in Indonesia and Third country

No	Name of Counterpart	Field in charge	Name of training Course	Term of Training		Supporting Organization	Remarks	2011				2012				2013				2014				2015											
				From	To			7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7			
1	Dr. Suryo Purnomo Edi	Staff of Serology Laboratory, DIC Subang	Diagnosis of Avian Influenza at Source in Southeast Asia Region in Malaysia	2011.10.7	2011.10.31	Third Country Training Programme (ICTP)																													
4	Dr. Ali Rahmawan	Staff of Bacteriology Laboratory, DIC Subang	Training on diagnosis & surveillance of Brucellosis in Thailand	2012.5.29	2012.6.7	JICA																													
5	Dr. Winaham Sodik	Staff of Epidemiology Laboratory, DIC Subang	Training on diagnosis & surveillance of Brucellosis in Thailand	2012.5.29	2012.6.7	JICA																													

(3) Seminars, Workshops or Trainings conducted in Indonesia (More than 2 days)

No	Name of Trainee	Venue	Name of training Course	Term of Training		Supporting Organization	Remarks	2011				2012				2013				2014				2015											
				From	To			7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7			
1	all DICs in Indonesia, NVDAL, RIWS, CVBB	DIC Subang	Annual Meeting of Parasitology Laboratory in Subang	2011.9.1	2011.9.4	Indonesian Government																													
2	Dr. Putat, Dr. Aj	Head Section of Veterinary Information, DIC Subang	Training on Zoonosis Disease and Biosafety (Jakarta)	2011.9.8	2011.9.9	Indonesian Government																													
3	staff in DIC Subang and 3 provinces	Ciater, Subang	Coordination Meeting of Animal Health	2011.9.12	2011.9.13	Indonesian Government	T 59, LT 7 (Prof. Dth. Setyanan, MPH, PhD, et al.)																												
4	staff of Parasitology lab in all DICs	DIC Subang	Meeting for Improvement of competence of Parasitology Laboratory	2011.10.27	2011.10.30	Indonesian Government	T 40, LT 1 (Dr. Dth. Umi Chyaningsih, MS)																												
5	staff of DIC Subang and DINAS	Bandung	Coordination Meeting of Animal Health and Veterinary Public Health in DIC Subang coverage area	2011.11.7	2011.11.9	Indonesian Government	T 75, LT 4 (Dr. Kunia Achyadi, MS, et al.)																												
6	staff in DIC Subang and 3 provinces	Ciater, Subang	Coordination Meeting of Veterinary Public Health	2011.12.13	2011.12.14	Indonesian Government	T 40, LT 5 (Dr. Endang Ekowati, et al.)																												
7	all staff in DIC Subang and participant in DIC coverage area	DIC Subang	Annual meeting of Subang DIC and Stakeholder in DIC coverage area	2011.12.19	2011.12.21	Indonesian Government, JICA																													
8	all staff in DIC Subang	DIC Subang	Biosafety Training in DIC Subang	2011.12.26	2011.12.28	Indonesian Government																													
9	all staff in DIC Subang	DIC Subang	In-house Training Workshop on principles & Practices Biosafety	2012.1.9	2012.1.10	Indonesian Government																													

Provision Equipment by the Japan side

Annex 7

(1) Major Equipment Provided by JICA (based on the A4 form or more than 5 million rupiah)

Ref. No.	Items, Model, Specifications	QTY	Unit Price (Rp, \$)	Amount (Rp, \$)	Amount (¥)	Place	Operation	Maintenance	Delivery	Remarks	
F Y 2011											
P1109281	Copy machine	SHARP MX-2301N	1	44,750,000	44,750,000	386,282	DIC Subang	A	A	28/09/2011	Project Office
P11112401	Desktop PC	HP Pro 3300	4	\$965	\$3,860	304,274	DIC Subang	A	A	24/11/2011	Project Office, Parasitology, Bacteriology, Pathology
P11112402	Notebook PC	Lenovo Thinkpad L420	2	\$930	\$1,860	146,619	DIC Subang	A	A	24/11/2011	Project Office, Epidemiology
P11112403	Color Printer	Canon Pixma MX886	4	\$350	\$1,400	110,358	DIC Subang	A	A	24/11/2011	Bacteriology, Epidemiology, Administration, Pathology
P11112404	UPS	Ica CKE1200	4	\$87	\$348	27,432	DIC Subang	A	A	24/11/2011	Project Office, Parasitology, Bacteriology, Pathology
P11112405	Server	Hp Compaq Proliant ML350	1	\$3,150	\$3,150	248,306	DIC Subang	A	A	24/11/2011	Maintenance
P11112406	CCTV	Sony SSC-N20	8	\$165	\$1,320	247,124	DIC Subang	A	A	24/11/2011	Maintenance
P11122801	Digital Video Recorder and Monitor for CCTV	GANZ DR8H-DVD	1	\$1,815	\$1,815	247,124	DIC Subang	A	A	28/12/2011	Maintenance
P11120701	Vehicle	DAIHATSU Terios TX-MT-MC	1	188,100,500	188,100,500	1,623,684	DIC Subang	A	A	07/12/2011	Project Office
P11120702	Digital Camera	Panasonic Digital Camera LUMIX DMC-FP1	4	1,391,000	5,564,000	48,028	DIC Subang	B	B	07/12/2011	Project Office
P11120703	Digital Video Camera	Sony Handycam Camcorder HDR CX130	1	5,457,000	5,457,000	47,105	DIC Subang	B	B	07/12/2011	Project Office
P11121901	ELISA Reader	THERMO Multiskan EX Elisa System Work Station	1	104,592,500	104,592,500	902,842	DIC Subang	B	B	19/12/2011	Bacteriology
P11121902	GPS Terminal	GARMIN GPSMAP 62s	4	4,173,000	16,692,000	144,085	DIC Subang	B	B	19/12/2011	Project Office, Epidemiology
P12032901	Microscope CCD camera and	Nikon NI-U_DS-FI2-U3	1	228,400,000	228,400,000	2,038,470	DIC Subang	A	A	29/03/2012	Pathology Lab
P12022301	8 channel Pipettor 20-200ul	CMSI, C200 - 8A-SL	3	6,412,400	19,237,200	171,692	DIC Subang	A	A	23/02/2012	Virology Lab
P12031901	Vacuum pump	Membrane solution: VPJ0332	1	9,625,000	9,625,000	85,903	DIC Subang	B	B	19/03/2012	Virology Lab
P12032701	Slide Staining Set	Finetek 4451	1	8,325,000	8,325,000	74,301	DIC Subang	B	B	27/03/2012	Pathology Lab
F Y 2012											
P12050401	SPSS	IBM SPSS Statistics v 20	1	33,646,500	33,646,500	300,295	DIC Subang	B	B	04/05/2012	Epidemiology Lab
P12050801	Vehicle (4WD)	Mitsubishi Pajero Sport 4GX 4WD MT	1	458,000,000	458,000,000	4,087,650	DIC Subang	A	A	08/05/2012	Project Office
P12052201	Centrifuge	TOMY LC-230	1	135,543,000	135,543,000	1,209,721	DIC Subang	A	A	22/05/2012	Parasitology Lab
P12052202	Autoclave	TOMY ES-215	1	45,928,500	45,928,500	409,912	DIC Subang	A	A	22/05/2012	Bacteriology Lab
P12052901	Chest Freezer	Nihon VT-208 & TN-208	1	91,491,000	91,491,000	816,557	DIC Subang	A	A	29/05/2012	Bacteriology Lab
P12071001	8 channel Pipettor 20-200ul	CMSI, C200 - 8A-SL	1	6,412,400	6,412,400	57,231	DIC Subang	A	A	10/07/2012	Parasitology Lab
P12100401	Rabbit Retrainer	Natsume KN-317	1	6,470,625	6,470,625	57,750	DIC Subang	B	B	04/10/2012	Bacteriology Lab
P12110601	UPS for Thermal Cycler	APC Smart UPS 1500VA & Serial 230 Volt type	1	5,950,000	5,950,000	49,427	DIC Subang	B	B	06/11/2012	Bacteriology Lab
P12111201	Thermal Cycler	Bio-Rad T100	1	82,000,000	82,000,000	681,174	DIC Subang	B	B	12/11/2012	Bacteriology Lab
P13012501	Refrigerated Micro Centrifuge for PCR	Tomy MX-107	1	145,000,000	145,000,000	1,290,355	DIC Subang	B	B	12/11/2012	Bacteriology Lab
F Y 2013											
13-3-001483	Stabilizer for Safety Cabinet	MATSUYAMA AVR-KD-2GS	1	5,600,000	5,600,000	54,432	DIC Subang	A	A	11/04/2013	Bacteriology Lab
13-3-001480	Grass Chopper	ITB	1	9,000,000	9,000,000	90,990	DIC Subang	A	A	11/05/2013	Experimental Animal
13-3-001481	Mupid-exU	Mupid (Advance)	1	7,300,000	7,300,000	62,831	DIC Subang	B	B	13/01/2014	Bacteriology Lab
13-3-001482	Fume Hood	2150x740.5x1050	1	38,115,000	38,115,000	328,056	DIC Subang	A	A	20/01/2014	Pathology Lab
F Y 2014											
14-3-001484	Aspirator Vacuum Pump	sigma-Aldrich Z675733-1EA Evela 1000-S	1	16,300,000	16,300,000	146,472	DIC Subang	A	A	17/10/2014	Virology Lab (Cell Preparation)
14-3-001485	Differential Pressure Gauge	testo 510	1	5,100,000	5,100,000	45,773	DIC Subang	B	B	06/11/2014	Maintenance
14-3-001486	Formalin Fumigation Sterilizer	BIOBASE FX-100	3	5,400,000	16,200,000	145,395	DIC Subang, DIC Medan, DIC Lampung	B	B	20/11/2014	Maintenance
14-3-001487	Ammonium Hydrogen Carbonate Neutralizer	BIOBASE TZ-100	3	5,400,000	16,200,000	145,395	DIC Subang, DIC Medan, DIC Lampung	B	B	20/11/2014	Maintenance
				Total	Rp1,815,470,779	¥16,833,045					

*** Classification of the frequency of use of the equipment**
 (by the manual for JICA coordinators)

rank	statement	frequency	others
<i>A</i>	used frequently	almost daily	
<i>B</i>	used well	1-3 times per week	
<i>C</i>	used in specific season(s)		needs reasons
<i>D</i>	not so much used	3-11 times per year	needs reasons
<i>E</i>	not used by specific reason		needs reasons

Local Cost Implementation

Annex 8

(1) Indonesia

Unit: Rupiah

Budget Item	2011	2012	2013	2014	2015 (budget plan)	Total Amount
1 Salary	420,510,000	2,564,753,000	3,446,591,000	3,356,988,000	3,614,822,000	13,403,664,000
Base salary for all staff	75,240,000	1,602,833,000	1,633,363,000	1,716,677,000	1,517,273,000	6,545,386,000
Additional salary for all staff	-	311,110,000	1,046,898,000	716,981,000	850,769,000	2,925,758,000
Payment for Outsourcing Staff	265,200,000	402,720,000	497,040,000	618,000,000	936,000,000	2,718,960,000
Operasional fee for staff	80,070,000	180,590,000	171,440,000	238,180,000	254,780,000	925,060,000
Honorarium for lecturer	-	67,500,000	97,850,000	67,150,000	56,000,000	288,500,000
2 Staff training and capacity building	255,100,000	1,010,936,000	489,800,000	862,617,000	1,024,920,000	3,643,373,000
Administration	-	152,900,000	-	-	-	152,900,000
Technical (outside training)	-	407,300,000	-	-	-	407,300,000
Inhouse training	-	450,736,000	-	-	-	450,736,000
3 Consumable, Reagentia and Equipment	9,442,017,400.00	3,636,456,200.00	2,612,927,000.00	2,793,510,000.00	4,357,254,000	22,842,164,600
for Diagnostic	7,294,221,000	1,911,026,000	1,942,452,000	1,526,602,000	2,911,943,000	15,586,244,000
for reagents and small instruments	1,898,526,400	1,307,968,200	165,075,000	95,000,000	215,000,000	3,681,569,600
For field surveillance	232,000,000	305,800,000	255,000,000	1,033,098,000	939,701,000	2,765,599,000
For Administration and biosecurity	17,270,000	111,662,000	250,400,000	138,810,000	290,610,000	808,752,000
4 Field survey	334,400,000	431,450,000	800,385,000	874,700,000	1,596,500,000	4,037,435,000
5 Utilities (electricity, water, etc)	420,000,000	558,490,000	699,000,000	591,600,000	707,400,000	2,976,490,000
Electricity	-	468,000,000	570,000,000	523,200,000	540,000,000	2,101,200,000
Water	-	10,200,000	35,400,000	6,000,000	72,000,000	123,600,000
Newspaper	-	2,290,000	3,600,000	3,600,000	5,400,000	14,890,000
Telp and Internet	-	78,000,000	90,000,000	58,800,000	90,000,000	316,800,000
6 Equipment for others (Dormitory, Guest house etc.)	77,211,000	325,494,000	0	0	0	402,705,000
7 Facilities maintenance	257,452,000	523,060,000	532,752,000	473,130,000	828,280,000	2,614,674,000
for Vehicles	78,000,000	184,700,000	165,000,000	123,500,000	122,000,000	673,200,000
for Motorcycle	-	6,480,000	7,560,000	7,560,000	13,080,000	34,680,000
for Building Facilities	179,452,000	331,880,000	360,192,000	342,070,000	693,200,000	1,906,794,000
8 Vehicles	450,000,000	37,500,000	0	0	0	487,500,000
9 Additional food	33,252,000.00	52,080,000.00	66,960,000.00	112,560,000.00	130,560,000	395,412,000
for Laboratory technician	18,252,000	22,080,000	36,960,000	36,960,000	66,960,000	181,212,000
for Others	15,000,000	30,000,000	30,000,000	75,600,000	63,600,000	214,200,000
10 Computer and Equipment for office	65,000,000	200,000,000	15,000,000	0	0	280,000,000
11 Infrastructure (Building, Book, Furniture etc)	3,227,634,000	1,120,810,000	1,131,284,000	855,171,000	1,275,946,000	7,610,845,000
12 Annual Coordination Meeting and Confirmation Test	328,500,000	489,550,000	455,300,000	421,200,000	252,200,000	1,946,750,000
13 Other	96,025,000	270,662,000	251,250,000	28,500,000	20,109,000	666,546,000
14 Project Counter Budget (for Equipment)	0	600,000,000	600,000,000	600,000,000	600,000,000	2,400,000,000
Total Expenditure (Rp.)	15,407,101,400	11,821,241,200	11,101,249,000	10,969,976,000	14,407,991,000	63,707,558,600
Grand Total (Yen)	131,515,018	101,331,680	96,880,600	106,024,818	-	435,752,115
Exchange Rate (December)	0.008536	0.008572	0.008727	0.009665	-	-

(2) Japan

Unit: Rupiah

Budget Item	2011	2012	2013	2014	2015 (from Jan to Feb)	Total amount
1 General operating expenses	276,124,209	1,064,864,371	824,703,800	786,246,300	77,578,900	1,340,988,580
for reagents and small instruments	45,407,900	735,702,629	613,294,870	347,668,450	24,237,500	781,110,529
2 Air fares	1,615,000	22,037,900	7,646,300	62,321,400	5,501,300	99,121,900
3 Travel expenses (except airline fares)	26,650,000	84,913,800	80,401,900	120,196,000	31,406,800	343,568,500
4 Reward & compensation	13,630,000	93,640,100	105,854,900	172,611,300	13,352,200	399,088,500
5 Engagements (local consultants)	0	0	0	76,300,000	74,050,000	150,350,000
6 Engagements (local NGO)	0	0	0	0	0	0
7 Business agreement	0	0	0	0	0	0
8 Meeting cost	18,105,000	42,225,000	1,325,000	440,000	0	62,095,000
Total Expenditure (Rp.)	336,124,209	1,307,681,171	1,019,931,900	1,218,115,000	201,889,200	4,083,741,480
Grand Total (Yen)	2,869,156	11,209,443	8,900,946	11,773,081	0	34,752,626
Exchange Rate (Dec 2011, 2012)	0.008536	0.008572	0.008727	0.009665	-	-

* Total amount (2011) Indonesia: from Jan to Dec 2011, Japan: from Jul to Dec 2011

* (2012 - 2014) From Jan to Dec 2012

* (2015) Indonesia: from Jan to Dec 2015 (Budget), Japan: from Jan to Feb 2015 (Actual)

Annex 9**Land, Building, Office and Facility provided by the Indonesia side**

No.	Item	Place	Component
1	Project Office	DIC Subang	Office, Room, Desks, Chairs, Air Conditioners
2	Desks for experts in laboratories	DIC Subang	Desks, Chairs

10. プロジェクト成果物一覧

List of Products

Annex 10

(1) Printing

No.	Date	Item	Category	Distributed to	Printed copies
1	Oct 2011	Project Introduction "Proyek Peningkatan Laboratorium Kesehatan Hewan"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative	500
2	Feb 2012	Animal Disease Awareness "AVIAN INFLUENZA (AI)"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
3	Feb 2012	Animal Disease Awareness "HOG CHOLERA"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
4	Feb 2012	Animal Disease Awareness "DAGING YANG SEHAT"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
5	Feb 2012	Animal Disease Awareness "FASCIOSIS"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
6	Feb 2012	Animal Disease Awareness "BRUCELOSIS"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
7	Feb 2012	Animal Disease Awareness "RABIES"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
8	Feb 2012	Animal Disease Awareness "ANTHRAX"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
9	Feb 2012	Introduction of DIC Subang "BPPV SUBANG"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
10	Feb 2012	Introduction of DIC Subang "DAFTAR TARIF PENGUJIAN BPPV SUBANG"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
12	Jan 2013	Subang DIC Desk Calendar 2013 (by Indonesian budget)	Calendar	Dinas Provincial/Kabupaten office, National/ Provincial Institution	100
13	Feb 2013	Sampling method of cattle brain for BSE diagnosis (3 videos)	Video	Dinas Provincial/Kabupaten office (Slaughter houses), National/ Provincial Institution, Other DICs	40
14	Mar 2013	Reprinted Animal Disease Awareness "AVIAN INFLUENZA (AI)"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
15	Mar 2013	Reprinted Animal Disease Awareness "HOG CHOLERA"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
16	Mar 2013	Reprinted Animal Disease Awareness "DAGING YANG SEHAT"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
17	Mar 2013	Reprinted Animal Disease Awareness "FASCIOSIS"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
18	Mar 2013	Reprinted Animal Disease Awareness "BRUCELOSIS"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
19	Mar 2013	Reprinted Animal Disease Awareness "RABIES"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
20	Mar 2013	Reprinted Animal Disease Awareness "ANTHRAX"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
21	Mar 2013	Reprinted Introduction of DIC Subang "BPPV SUBANG"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
22	Mar 2013	Reprinted New price list for diagnosis "DAFTAR TARIF PENGUJIAN BPPV SUBANG"	Leaflet	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	1000
23	Jul 2013	Manual Pengendalian Mastitis Pada Sapi Perah (Manual of Mastitis Control)	Manual	Dinas Provincial/Kabupaten office, National/ Provincial Institution, Farmers Cooperative, Farmers	20
24	Mar 2015	DIAGNOSTIC FLOWCHART MANUAL - Reference for the Animal Priority Diseases in Indonesia -	Manual	Preparing to print	50

(2) Research findings/ Papers

No.	Date of receipt	Title	Author	Journal/ Magazine	Media
1	Jun 2011	Monitoring Penyakit IBR dan BVD pada Ternak Sapi di Wilayah Banten, Jawa Barat, dan Jakarta Tahun 2010	Dr Sodik, Dr. Satryo etc	Buletin BPPV Subang, Vol 1 No 1 Juni 2011	Article
2	Jun 2011	Serorevians Penyakit Anthraks di Jawa Barat Tahun 2010	Dr Rinco, Dr. Ali, etc	Buletin BPPV Subang, Vol 1 No 1 Juni 2011	Article
3	Jun 2011	Kasus Kejadian Penyakit Parasiter di Wilayah Kerja BPPV Subang	Dr. Sodorun, Dr. Trian	Buletin BPPV Subang, Vol 1 No 1 Juni 2011	Article
4	Jun 2011	Studi Kasus Mycoplasmosis pada Babi di Kabupaten Kuningan Provinsi Jawa Barat	Dr. Tri, Dr. Trian, etc	Buletin BPPV Subang, Vol 1 No 1 Juni 2011	Article
5	Jul 2011 Dec 2011	Situasi Perkembangan Penyakit Rabies dan Pengendaliannya di Provinsi Jawa Barat & Banten	Dr. Sodorun	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol 1, No 2, 2011 Buletin BPPV Subang, Vol 1 No 2 Desember 2011	Contribution & Presentation
6	Jul 2011 Dec 2011	Monitoring dan Surveilans Penyakit Brucellosis di Wilayah Kerja BPPV Subang Tahun 2010-2011	Dr. Ali	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol 1, No 2, 2011 Buletin BPPV Subang, Vol 1 No 2 Desember 2011	Contribution & Presentation
7	Jul 2011 Dec 2011	Monitoring Penyakit Trichomoniasis pada Sapi Bibit di Wilayah BPPV Subang	Dr. Sylvia	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol 1, No 2, 2011 Buletin BPPV Subang, Vol 1 No 2 Desember 2011	Contribution & Presentation
8	Dec 2011	Kasus Colibacillosis Pada Ayam Diwilayah Kerja BPPV Subang Tahun 2011	Dr. Trian, Dr. Shibahara, etc	-	Poster
9	Dec 2011	Kejadian Mycoplasmosis Pada Babi Diwilayah Kerja BPPV Subang Tahun 2011	Dr. Trian, Dr. Shibahara, etc	-	Poster
10	Dec 2011	Pengembangan Sistem ITS-1 PCR Menggunakan Katru FTA® DAN Buffer Ampdirect® plus untuk Deteksi Infeksi Trypanosoma Evanal.	Dr. Isrok, Dr. Nakamura	-	Poster
11	Dec 2011	Penentuan High Pathogenic dan Low Pathogenic Virus Avian Influenza (AI) H5 secara In Vitro Menggunakan Chicken Embryo Fibroblast (CEF)	Dr. Suryo, Dr. Trian, etc	-	Poster
12	Jan 2012	Animal Production and Animal Health in the Republic of Indonesia	Dr. Shibahara Tomoyuki	Livestock Technology, Feb, 2012	Article
13	Apr 2012	Activity as a short-term expert of JICA - Project on Capacity Development of Animal Health Laboratory in Indonesia	Dr. Matsubayashi Makoto	NAH News, No 45	Article
14	Jun 2012	Perbedaan Hasil Penggunaan Antigen Protein G dan Whole Virus	Dr. Sodorun	Contributing to "PROSIDING" (publication of investigation/research work on animal health, issued by DGLAHS.	Contribution & Presentation
15	Jun 2012	Pengembangan Diagnosa AI Secara IHK (Imunohistokimia) Pada Kasus Lapangan Di BPPV Subang	Dr. Rinto	Contributing to "PROSIDING"	Contribution & Presentation

No.	Date	Item	Category	Distributed to	Printed copies
16	Jun 2012	Penentuan HP AI dan LP AI Virus AI H5N1 Secara In Vitro Menggunakan Biak Sel CEF (Chicken Embryo Fibroblast)	Dr. Suryo	Contributing to "PROSIDING"	Contribution & Presentation
17	Jun 2012	Development and Evaluation of ELISA to Detect Antibodies to NDV and AIV	Dr. Sunarno	Contributing to "PROSIDING"	Contribution & Presentation
18	Jun. 2012	Improvement of ITS1-PCR System by Using FTA Cards and Ampdirect Plus Buffer for Detection of <i>Trypanosoma evansi</i> Activity as a short-term expert of JICA (Pathological Diagnosis)	Dr. Islok	Contributing to "PROSIDING"	Contribution & Presentation
19	Sep 2012	- Project on Capacity Development of Animal Health Laboratory in Indonesia	Dr Mikami Osamu	NAIH News, No 47	Article
20	Mar 2013	Survey on gastrointestinal parasites and detection of <i>Cryptosporidium</i> spp on cattle in West Java, Indonesia	Dr Sylvia, Dr Matsubayashi, et al	Asian Pacific Journal of Tropical Medicine. 7, 197-201 (2014)	Scientific Paper
21	Jul 2013	Pengembangan Diagnosa Penyakit Infectious Bovine Rhinotracheitis di Wilayah Kerja BPPV Subang dengan Metode Real Time PCR (SBYR Green)	Dr. Sunarno	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013 Buletin BPPV Subang Vol 3 No 1 Juni 2013	Contribution & Presentation
22	Jul 2013	Alternatif Pembuatan Kontrol Positif Immunohistokimia Avian Influenza (AI) Menggunakan Sel Chicken Embryo Fibroblast (CEF) yang Diinokulasi Virus AI pada Hati Babi	Dr Rinto	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013 Buletin BPPV Subang Vol 3 No 1 Juni 2013	Contribution & Presentation
23	Jul 2013	Diagnosa Rabies di BPPV Subang dengan Metode Seller's, FAT (Flourescent Antibody Technique) dan Uji Biologis (Tahun 2010-Tahun 2012)	Dr Yuhanti	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013	Contribution & Presentation
24	Jul 2013	Isolasi dan Identifikasi Salmonella pada Unggas di Wilayah Kerja Balai Penyelidikan dan Pengujian Veteriner (BPPV Subang)	Dr Bagyaningtyas	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013	Contribution & Presentation
25	Jul 2013	Isolasi Mycoplasma dari Paru-Paru Sapi	Euis Siti M, Amd	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013	Contribution & Presentation
26	Jul 2013	Penggunaan Metode Diagnosa Mikroskopik dan Metode MPSP PCR untuk Identifikasi Theileria SPP	Dr. Isrok	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013 Buletin BPPV Subang Vol 3 No 1 Juni 2013	Contribution & Presentation
27	Jul 2013	Surveilans dan Monitoring Penyakit Parasit Darah di Wilayah Kerja BPPV Subang Tahun 2012	Dr. Suharno	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013 Buletin BPPV Subang Vol 3 No 1 Juni 2013	Contribution & Presentation
28	Jul 2013	Kondisi Optimal Pemisahan Senyawa Antibiotik Quinolon dan Turunannya dengan Menggunakan Acetonitrile dan 0,1% Asam Formiat Sebagai Pelarut	Dr. Puttik	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1, No 4, 2013	Contribution & Presentation
29	Jul 2013	PCR Detection and Genetic Diversity of Bovine Hemoprotozoan Parasites in Vietnam	Thilainaporn SIVAKUMAR, Azirwan GUSWANTO, Naoki YOKOYAMA et al	The Journal of Veterinary Medical Science. 75: 1455-1462 (2013)	Scientific Paper
30	Aut 2013	In vitro inhibitory effect of gedunin on Babesia and Theileria parasites	Azirwan GUSWANTO, Ikuo IGARASHI	The Journal of Protozoology Research 23 1-6 (2013)	Scientific Paper
31	Dec 2013	Molecular characterization of a new Babesia bovis thrombospondin-related anonymous protein (BbTRAP2)	Terkawa MA, Rathanophart J, Salama A, Aboulaila M, Asada M, Ueno A, Albasan H, Guswanto A, Masatani T, Yokoyama N, Nishikawa Y, Xuan X, Igarashi I	PLoS One 13 8(12):e83305 (2013)	Scientific Paper
32	Feb 2014	Diversity of Babesia bovis merozoite surface antigen genes in the Philippines	Tattiyapong M, Sivakumar T, Ybanez AP, Ybanez RH, Perez ZO, Guswanto A, Igarashi I, Yokoyama	Parasitol Int. 63 57-63 (2014)	Scientific Paper
33	Aug 2014	Evaluation of a fluorescence-based method for antitubercular drug screening	Guswanto A, Sivakumar T, Rizk MA, Elsayed SA, Yousef MA, ElSaid El S, Yokoyama N, Igarashi	Antimicrob Agents Chemother. 58 4713-4717 (2014)	Scientific Paper
34	Oct 2014	Isolasi dan Hasil Identifikasi Salmonella pada Unggas di Wilayah Kerja BPPV Subang	Dr Bagyaningtyas	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1	Contribution & Presentation
35	Oct 2014	Seromonitoring dan Surveilans Penyakit Hog Cholera selama Empat Tahun (2010 - 2013) di Wilayah Kerja Balai Veteriner	Dr. Yuhanti	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1	Contribution & Presentation
36	Oct 2014	Serosurvei Antibodi Neospora caninum pada Sapi Perah di Provinsi Jawa Barat Tahun 2012	Dr. Sylvia, Dr. Suharno	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1	Proceedings
37	Oct 2014	Gambaran Serologis Penyakit BVDV (Bovine Viral Diarrhoea Virus) di Wilayah Kerja Balai Veteriner Subang Tahun 2010-	Fitri Dian A, Amd	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1	Proceedings
38	Oct 2014	Penerapan Diagnosa Bovine Viral Diarrhea menggunakan ELISA Indirect Antigen dan PCR sebagai Uji Konfirmasi	Dr. Sunarno	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1	Proceedings
39	Oct 2014	Faktor Resiko Kejadian Abortus pada Kerbau di Provinsi Banten	Dr. Satriyo	Proceeding of Technical Meeting and Academic Convention of Animal Health Surveillance, Vol. 1	Proceedings

(3) Manuals / Protocols

No.	Date/ Year	Title	Author	Distributed to	Category
1	Aug. 2011	Basic concept in diagnosis of the disease	Kishima	Bacteriology, Public Health	Protocols
2	Aug. 2011	Essential media and reagents for characterization of bacteria	Kishima	Bacteriology, Public Health	Protocols
3	Aug. 2011 - Dec. 2014	Results of isolation of bacteria from specimens collected in the field	Kishima	Bacteriology	Material
4	Aug. 2011	Bacterial characters and identification	Kishima	Bacteriology, Public Health	Protocols

No.	Date	Item	Category	Distributed to	Printed copies
5	Aug 2011 - Present	List of culture collection of bacteria isolated from specimens of diseased animals in the field and introduced from the other organization	Kishima	Bacteriology	Bacteria culture collection
6	Aug 2011	Protocols for preparation of buffer solution, balance salt solution (BSS) and reagents such as phosphate buffer solution (PBS), Hanks' BSS, Earle's solution, phenol red solution to be used for cell culture	Koike	Virology including cell culture section	Protocols
7	Sep 2011	Protocol for preparation of antibiotics to be used for cell culture and treat field materials	Koike	Virology including cell culture section	Protocols
8	Sep 2011	Protocol for preparation of culture media such as yeast extract lactalbumine hydrolysate Earle's media (YLE), tryptosephosphate broth (TPB) with other necessary reagent	Koike	Virology including cell culture section	Protocols
9	Sep 2011	Protocols for primary cell culture of chicken embryo fibroblast (CEF) and chicken embryo kidney (CEK)	Koike	Virology including cell culture section	Protocols
10	Sep 2011	Protocols for preparation of dispersants such as trypsin, dispase, and trypsin-verseine to be used for primary cell culture and established cell lines	Koike	Virology including cell culture section	Protocols
11	Sep 2011	Protocol for HI antibody tests of Newcastle Disease (ND) and Avian Influenza in accordance with OIE terrestrial manual	Koike	Virology and Serology	Protocols
12	Sep 2011	Visual protocol for rapid HA test	Koike	Virology and Serology	Technical materials
13	Sep 2011	Visual protocol for occipital foramen route for brain sampling in Rabies inspection	Koike	Virology and Pathology	Technical materials
14	Sep 2011	Visual protocol for preparation of brain specimen in Rabies inspection	Koike	Virology and Pathology	Technical materials
15	Sep 2011 - Apr 2014	Isolation and characterization of salmonella from feces of chicken	Kishima	Bacteriology, Public Health	Protocols
16	Oct 2011	Fundamental protocol on sterilization with autoclave and filtration	Koike	Virology including cell culture section	Technical materials
17	Oct 2011	Protocol for flexible laboratory working record matrix sheet	Koike	Virology and Serology	Format
18	Nov 2011	Guidance on primers for detection of major viral diseases of poultry, swine, bovine and zoonosis (rabies) with PCR / Real-Time PCR test	Koike	Biotechnology	Technical materials
19	Nov 2011	Protocol for working record of virus test with cell culture in a 96-well microplate	Koike	Virology	Format
20	Nov 2011	Protocol for working record of primary cell culture	Koike	Virology including cell culture section	Format
21	Nov 2011	Preparation of yeast extract	Kishima	Bacteriology, Public Health	Protocols
22	Nov 2011	Diagnosis of Cryptosporidiosis	Matsubayashi	Parasitology	Technical materials
23	Nov 2011	Diagnosis of Chicken Coccidiosis (Eimeria)	Matsubayashi	Parasitology	Technical materials
24	Nov 2011	Diagnosis of Giardiasis	Matsubayashi	Parasitology	Technical materials
25	Dec 2011	Protocols at Indonesia laboratory 1 Fecal examination for Coccidia, 2 Purification of oocysts, 3 Sporulation of oocysts, 4 Counting (OPG), 5 Morphological identification of Coccidia, 6 Isolation of one oocyst of Eimeria species and cultivate in chicken, 7 Histological examination of infected intestine, 8 Getetical identification of Eimeria species (Cryptosporidium/ Giardia), 9 Purification of parasites using QIAamp DNA Stool Mini Kit, 10 Additional fecal examination, 11 Immune fluorescence analysis, 12 Geimsa staining	Matsubayashi	Parasitology	Protocols
26	2011	Tests and media: Test of urease activity	Kishima	Bacteriology	Protocols
27	2011	Tests and media: Phenol red solution	Kishima	Bacteriology	Protocols
28	Jan 2012	Protocol for calculation of 50 % tissue culture infection dose (TCID50) and 50 % egg infection dose (EID50)	Koike	Virology	Protocols
29	Jan 2012	Oxidation or fermentation of glucose (OF test)	Kishima	Bacteriology, Public Health	Protocols
30	Jan 2012	Protocol for working record of ND/AI HA antigen preparation procedure	Koike	Virology	Format
31	Apr 2012	Protocol for estimation of the time required for pelleting viruses	Koike	Virology	Protocols
32	Apr 2012	Protocol for concentration of viruses as etiological agents of major animal diseases	Koike	Virology	Protocols
33	Apr 2012	Protocol for preparation of agar gel immunodiffusion (AGID) antigen of avian influenza	Koike	Virology	Protocols
34	Apr 2012	Protocol for agar gel immunodiffusion (AGID) tests of avian influenza, avian encephalomyelitis, and leucocytozoanosis	Koike	Virology	Protocols
35	Apr 2012	Protocol for working record of AGID test	Koike	Virology and Serology	Format
36	May 2012	Protocol for preparation of challenge virus standard (CVS) for rabies test	Koike	Virology	Protocols
37	May 2012	Media for cultivation of general mycoplasmas	Kishima	Bacteriology	Protocols
38	May 2012	Isolation of mycoplasmas from respiratory tract in chicken	Kishima	Bacteriology	Protocols
39	Jun 2012	Protocol for detection of rabies virus with cell culture	Koike	Virology including cell culture section	Protocols
40	Jun 2012	Epidemiology - Basic concept of epidemiology	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
41	Jun 2012	Epidemiology - Causation	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
42	Jun 2012	Epidemiology - Quantification of disease occurrence	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
43	Jun 2012	Epidemiology - Design of epidemiological studies	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
44	Jun 2012	Epidemiology - Interpretation of diagnosis tests	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
45	Jun 2012	Epidemiology - Sampling	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
46	Jun 2012	Epidemiology - Surveillance	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
47	Jun 2012	Statistics - Data & database	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
48	Jun 2012	Statistics - Data Visualization	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
49	Jun 2012	Statistics - Descriptivestatistics	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
50	Jun 2012	Statistics - Distribution & estimation	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials

No.	Date	Item	Category	Distributed to	Printed copies
51	Jun 2012	Statistics - Hypothesis Testings	Kobayashi	Epidemiology, other DICs, B-type lab	Technical materials
52	Jul 2012	Protocol for rabies virus titration with cell culture	Koike	Virology including cell culture section	Protocols
53	Jul 2012	Protocol for cell cloning of established cell line with a 96 -well microplate	Koike	Virology including cell culture section	Protocols
54	Aug 2012	Procedure for making improved pasture for experimental animal lab	Maeda	Experimental animal lab	Protocols
55	Sep 2012	Protocol for frozen storage of cells	Koike	Virology including cell culture section	Protocols
56	Oct 2012	Protocol for virus neutralization antibody titration in a 96-well microplate	Koike	Virology	Protocols
57	Oct 2012	Protocol for plaque test for differentiation of pathogenicity in avian influenza virus and newcastle disease virus	Koike	Virology including cell culture section	Protocols
58	Oct 2012	Protocol for working record of inspection of plaque formation	Koike	Virology	Format
59	Oct 2012	Cultivation of Campylobacter	Kishima	Bacteriology	Protocols
60	Oct 2012	Note for Blood Smear Examination	Fujisaki	Parasitology	Protocols
61	Oct 2012	Note for Chicken Leucocytozoonosis	Fujisaki	Parasitology	Protocols
62	Nov 2012	Note for Haemotrophic Mycoplasmas (haemoplasmas)	Fujisaki	Parasitology	Protocols
63	2012	Tests and media Long-term preservation of bacteria	Kishima	Bacteriology	Protocols
64	2012	Tests and media Malonate broth	Kishima	Bacteriology	Protocols
65	2012	Tests and media Nitrate reduction test	Kishima	Bacteriology	Protocols
66	2012	Tests and media Temperature (heat) tolerance test	Kishima	Bacteriology	Protocols
67	2012	Tests and media Ryu KOH technique (KOH String test) helpful for Gram staining	Kishima	Bacteriology	Protocols
68	2012	Tests and media Sugar utilization test (OF test)	Kishima	Bacteriology	Protocols
69	2012	Tests and media Coagulase test	Kishima	Bacteriology	Protocols
70	Feb 2013	Characters of <i>Pasteurella multocida</i> and <i>Mannheimia haemolytica</i>	Kishima	Bacteriology	Protocols
71	Mar 2013	Tests and media Tween hydrolysis test	Kishima	Bacteriology	Protocols
72	Mar 2013	Bovine spongiform encephalopathy (BSE) sampling using a brain sampling spoon	Shibahara	Pathology	Protocols
73	Mar 2013	Improved histopathological diagnosis using hematoxylin-eosin staining and immunohistochemistry in field cases	Shibahara	Pathology	Protocols
74	Mar 2013	Improvement of immunohistochemical method for diagnosis of numerous priority diseases	Shibahara	Pathology	Protocols
75	Mar 2013	Out break of chronic suppurative pneumonia associated with <i>Pasteurella</i> spp (<i>Mannheimia haemolytica</i>) and <i>Mycoplasma</i> spp in cattle	Shibahara	Pathology	Material
76	Apr 2013	Extraction of organochlorine from animal product for gas chromatography (GC) analysis	Miyamoto	Veterinary Public Health	Protocols
77	Apr 2013	Identification of organochlorine in animal products using gas chromatography analysis	Miyamoto	Veterinary Public Health	Protocols
78	Apr 2013	Extraction of quinolones from animal product for high-performance liquid chromatography (HPLC) analysis	Miyamoto	Veterinary Public Health	Protocols
79	Apr 2013	Determination of residual quinolones in animal products using high-performance liquid chromatography (HPLC)	Miyamoto	Veterinary Public Health	Protocols
80	Jul 2013	Tests and media Esculin hydrolysis test	Kishima	Bacteriology	Protocols
81	Aug 2013	Manual pengendalian mastitis pada sapi perah	Anri	Pathology	Protocols
82	Aug 2013	Primary identification of subclinical mastitis causative pathogens (by eye)	Anri	Pathology	Protocols
83	Apr 2014	Basic skills to conduct the epidemiological surveillance	Kobayashi	Epidemiology	Protocols
84	Apr 2014	Recent prevalence of brucellosis of dairy cattle in West Java Province, Indonesia	Kobayashi	Epidemiology	Material
85	Apr 2014	Farm management factors associated with the incidence of reproductive disorders of buffalo in Banten Province, Indonesia	Kobayashi	Epidemiology	Material
86	Jan - Nov 2014	Isolation and identification of brucella	Kishima	Bacteriology	Manual
87	Jan 2015	Cell culture techniques	Taguchi	Serology, Biotechnology, Virology	Protocols
88	Jan 2015	Techniques in isolation of viruses	Taguchi	Serology, Biotechnology, Virology	Protocols
89	Jan 2015	Detection of neutralizing antibodies to Akabane virus in cows	Taguchi	Serology, Biotechnology, Virology	Protocols
90	Mar 2015	Diagnostic manual	Taguchi, Maeda	DIC Subang, DINAS (B/C type Lab), DGLAHS	Manual
91	Jan 2015	Manual for maintenance of laboratory facilities in DIC Subang, DIC Lampung and DIC Medan 1) List of equipment and methods for maintenance 2) Air volume measurement 3) List of as-built drawings and maintenance manuals 4) Maintenance procedure and flow for AI laboratory facilities 5) AI laboratory facility system operation manual 6) AI laboratory facility maintenance inventory and schedule format 7) Manual for replacement of HEPA filter 8) Air balance sheet for BSL2+ laboratory 9) Training document of DAIKIN 10) Manual for formalin fumigation 11) Training document of AZBIL 12) Improvement plan of air filter for poultry house	Okada	Maintenance Division of Administration in DIC Subang, DIC Medan and DIC Lampung	Manual
92	Feb 2015	Identification of mycoplasma by PCR	Kishima	Bacteriology	Protocols

11. セミナー開催・発表実績

List of Seminar and Presentation

Annex 11

* Seminars conducted in single day

No.	Date	C/P or Expert	Presenter	Presentation Title	Name of the Seminar/ Meeting	Number of Participants	Place	Organization of Participants
1	29/07/2011	Expert	Mr. Maeda	Outline of the Project	Project First Meeting	35	DIC Subang	Staff of DIC Subang
2	05/08/2011	C/P	Dr. Tri	Swine mycoplasmosis	Diagnostic Seminar	29	DIC Subang	Staff of DIC Subang
3	05/08/2011	C/P	Dr. Trian	Procedures of sending sample pathology laboratory	Diagnostic Seminar			
4	05/08/2011	C/P	Mr. Eka	Quick response on pathology laboratory	Diagnostic Seminar			
5	05/08/2011	Expert	Dr. Koike	OIE Diagnostic Standard	Diagnostic Seminar	20	DIC Subang	Staff of DIC Subang
6	12/08/2011	C/P	Dr. Tri	Avian colibacillosis	Diagnostic Seminar			
7	12/08/2011	Expert	Dr. Koike	OIE Diagnostic Standard	Diagnostic Seminar	27	DIC Subang	Staff of DIC Subang
8	19/08/2011	C/P	Dr. Trian	Avian colibacillosis	Diagnostic Seminar			
9	19/08/2011	C/P	Dr. Rince	Monthly Diagnostic Progress - Isolation of bacteria from chicken -	Diagnostic Seminar			
10	19/08/2011	C/P	Dr. Suryo	Monthly Diagnostic Progress	Diagnostic Seminar	29	DIC Subang	Staff of DIC Subang
11	26/08/2011	C/P	Dr. Tri	JICA - Pathology Training Progress	Project Monthly Meeting			
12	26/08/2011	C/P	Dr. Rince	JICA - Bacteriology Progress	Project Monthly Meeting			
13	26/08/2011	C/P	Dr. Sodikun	JICA - Virology Progress	Project Monthly Meeting			
14	26/08/2011	Expert	Mr. Maeda	Activity Plan on this Month	Project Monthly Meeting	75	DIC Subang	Japan Embassy, JICA, DGLAHS, National Research Institute, Province and District Animal Health Services, B/C type laboratories
15	08/09/2011	Expert	Dr. Shbahara	DIC Subang To be the leading Diagnostic Lab in Indonesia	Project Opening Ceremony			
16	08/09/2011	Expert	Mr. Maeda	Introduction of the New Project	Project Opening Ceremony			
17	08/09/2011	C/P	Dr. Tri	Pathology Training Progress	Project Opening Ceremony			
18	08/09/2011	C/P	Dr. Bagyaningtyas	Bacteriology Lab Progress	Project Opening Ceremony			
19	08/09/2011	C/P	Dr. Sodikun	Topics in Virology & Serology	Project Opening Ceremony	15	DIC Subang	Staff of DIC Subang
20	09/09/2011	Expert	Dr. Koike	Notifiable Avian Influenza in view of amino acid sequence of cleavage site and Pathogenicity in chicken	Diagnostic Seminar			
21	16/09/2011	Expert	Dr. Koike	Case Study of AI Control in some Foreign Country	Diagnostic Seminar	20	DIC Subang	Staff of DIC Subang
22	23/09/2011	C/P	Dr. Satriyo	Survey to estimate prevalence of Avian Influenza in West Java	Report of Training in Japan	12	DIC Subang	Staff of DIC Subang
23	23/09/2011	C/P	Dr. Ali	Surveillance of Brucellosis in Target Area	Report of Training in Japan			
24	23/09/2011	C/P	Mr. Eka	Utilization of Automatic Staining Machine	Report of Training in Japan			
25	27/09/2011	Expert	Mr. Maeda	Presentasi Proyek JICA di DIC Subang	National Parasitology Training	30	DIC Subang	Parasitology Lab staffs from all DICs, DGLAHS, National research institute
26	27/09/2011	C/P	Dr. Sodikun	Presentasi Perkembangan DIC Subang	National Parasitology Training			
27	04/11/2011	C/P	Dr. Ali	Monthly Progress on October (Biology Lab)	Project Monthly Meeting	30	DIC Subang	Staff of DIC Subang
28	04/11/2011	Expert	Mr. Maeda	Activity Plan on this Month	Project Monthly Meeting			
29	04/11/2011	Expert	Dr. Kobayashi	Introduction of Epidemiology	Project Monthly Meeting			
30	10/11/2011	Expert	Dr. Kobayashi	Achievement of 2 weeks activity in DIC Subang	Project Briefing Session of Epidemiology Laboratory	25	DIC Subang	Staff of DIC Subang
31	10/11/2011	C/P	Dr. Satriyo	Active and Passive Surveillance in DIC Subang	Project Briefing Session of Epidemiology Laboratory			
32	10/11/2011	Expert	Dr. Matsubayashi	Profile of Expert	Project Briefing Session of Epidemiology Laboratory			
33	22/11/2011	C/P	Dr. Suharno	Introduction of Modified Diagnostic Method Connected with Flootation and Sedimentation	Parasitic Diagnosis Seminar	28	DIC Subang	Staff of DIC Subang
34	22/11/2011	C/P	Dr. Silvia	Identification of Intestinal Parasites by the Modified Method and Result of Examination in	Parasitic Diagnosis Seminar			
35	02/12/2011	C/P	Dr. Silvia	Monthly Progress on November	Project Monthly Meeting	29	DIC Subang	Staff of DIC Subang
36	02/12/2011	C/P	Dr. Ali	Monthly Progress on November	Project Monthly Meeting			
37	02/12/2011	C/P	Dr. Satriyo	Monthly Progress on November	Project Monthly Meeting			
38	02/12/2011	C/P	Dr. Suryo	Monthly Progress on November (Isolation of HPAIV)	Project Monthly Meeting			
39	02/12/2011	C/P	Dr. Rinto	Monthly Progress on November (Rabies diagnosis)	Project Monthly Meeting			
40	02/12/2011	C/P	Mr. Ipat	Monthly Progress on November (Trial of Cell culture)	Project Monthly Meeting			

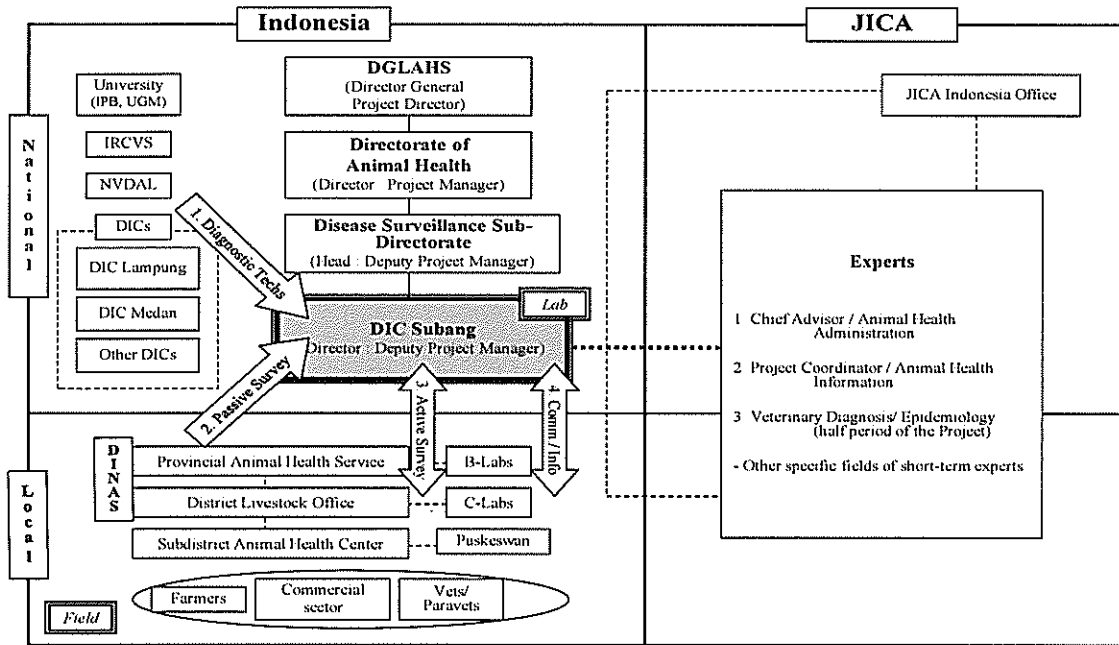
No.	Date	C/P or Expert	Presenter	Presentation Title	Name of the Seminar/ Meeting	Number of Participants	Place	Organization of Participants
41	15/12/2011	C/P	Dr. Suharno	Blood smear and fecal examinations for passive and active surveillance	Parasitology Lab Activity Termination Seminar	28	DIC Subang	Staff of DIC Subang
42	15/12/2011	Expert	Dr. Matsubayashi	Outline of short-term expert's activity	Parasitology Lab Activity Termination Seminar			
43	27/01/2012	C/P	Dr. Rinto	Pathological Diagnosis of Fowl and Swine Viral Diseases	Report of Training in Japan	21	DIC Subang	Staff of DIC Subang
44	27/01/2012	C/P	Dr. Isrok	Improvement of diagnostic techniques on Parasitic disease	Report of Training in Japan			
45	17/02/2012	Expert	Dr. Mikami	My research in NIAH and introduction of special staining	Short-term expert activity initiation seminar	21	DIC Subang	Staff of DIC Subang
46	17/02/2012	C/P	Dr. Satryo	Results of Project Baseline Survey	Short-term expert activity initiation seminar			
47	14/03/2012	C/P	Dr. Rince	Project Accomplishment in 2011 & Activity Plan in 2012	Joint Coordinating Committee	31	DGLAHS	DIC Subang, DGLAHS, Provincial Animal Health Services, B/C type labs, Japan Embassy, JICA, JICA advisory mission team
48	14/03/2012	C/P	Dr. Satriyo	Results of the Baseline Survey	Joint Coordinating Committee			
49	14/03/2012	C/P	Dr. Putut	Activity plan in Project pilot site	Joint Coordinating Committee			
50	28/03/2012	Expert	Dr. Mikami	Poisoning by toxic plants in cattle and case study of gastrointestinal diseases in cattle and pigs	Workshop patologi veteriner dan pertemuan ilmiah nasional	45	DIC Subang	Parasitology staff of all DICS, DGLAHS, National Institute,
51	20/04/2012	C/P	Dr. Rinto	Immunohisto chemistry procedure for Avian Influenza virus	Pathological diagnosis seminar	20	DIC Subang	Staff of DIC Subang
52	20/04/2012	C/P	Mr. Eka	Improvement of histopathological diagnosis with special staining	Pathological diagnosis seminar			
53	25/04/2012	Expert	Dr. Mikami	Activities in DIC Subang ~ To improve pathological diagnosis	Short-term expert activity termination seminar	18	DIC Subang	Staff of DIC Subang
54	25/04/2012	C/P	Dr. Tri	Improvement of Diagnosis in Pathology Lab	Short-term expert activity termination seminar			
55	15/06/2012	C/P	Dr. Aji	Report The 7th A-PBA Biosafety Conference	Training report seminar on Biosafety and Brucellosis	22	DIC Subang	Staff of DIC Subang
56	15/06/2012	C/P	Dr. Isrok	Animal Biorisk Management	Training report seminar on Biosafety and Brucellosis			
57	15/06/2012	C/P	Dr. Ali	Laboratory Diagnosis of Brucellosis	Training report seminar on Biosafety and Brucellosis			
58	15/06/2012	C/P	Dr. Sodik	Brucellosis in Cattle, Sheep & Goats Fundamentals of surveillance and eradication	Training report seminar on Biosafety and Brucellosis	15	DIC Subang	Staff of DIC Subang
59	13/07/2012	C/P	Dr. Satriyo	Brucellosis control trial in collaboration with DIC Subang and Jakarta Province supported by JICA	New proposals on brucellosis control activities in Jakarta and Banten Province			
60	13/07/2012	C/P	Dr. Sodik	Survey sistem peternakan pada kerbau di Prov Banten	New proposals on brucellosis control activities in Jakarta and Banten Province			
61	07/09/2012	C/P	Dr. Rinto	The usage of personal safety equipments in BSL	BSL lab operation guidance	16	DIC Subang	Staff of DIC Subang
62	07/09/2012	C/P	Dr. Suryo	The staff movements in BSL lab	BSL lab operation guidance seminar			
63	12/10/2012	Expert	Dr. Fujisaki	Ticks survive at a threshold between engorgement and starvation	Short-term Expert Parasitology Seminar	35	DIC Subang	DIC Subang, BIB Lembang, BET Cipeulang and BP2HK Cikole
64	02/11/2012	C/P	Dr. Silvia	Review on "Advances in Diagnosis of Protozoan Disease"	Parasitology seminar & Report of Training in Japan	24	DIC Subang	Staff of DIC Subang
65	02/11/2012	C/P	Dr. Trian	JICA Training Report on "Zoonosis Control"	Parasitology seminar & Report of Training in Japan			
66	02/11/2012	C/P	Mr. Afif	JICA Training Report on "Zoonosis Control"	Parasitology seminar & Report of Training in Japan			
67	02/11/2012	C/P	Dr. Tyas	JICA Training Report on "Research on Veterinary Technology"	Parasitology seminar & Report of Training in Japan			
68	13/11/2012	C/P	Dr. Isrok	Review on "Reinstatement of Rhipicephalus (Boophilus) australis" and Tick Collection Activity in Sumedane, West Java	Parasitology Seminar	14	DIC Subang	Staff of DIC Subang
69	29/11/2012	C/P	Dr. Isrok	JICA Short-term Expert Activity Report and Recommendations in the field of Parasitic Disease (Microscopical works)	Short-term expert activity termination seminar	15	DIC Subang	Staff of DIC Subang
70	29/11/2012	Expert	Dr. Fujisaki	JICA Short-term Expert Activity Report and Recommendations in the field of Parasitic Disease (Concluding remarks)	Short-term expert activity termination seminar			
71	25/01/2013	Expert	Dr. Shibahara	Activities in DIC Subang ~ To improve pathological diagnosis	Short-term expert seminar	24	DIC Subang	Staff of DIC Subang
72	19/02/2013	Expert	Dr. Shibahara	BSE prevention and control measures in Japan	In-house Training Pengendalian dan Pencegahan penyakit BSE dan FMD di Indonesia	38	DIC Subang	DIC Subang, DGLAHS, Slaughter house of districts, B/C type lab, other DICS
73	19/02/2013	Expert	Dr. Shibahara	FMD prevention and control measures in Japan	In-house Training Pengendalian dan Pencegahan penyakit BSE dan FMD di Indonesia			
74	19/02/2013	C/P	Dr. Tri	BSE Ongoing Surveillance Program	In-house Training Pengendalian dan Pencegahan penyakit BSE dan FMD di Indonesia			

No.	Date	C/P or Expert	Presenter	Presentation Title	Name of the Seminar/ Meeting	Number of Participants	Place	Organization of Participants
75	21/02/2013	Expert	Dr. Kishima	Biosafety in Disease Investigation Center Subang	Donner Meeting - 8th Technical Briefing Meeting on Laboratory Supports	58	DGLAHS	DICs, DGLAHS, Foreign donor
76	01/03/2013	Expert	Dr. Miyamoto	Introduction of my activity in NIAH and plan in public health laboratory	Short-term Expert Activity Plan & Diagnosis Seminar	25	DIC Subang	Staff of DIC Subang
77	01/03/2013	C/P	Dr. Tri	Outbreak of Chronic Suppurative Pneumonia Associated with <i>Pasteurella</i> sp and <i>Mycoplasma</i> sp	Short-term Expert Activity Plan & Diagnosis Seminar			
78	01/03/2013	C/P	Ms Euis	Isolation of bacteria and mycoplasmas from pneumonic lungs of cattle	Short-term Expert Activity Plan & Diagnosis Seminar			
79	13/03/2013	Expert	Dr. Koike	Blood sampling with filter paper	Diagnostic Seminar	15	DIC	Staff of DIC Subang
80	14/03/2013	Expert	Dr. Shubahara	Activities and issues in DIC Subang - To improve pathological diagnosis	Short-term expert activity termination seminar	20	DIC Subang, DGLAHS (Mar. 15)	Staff of DIC Subang (Mar. 14), DGLAHS (Mar. 15)
81	14/03/2013	C/P	Dr. Tri	Final Report JICA Short-term Activities in Pathology Laboratory of DIC Subang	Short-term expert activity termination seminar			
82	14/03/2013	C/P	Dr. Rinto	Improved Histopathological Diagnosis Using H&E Staining and Immunohistochemistry in Field Cases	Short-term expert activity termination seminar			
83	14/03/2013	C/P	Mr Eka	Improvement of immunohistochemical method for diagnosis of numerous priority diseases - preparing positive controls for IHC and Gram staining -	Short-term expert activity termination seminar	19	DIC Subang, DGLAHS (Apr. 18)	Staff of DIC Subang (Apr. 17), DGLAHS (Apr. 18)
84	17/04/2013	Expert	Mr Miyamoto	Transfer of Techniques about Analytical Methods for Residual Pesticides and Antibiotics in Animal Products, and Future Activities in Veterinary Public Health Laboratory of DIC Subang	Short-term expert activity termination seminar			
85	17/04/2013	C/P	Dr. Aji	Identification of Organochlorines in Animal Products Using GC	Short-term expert activity termination seminar			
86	17/04/2013	C/P	Dr. Putik	Determination of Residual Quinolones in Animal Products using HPLC	Short-term expert activity termination seminar			
87	17/04/2013	C/P	Mr Dudi I.	Extraction of Quinolones from Animal Products for HPLC Analysis	Short-term expert activity termination seminar			
88	17/04/2013	C/P	Ms Fenty	Extraction of Organochlorines from Animal Products for GC Analysis	Short-term expert activity termination seminar	29	DIC Subang, Surabaya	other DICs, DGLAHS, Foreign Donors
89	14/06/2013	C/P	Dr. Suharno	Surveilans dan Monitoring Penyakit Parasit Darah di Wilayah Kerja BPPV Subang Tahun 2012	Presentation Practice for RATEKPIL			
90	14/06/2013	C/P	Dr. Isrok	Penggunaan Metode Diagnosa Mikroskopik dan Metode MPSP PCR untuk Identifikasi <i>Theileria</i>				
91	14/06/2013	C/P	Dr. Tyas	Isolasi dan Identifikasi <i>Salmonella</i> pada Unggas di Wilayah Kerja BPPV Subang				
92	14/06/2013	C/P	Ms Euis	Isolasi <i>Mycoplasma</i> dari Paru-Paru Sapi				
93	14/06/2013	C/P	Dr. Putik	Kondisi Optimal Pemisahan Senyawa Antibiotik Quinolon dan Turunannya dengan Menggunakan Acetonitrile dan 0,1% Asam Formiat Sebagai Pelarut				
94	14/06/2013	C/P	Dr. Yulianti	Teknik Diagnosa Penyakit H1N1 (Flu Babi) Di BPPV Subang dengan Menggunakan Metode Inokulasi Pada Telur Embrio Tertunas Umur 10-11 Hari				
95	14/06/2013	C/P	Dr. Trian	Diagnosa Rabies di BPPV Subang dengan Metode Selter's FAT (Flourescent Antibody Technique) dan Uji Biologis (Tahun 2010 - Tahun 2012)				
96	14/06/2013	C/P	Dr. Rinto	Alternatif Pembuatan Kontrol Positif Immunohistokimia Avian Influenza (AI) dengan Menggunakan Sel Chicken Embryo Fibroblast (CEF) yang Dinokulasi Virus AI Pada Hati Babi				
97	14/06/2013	C/P	Dr. Sunarno	Pengembangan Diagnosa Penyakit Infectious Bovine Rhinotracheitis di Wilayah Kerja BPPV Subang dengan Metode Real Time PCR				
98	14/06/2013	Expert	Dr. Ann	Current Concept and Practice on Mastitis Control in Dairy Cattle		JICA Short-term Expert Technical Seminar	40	DIC Subang
99	28/06/2013	C/P	Mr. Eka	Final Report Kontrol Mastitis di DKJ Jakarta	Mastitis control training in South Jakarta	35	South Jakarta	DINAS, B-type Lab, Puskesmas, Farmers
100	05/07/2013	Expert	Dr. Koike	Notes/Suggestions/Comments for Development of Laboratory Techniques Through Review of Activities	Long-term expert final report	60	DGLAHS, DIC Subang	Staff of DIC Subang, IPB, DGLAHS

No.	Date	C/P or Expert	Presenter	Presentation Title	Name of the Seminar/ Meeting	Number of Participants	Place	Organization of Participants
101	08/07/2013	C/P	Dr Aji	Final Report Kontrol Mastitis di Lembang	Mastitis control training in Lembang	14	KPSBU Lembang	KPSBU Lembang, DIC Subang
102	25/07/2013	C/P	Dr Aji	Final Report Kontrol Mastitis di Cikole	Mastitis control training in Cikole	15	Cikole dairy training	Cikole dairy training center-B-type Lab-DIC Subang
103	29/07/2013	C/P	Dr. Anri, Dr. Aji, Mr. Eka	Expert's Activities, Observation and Recommendation in the Field of Clinical Diagnosis	Short-term expert activity termination seminar	28	DGLAHS, DIC Subang	staff of DIC Subang · DGLAHS
104	06/09/2013	C/P	Dr. Sunarno	Training report for FAO Workshop on H7N9 and CSF in Vietnam	Overseas training report seminar	15	DIC Subang	staff of DIC Subang
105	06/09/2013	C/P	Mr. Guswanto	Training report for Advanced Research Course on International Animal Health				
106	11/09/2013	C/P	Dr. Satriyo	Progress report of brucellosis surveillance in Banten province	Pilot site surveillance evaluation workshop in Banten	20	Banten Province	Banten Province · B-type Lab · DIC Subang
107	18/09/2013	C/P	Dr. Sodikun	Rencana Kegiatan Surveilans dan Monitoring Penyakit Hewan dan PHMS dan Hasil Pelaksanaan Surveilans B-Vet Subang 2012/2013	Annual Coordination Meeting in Bogor	170	Bogor	Related organizations · DIC Subang
108	08/11/2013	C/P	Dr. Suryo	"Research on Diagnosis for Pig and Avian Respiratory Disease" and "Action Plan"	JICA Training Report	22	DIC Subang	staff of DIC Subang
109	27/11/2013	C/P	Dr. Tri	Teknik Pengambilan Sampel Obes	Training on Pathological Sampling & Necropsy	40	DIC Subang	B/C type Lab · Public slaughter houses · DIC Subang
110	17/01/2014	Expert	Dr. Shirafuji	Arthropod-borne virus (Arbovirus) infection in ruminants: Abortion, stillbirth, premature birth, congenital abnormalities and febrile illness	Virological diagnosis seminar	35	DIC Subang	staff of DIC Subang · UPT Cikole, BIB Lembang, BIT Ciperang, BPTU Baturaden
111	25/02/2014	C/P	Dr. Satriyo	Tindak Lanjut Pembebasan Brucellosis di Provinsi Banten	Brucellosis surveillance coordination meeting in Banten	30	Banten Province	Banten Province · B-type Lab · DIC Subang
112	28/02/2014	C/P	Dr. Sunarno	Refresher training of PCR				
113	28/02/2014	C/P	Mr. Guswanto & Mr. Dudi	Analysis of Hormone by using HPLC	Diagnostic Seminar	13	DIC Subang	staff of DIC Subang
114	28/02/2014	C/P	Dr. Aji & Ms. Fenti	Identification of Staphylococcus from the contaminated animal products				
115	17/02/2014	C/P	Dr. Suryo	Arthropod-borne virus (Arbovirus) yg dapat menyebabkan abortus, kematian fetus, kelahiran prematur, abnormalitas kongenital dan demam pada	Virology Seminar in KPSBU Lembang	17	KPSBU Lembang	KPSBU Lembang · Cikole B-type Lab · DIC Subang
116	18/03/2014	Expert	Dr. Shirafuji, Dr. Suryo, Mr. Afif	Short-term activity termination seminar. Transfer of fundamental techniques for surveillance and diagnosis of arboviral diseases (mainly abortion and febrile illness of cattle)	Short-term Expert Activity Termination Seminar	35	DIC Subang (Mar 18), DGLAHS (Mar 19)	DGLAHS · DIC Subang
117	18/03/2014	Expert	Mr. Miyamoto, Mr. Guswanto, Mr. Afif	The Improvement of Analytical Method for Determination of Trenbolone Residues in cattle				
118	04/04/2014	C/P	Mr. Dudi Widi Araliman	Culture method of Trypanosoma Evansi	Monthly diagnosis seminar	22	DIC Subang	staff of DIC Subang
119	04/04/2014	C/P	Ms. Fenti	Sampling of animal products according to the SNI	Short-term Expert Activity Termination Seminar	38	DIC Subang (Apr 10), DGLAHS (Apr 11)	DGLAHS · DIC Subang
120	10/04/2014	Expert	Dr. Kobayashi, Dr. Satriyo	- Recent prevalence of brucellosis of dairy cattle in West Java Province, Indonesia - Farm management factors associated with the incidence of reproductive disorders in Banten Province, Indonesia				
121	10/04/2014	Expert	Dr. Kobayashi, Dr. Satriyo	Report of the activity on the epidemiological surveillance in DIC Subang: two applications from West Java province and Banten province				
122	09/05/2014	C/P	Mr. Eka	Acquisition of fundamental and applicative skills necessary for histopathological diagnosis	Reporting of JICA Training in NIAH Japan	14	DIC Subang	staff of DIC Subang
123	09/05/2014	C/P	Ms. Euis	Bacteriological diagnosis of Johne's disease	Coordination meeting for URC-PHMS in Banten	120	Banten Province	Banten Province · B-type Lab · Puskesmas · DINAS · DIC
124	23/05/2014	Expert	Mr. Maeda	Activity of JICA Project in Banten 2014	Annual Coordination Meeting in Tangerang	80	Banten Province	Banten Province · B-type Lab · Puskesmas · DINAS · DIC
125	23/05/2014	Expert	Mr. Maeda	Pilot-site activity of JICA Project (2014 – 2015)	Training report seminar in DIC Subang	15	DIC Subang	staff of DIC Subang
126	26/09/2014	Expert	Dr. Tsuchi	Introduction of the animal disease in Uganda				
127	26/09/2014	C/P	Dr. Putik	JICA Training on "Advanced Training Course for Protozoa and Food Borne Diseases"	Short-term expert activity termination seminar	23	DIC Subang	DGLAHS · DIC Subang
128	26/09/2014	C/P	Dr. Niken, Mr. Eko,	ToT technical training on "Laboratory Field Linkage"				
129	15/01/2015	C/P	Mr. Lukman	Cell Culture	Recommendation and Suggestion	21	DIC Subang	staff of DIC Subang
130	15/01/2015	C/P	Mr. Afif	ND virus isolation by using HmLu cell				
131	15/01/2015	Expert	Dr. Tsuchi	Relationship between Reproductive Disorder and Metabolic Profile Test in Japan	Diagnostic Seminar by JICA Short-term Expert	21	DIC Subang	staff of DIC Subang
132	30/01/2015	Expert	Dr. Takahashi	Metabolic profile test in Indonesia in JICA project	Short-term expert activity termination seminar	17	DIC Subang (Mar 11), DGLAHS	DGLAHS · DIC Subang
133	11/03/2015	Expert	Dr. Tri, Dr. Takahashi					

Annex 12

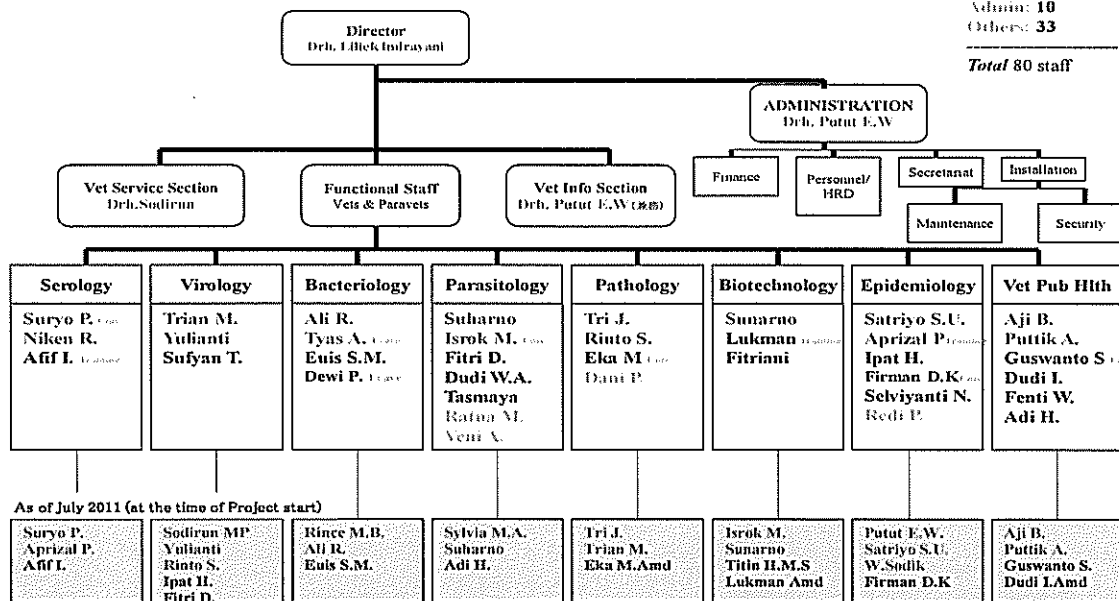
Project Organization Chart



Annex 13

DIC Subang

< as of Mar. 2015 >
 Veterinarians: 19
 Paramedics: 18
 Admin: 10
 Others: 33
 Total 80 staff



Accomplishment Grid

Annex 14

as of Mar. 2015

Outputs and Activities		2011		2012				2013				2014				2015				Progress	Issues / Plan	Accomplishment (%)						
		III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV									
Output 1	The DIC Subang staff obtain basic and systematic diagnosis for animal diseases.																											
Activity																												
1-1	The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang	Planned	x																					Conducted a baseline survey in DIC Subang and grasped the situation	-	100%		
1-2	Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc) and a target levels of the techniques for each laboratory	Planned	x	x																				Already conducted surveys at each laboratory and set target levels	-	100%		
1-3	The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory of DIC Subang.	Planned		xx																				Already made the draft mastering plans for each lab.	DIC Subang reviews the mastering plans every 5 years	100%		
1-4	The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc	Planned		xx																				Already made the resource list of each fields	Many local experts were invited as a trainer and the relationship with other institutes has been established	100%		
1-5	The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.	Planned	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	Diagnostic techniques have been transferred by JICA and local experts	The planned techniques have been transferred. But C/Ps must continue learning after the project	100%	
1-6	The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests	Planned			x																				The proficiency test and diagnostic comparisons with other DIC were conducted	In order to apply for accreditation of ISO, DIC Subang is required to have proficiency test periodically	100%	
Output 2	The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.																											
Activity																												
2-1	The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang	Planned	x																						Conducted a baseline survey in DIC Subang and grasped the situation.	-	100%	
2-2	The staff of DIC Subang analyzes the current situation of sample submission from the fields	Planned	x	x																					ditto	-	100%	
2-3	The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang (Measures for the sample senders will be planed in Output 4)	Planned			xx																				DIC Subang staff are making procedures of sample reception & diagnosis flow related to the application of ISO	-	100%	
2-4	The staff of DIC Subang conducts the improved diagnostic services.	Planned				xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	According to the above plan of improvement, we developed the new reporting system and continue improving.	Sometimes it is difficult to collect epidemiological information of the sample. It is also necessary to teach the methods to customers.	100%	
2-5	The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc) and conducts the feed-back to the system.	Planned				x																			DIC Subang conducts the customer satisfaction survey every year to improve the service	The end-line survey will be conducted to evaluate the improvement of services in detail.	90%	
Output 3	The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.																											
Activity																												
3-1	The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.	Planned	xxx																							Conducted a baseline survey of the stakeholders and grasped the situation.	-	100%
3-2	The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control	Planned		xx																						Picked up some candidate place and target disease.	-	100%
3-3	The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories	Planned					xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		xxx		The surveillance considering the specificity of the pilotsite situation was planed and conducted collaborating with DINAS and B-type labs	Active surveillance has already been carried out as a routine work, but the purpose of the survey should be more cleared after the project.	100%	
3-4	The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.	Planned																								The reports of the surveillance were shown at the meeting or report. Preverence of brucellosis (West Java), Risk analysis (Banten), Brucellosis control & animal ID system (Jakarta)	Conducted the coordination meeting every year, and the survey results are presented to there. But the abortion surveillance is still on going and Dr. Aprizal will develop the reports by	90%

Outputs and Activities		Planned	Actual	2011				2012				2013				2014				2015		Progress	Issues / Plan	Accomplishment (%)
				III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II					
3-5	The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feed-back.	Planned	Actual																		DIC Subang develops and distributes disease map every year as a feed-back of surveillance to improve the disease control situation and make next surveillance plan.	DIC Subang is expected to continue making disease control plan and its evaluation according to the results of the surveillance.	100%	
Output 4	The DIC Subang staff conduct the continuous support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health in the pilot sites.																							
Activity 4-1	The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java area.	Planned	Actual			x															Web site of DIC Subang has been developed and the news of the activity is released periodically.	We focused on the web site developing other than the newsletter. The technical information in web site is going to be developed more.	100%	
4-2	The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories	Planned	Actual																		DIC Subang holds annual coordination meeting 2 times a year. Also, meeting with B/C lab and puskesmas has been conducted frequently.	-	100%	
4-3	The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)	Planned	Actual																		DIC Subang built the accommodation facilities in 2012, and conducts trainings. At the time of active surveillance, awareness support has been done for the farmers.	-	100%	
4-4	The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type	Planned	Actual																		DIC Subang conducts technical training for the laboratory workers and field vets through cooperation with B/C type	Activities of awareness for the farmers is responsibility of DINAS district, and DIC cannot conduct directly.	100%	
4-5	The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions	Planned	Actual																		Activity planning and evaluation has been made with stakeholders at the coordination meeting every year. The results of surveillance are discussed and feed-backed to the next actions	-	100%	

Progress and Results on the Project Activities based on PO (Plan of Operation)

Annex 15

As of March 2015

15. POに沿った活動実績及び達成度

No.	Objectively Verifiable Indicators	Status before the project	Progress at the time of review
1-1	The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013.	The target goal had not been set.	The target goal until 2014 was set in each lab. All laboratories almost accomplished the planned technical target.
2-1	More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory.	The head of veterinary service section makes diagnosis according to the results of each laboratory test.	Currently, the laboratory chief conducts final diagnosis as a diagnostician in rotation every month. All laboratory chief were certified by the short-term expert that they can diagnose almost adequately.
2-2	Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.	The understanding of field situation was not enough and the feed-back comment was not appropriate enough.	The staff have had experience to visit farmers on active surveillance, and they are become able to feedback the appropriate comment. But the short-term expert recommended to make more specific comment especially for the brucellosis positive cattle.
3-1	Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.	Head of diagnostic service indicates the planning and implementation of disease surveillance, another member of staff was working accordingly.	The system that all veterinarian and paramedic staff participate in disease surveillance was established. The evaluation of surveillance feedback to next activity are discussed with local government every year.
3-2	Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.	The recommendations for the customer had not been made.	Active surveillance is conducted more than 100 times a year. The veterinary staff including laboratory chief is in charge of each surveillance. The results and recommendation is feedbacked after the surveillance every time.
4-1	DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.	Information through such as newsletter, has not been carried out.	Instead of the newsletter, web site of DIC Subang was developed to provide information on a regular basis. Also, the project issued awareness brochures of livestock disease, bulletin and disease map, and they were distributed to stakeholders.
4-2	Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.	Technical support activity for the stakeholder had not been implemented.	The plan of active surveillance is developed collaborating with stakeholders every year. Also, the coordination meeting combined with training is implemented twice a year by gathering stakeholders.
4-3	Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.	Awareness activity had not been planned.	Sometimes there are some revision of activity plan caused by the budgetary problems, but basically, almost all planned activity is implemented every year.

	Objectively Verifiable Indicators	Status before the project	Achieve prediction at the time of evaluation
Project Purpose	1. The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project.	The number of sample for diagnosis was 14,875 (15 diseases) in 2010.	2011: 32,016 samples (23 diseases), 2012: 47,466 (23), 2013: 50,554 (31), 2014: 60,156 (32)
	2. The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project.	According to the result of baseline survey, it depends on the kind of test, but the average is about 1 week. But 20% of the customer get the result after more than 3 weeks.	The flow of sample in DIC Subang has been improved and the feedback is returned to the customer in standard period. The culture of bacteria and pathological diagnosis take 2 weeks, but the serological test and pathological test take only 2 days.
	3. The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year.	The pilot sites had not yet been set.	The pilot sites were set and disease surveillances were planned. The activity implementation, Monitoring and Feedback have been done thorough the workshop and meeting every year. 2012: 8 times, 2013: 22 times, 2014: 17 times.
	4. 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.	Recognition of DIC Subang was low in 2010, there were no customer to ask diagnosis besides the local government.	The study on customer satisfaction has been conducted by DGLAHS. The percentage of satisfied customer is 87.4% in 2011 and 94.8% in 2014.
Overall Goal	1. Number of test samples for animal disease diagnoses at DIC Subang in West Java area increases 10% by the year of 2018 in comparison with the number in 2015.	Until the end of the project, we assume that the diagnostic sample number increase of 5% every year. After that, it is to increase 10 percent in three years.	The number of diagnostic sample is already more than 60,000 in a year, and it is almost the limit of manpower for DIC Subang. DIC Subang has promoted to share the role of diagnosis between they and B/C type labs. For the time of Post-evaluation, increase of the diagnostic samples in B/C type labs or quality of diagnosis in DIC Subang should be considered.
	Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java area by the year of 2018.	The number of district monitored was 31 in 2010.	DIC Subang monitors all districts (41 districts) in 2014.
	3. Number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java area goes up 20% by the year of 2018 in comparison with the number in 2015.	There was no awareness and technical support activity conducted by DIC Subang.	The technical support activities (Training, Seminar, etc.) for the staff of local laboratories were conducted as following: 2011: 5 times, 2012: 8 times, 2013: 15 times, 2014: 12 times. Active surveillances conducted with DINAS were as following: 2012: 91 times, 2013: 105 times, 2014: 130 times.

Suggestion for revisions of Objectively Verifiable Indicators (OVI) on Project Design Matrix (PDM)
by the Joint Terminal Evaluation Team

Annex 16

PDM Narrative Summary	Objectively Verifiable Indicators		Reason for Change
	Current OVI	Suggested OVI	
<p>Overall Goal</p> <p>Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.</p>	<p>1 Number of <u>test samples</u> for animal disease diagnoses at DIC Subang in West Java region increases 10% by the year of 2018 in comparison with the number in 2015.</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p> <p>3 Number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java region goes up 20% by the year of 2018 in comparison with the number in 2015.</p>	<p>1 The number of <u>test performed</u> for animal disease diagnoses at the DIC Subang, type-B/C laboratories and PUSKESWAN in the jurisdiction area of the Center increases 10% by the year of 2018 in comparison with that in 2015</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p>	<p>Current OVI 1 and OVI 3 are integrated as Suggested OVI 1 because of that;</p> <ul style="list-style-type: none"> The number of test performed is approximately 61,000 in the year of 2014, approaching the capacity limit of the DIC Subang. By sharing simple tests from DIC Subang to type-B/C laboratories enhances diagnostic capacity of type-B/C laboratories. DIC Suban should conduct activities of awareness raising and technical assistances steadily for type-B/C as describe on Current OVI 3. <p>The unit of the target value of the OVI regarding the performance of tests should be changed from “the number of test samples” to “the number of tests performed” because of that;</p> <ul style="list-style-type: none"> One sample might be subject to multiple tests and the DIC Subang counts the number of tests practically due to the difficulty in grasping the performance with the number of samples.

Project Design Matrix (PDM)

Project Name Project on Capacity Development of Animal Health Laboratory
Target Group Staff of Diseases Investigation Center (DIC) Subang
Project Duration Four (4) years, July 17, 2011 – July 16, 2015
Project Site DIC Subang
Implementing Agency Directorate of Animal Health DGLAHS-MoA and JICA

Annex 17**(Draft)**Date: May 26, 2015
Version 3

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
<p>Overall Goal</p> <p>Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.</p>	<p>1 The number of tests performed for animal disease diagnoses at the DIC Subang, type-B/C laboratories and PUSKESWAN in the jurisdiction area of the Center increases 10% by the year of 2018 in comparison with that in 2015.</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p>	<p>1 Monitoring Report, Survey on target groups in West Java region by DIC Subang (Terminal evaluation survey and final survey)</p> <p>2 Monitoring Report</p>	
<p>Project Purpose</p> <p>The quality and quantity of animal disease diagnosis service at DIC Subang are improved.</p>	<p>1 The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project.</p> <p>2 The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project.</p> <p>3 The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year.</p> <p>4 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.</p>	<p>1 Monitoring Reports</p> <p>2 Diagnosis records at DIC Subang</p> <p>3 Observation at the time of mid-term review and terminal evaluation.</p> <p>4 Monitoring Reports, The results of questionnaire survey on users at the time of mid-term review and terminal evaluation (questionnaire survey to be done by the project monitoring activity 2-5).</p>	<p>The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously.</p> <p>Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project.</p>
<p>Outputs</p> <p>Output 1 The DIC Subang staff obtain basic and systematic diagnosis for animal diseases.</p> <p>Output 2 The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.</p>	<p>1-1 The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013.</p> <p>2-1 More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory.</p> <p>2-2 Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.</p>	<p>1-1 The results of examination by the Project</p> <p>2-1 Records of comments for diagnosis results</p> <p>2-2 The results of certification by the Project</p>	<p>The staff of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period.</p>

<p>Output 3 The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.</p> <p>Output 4 The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.</p>	<p>3-1 Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.</p> <p>3-2 Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.</p> <p>4-1 DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.</p> <p>4-2 Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.</p> <p>4-3 Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.</p>	<p>3-1 Record of surveys</p> <p>3-2 Records of Recommendations for animal disease control measures</p> <p>4-1 Records of issued Newsletter</p> <p>4-2 The plan and records of awareness and technical support activities</p> <p>4-3 The plan and records of awareness and technical support activities</p>	
<p>Activities</p> <p>Output 1</p> <p>1-1 The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang.</p> <p>1-2 Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and target levels of the techniques for each laboratory.</p> <p>1-3 The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory in DIC Subang.</p> <p>1-4 The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc.</p> <p>1-5 The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.</p> <p>1-6 The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.</p> <p>Output 2</p> <p>2-1 The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang.</p> <p>2-2 The staff of DIC Subang analyzes the current situation of sample submission from the fields.</p> <p>2-3 The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be planed in Output 4)</p> <p>2-4 The staff of DIC Subang conducts the improved diagnostic services.</p> <p>2-5 The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.</p>	<p style="text-align: center;">Inputs</p> <p><u>Indonesian side</u></p> <ol style="list-style-type: none"> 1. Assignment of counterpart personnel 2. Salary, Travel expense, accommodation cost and daily allowance of counterpart personnel 3. Project office space and communication device etc. 4. Budget for operational cost for the Project implementation (electricity etc.) 5. Procurement of Reagents and consumables. <p><u>Japanese side</u></p> <ol style="list-style-type: none"> 1. Dispatch of Experts <ol style="list-style-type: none"> (1) Long-term Experts : <ul style="list-style-type: none"> - Chief Advisor / Animal Health Administration - Project Coordinator / Animal Health Information - Veterinary Diagnosis / Epidemiology (assigned in half period of the project) (2) Short-term experts: from Japan or from third country <ul style="list-style-type: none"> Relevant experts in specific subjects of animal health will be dispatched, when necessity arises, for the smooth implementation of the Project within the framework of the Project. 	<p>Sufficient budget to conduct the necessary diagnosis is secured by Indonesian side.</p>	

<p>Output 3</p> <p>3-1 The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.</p> <p>3-2 The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.</p> <p>3-3 The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.</p> <p>3-4 The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.</p> <p>3-5 The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feed-back.</p> <p>Output 4</p> <p>4-1 The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java region.</p> <p>4-2 The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-3 The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)</p> <p>4-4 The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-5 The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions.</p>	<p>2. Counterparts training in Japan or in third country</p> <p>3. Provision of machinery / equipment</p> <p>4. Budget for operational cost for the Project implementation</p>	<p style="text-align: center;">Pre-Conditions</p> <p style="text-align: center;">-</p>
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18. スパン DIC で提供される診断可能な疾病及び診断技術一覧

Diagnostic test conducted in DIC Subang

Annex 18

No	Disease	Diagnostic Test	Lab	Before Project Implementation (2010)	End of the Project (2014)		
1	Hemorrhagic Septicemia	Isolation and identification	Bacteriology	x	○		
2	Anthrax	Isolation and identification	Bacteriology	x	○		
		ELISA	Bacteriology	○	○		
3	Brucellosis	Pathology Staining	Bacteriology	x	○		
		Rose Bengal Test	Bacteriology	○	○		
		CF Test	Bacteriology	x	○		
		Isolation and identification	Bacteriology	x	○		
4	Campylobacteriosis	Isolation and identification	Bacteriology	x	○		
5	Salmonellosis	Quick Test (Pullorum serum test)	Bacteriology	○	○		
		Pullorum isolation and identification	Bacteriology	x	○		
		Salmonella isolation and identification	Bacteriology	x	○		
6	Rabies	FAT	Virology, Serology	○	○		
		ELISA	Virology, Serology	○	○		
		Biological Test	Virology, Serology	x	○		
7	Jembrana Disease	ELISA	Virology, Serology	x	○		
8	BVD	PCR	Virology, Serology	x	x		
		ELISA	Virology, Serology	○	○		
9	IBR	PCR	Biotechnology	x	○		
		ELISA	Virology, Serology	○	○		
10	Classical Swine Fever	ELISA	Virology, Serology	○	○		
		PCR	Biotechnology	x	○		
		TET Isolation	Virology, Serology	○	○		
11	Avian Influenza	HA/HI (Serology)	Virology, Serology	○	○		
		PCR (Type A)	Biotechnology	x	○		
		PCR (H1)	Biotechnology	x	○		
		PCR (H5)	Biotechnology	x	○		
		PCR (H7)	Biotechnology	x	○		
		TET Isolation	Virology, Serology	○	○		
12	Newcastle Disease	HA/HI (Serological Test)	Virology, Serology	○	○		
		PCR	Biotechnology	x	○		
		ELISA	Virology, Serology	x	○		
13	IBD	PCR	Biotechnology	x	○		
		ELISA	Virology, Serology	x	○		
14	Foot and Mouth Disease	ELISA	Virology, Serology	○	○		
15	Enzootic Bovine Leukosis	ELISA	Virology, Serology	○	○		
		PCR	Biotechnology	x	○		
16	Mycoplasma (CRD)	Quick test	Bacteriology	○	○		
		Isolation and identification	Bacteriology	x	○		
17	BSE	Histopathology	Pathology	x	○		
18	Swine flu (H1N1)	ELISA	Virology, Serology	○	○		
		PCR	Biotechnology	○	○		
19	Blood parasite	Trypanosomiasis	Parasitology	○	○		
		Anaplasmosis	Parasitology	x	○		
		Theileriosis	Parasitology	○	○		
		Babesia	Parasitology	x	○		
		Plasmodium	Parasitology	x	○		
		Leucocytozoon	Parasitology	x	○		
		Eperythrozoon	Parasitology	x	○		
		Clinostomum	Parasitology	x	○		
		20	Endoparasite	Fasciolosis	Parasitology	○	○
				Paramphistomum	Parasitology	○	○
Moniezia	Parasitology			○	○		
Eimeria (Coccidiosis)	Parasitology			○	○		
Nematodiasis	Parasitology			○	○		
Bunostomum	Parasitology			x	○		
Cooperia	Parasitology			x	○		
Cotyloporon	Parasitology			x	○		
Mecistocirus	Parasitology			x	○		
Oesophagostomum	Parasitology			x	○		
21	Neosporosis	Strongyloides	Parasitology	x	○		
		Trichostrongylus	Parasitology	x	○		
22	Toxoplasmosis	Trichuris	Parasitology	x	○		
		ELISA	Parasitology	x	○		
23	Trichomoniasis	ELISA	Parasitology	x	○		
24	Colibacillosis	Isolation and identification	Bacteriology	x	○		

25	Johne's disease	ELISA	Bacteriology	x	○
		PCR	Biotechnology	x	○
26	Akabane disease	Isolation and identification	Virology, Serology	x	○
		Neutralization test	Virology, Serology	x	○
27	Food-borne poisoning	Total Plate Count	Public Health	x	○
		Pig containing	Public Health	x	○
		Antibiotics residue	Public Health	x	○
		Borax residue	Public Health	x	○
		Coliform culture	Public Health	x	○
		Salmonella culture	Public Health	x	○
		Formalin Test	Public Health	x	○

MINUTES OF MEETING
ON THE TERMINAL EVALUATION
FOR
THE PROJECT ON CAPACITY DEVELOPMENT
OF ANIMAL HEALTH LABORATORY

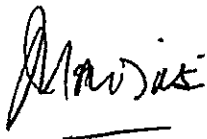
The Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched the mission, headed by Dr. Masaharu Kanameda, to the Republic of Indonesia from May 7 to 27, 2015 for the purpose of conducting terminal evaluation for "the Project on Capacity Development of Animal Health Laboratory" (hereinafter referred to as "the Project") in accordance with the Record of Discussions on the project.

For this purpose, the Japanese mission and the Indonesian authorities concerned formed the Joint Terminal Evaluation Team (hereinafter referred to as "the Team").

After review and analysis of the activities and achievements of the Project, the Team prepared the Joint Terminal Evaluation Report (hereinafter referred to as "the Report"), which was presented to the Joint Coordinating Committee (hereinafter referred to as "the JCC").

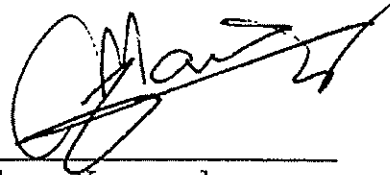
The JCC discussed the major issues pointed out in the Report and agreed the matters attached hereto.

Jakarta, May 26, 2015



Dr. Mardiatmi

Acting Director
Directorate of Animal Health
Directorate General of
Livestock and Animal Health
Services
Ministry of Agriculture
Republic of Indonesia



Dr. Masaharu Kanameda.

Senior Adviser
Japan International Cooperation
Agency
Japan

ATTACHMENT

1. The Team presented the Report shown in the Appendix 1 to the JCC.
2. The JCC accepted the Report presented by the Team, and agreed to take necessary measures for successfully sustaining and extending the achievement of the Project.
3. The JCC had a discussion and agreed on the contents of revised the Project Design Matrix (herein after referred to as "PDM") (ver. 3.0) as shown in the Appendix 2, which was explained by Mr. Yasuyuki. Maeda, Project Coordinator.

END

Appendix 1: the Joint Terminal Evaluation Report

Appendix 2: PDM (ver.3.0)

Appendix 1

JOINT TERMINAL EVALUATION REPORT
ON
THE JAPANESE TECHNICAL COOPERATION PROJECT
ON
CAPACITY DEVELOPMENT OF ANIMAL HEALTH
LABORATORY

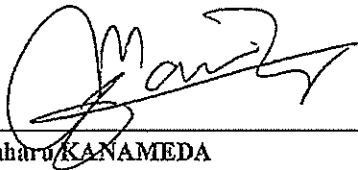
Japan International Cooperation Agency (JICA)

and

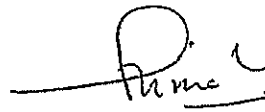
Directorate General of Livestock and Animal Health Services

(DGLAHS) of the Ministry of Agriculture

The Republic of Indonesia



Dr. Masaharu KANAMEDA
Leader
Japanese Terminal Evaluation Team
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25 MAY 2015

TABLE OF CONTENTS

ABBREVIATION.....	3
CHAPTER 1 SCOPE OF TERMINAL EVALUATION	4
1.1 BACKGROUND OF THE TERMINAL EVALUATION.....	4
1.2 OBJECTIVES OF THE TERMINAL EVALUATION.....	4
1.3 JOINT TERMINAL EVALUATION TEAM.....	5
1.4 FRAMEWORK OF THE PROJECT	6
CHAPTER 2 EVALUATION PROCESS.....	8
CHAPTER 3 PROJECT PERFORMANCE.....	9
3.1 INPUTS	9
3.2 PERFORMANCE AND ACHIEVEMENTS OF THE PROJECT.....	10
3.3 IMPLEMENTATION PROCESS	22
CHAPTER 4 EVALUATION RESULTS	24
4.1 RELEVANCE	24
4.2 EFFECTIVENESS	25
4.3 EFFICIENCY	27
4.4 IMPACT	29
4.5 SUSTAINABILITY	32
4.6 CONCLUSION	33
CHAPTER 5 RECOMMENDATIONS AND LESSONS LEARNT.....	35
5.1 RECOMMENDATIONS.....	35
5.2 LESSON LEARNT.....	36
ANNEX	
Annex 1: Schedule of the Terminal Evaluation	
Annex 2: PDM version 2 (May 28, 2013)	
Annex 3: Evaluation Grids	
3-1: Verification of Implementation Process	
3-2: Five Evaluation Criteria	
Annex 4: Dispatch of the Experts	
Annex 5: Assignment of Counterpart	
Annex 6: Counterpart Training	
Annex 7: Provision Equipment by the Japan side	
Annex 8: Local Cost Implementation	
Annex 9: Land, Building, Office, and Facility provided by the Indonesian side	
Annex 10: List of Products	
Annex 11: List of Seminar and Presentation	
Annex 12: Project Organization Chart	
Annex 13: DIC Subang Organization Structure	
Annex 14: Accomplishment Grids (Prepared by the project)	
Annex 15: Progress and Results on the Project Activities based on PO (Plan of Operation)	
Annex 16: Suggestion for revisions of OVI	
Annex 17: Revised PDM version 3.0 (Draft)	
Annex 18: Diagnosis conducted in DIC Subang	

Abbreviation

AAHL	Australian Animal Health Laboratory
CFT	Complement Fixation Test
DAH	Directorate of Animal Health
DGLAHS	Directorate General of Livestock & Animal Health Services
DIC	Disease Investigation Center
DINAS	Provincial/District Office
ELISA	Enzyme-Linked Immunosorbent Assay
FAO	Food and Agriculture Organization
HPAI	High-Pathogenic Avian Influenza
IDR	Indonesian Rupiah
ILRI	International Livestock Research Institute
IRCVS	Indonesian Research Centre for Veterinary Science
iSIKHNAS	Integrated Animal Health Information System (Sistem Informasi Kesehatan Hewan Nasional Terintegrasi)
JCC	Joint Coordination Committee
JICA	Japan International Cooperation Agency
M/M	Man-Month
ND	Newcastle Disease
NVDAL	National Veterinary Drug Assay Laboratory
ODA	Official Development Assistance
OIE	World Organization for Animal Health
OJT	On-the-Job Training
PDM	Project Design Matrix
PO	Plan of Operation
PUSKESWAN	Center for Animal Health (Pusat Kesehatan Hewan)
SOP	Standard Operation Procedure

CHAPTER 1 SCOPE OF TERMINAL EVALUATION

1.1 Background of the Terminal Evaluation

In the Republic of Indonesia (hereinafter referred to as “Indonesia”), animal health is regarded as an important agenda for the development of livestock business including productivity improvement. In recent years in particular, infectious animal diseases including zoonoses became a main concern, which impacted the socioeconomics and human health as well. Therefore, the reinforcement of disease surveillance system is important to control animal and livestock diseases in Indonesia.

In Indonesia, eight (8) Disease Investigation Centers (hereafter referred to as “DICs”) had been established for animal disease control, namely DIC Medan, DIC Bukittinggi, DIC Lampung, DIC Wates, DIC Denpasar, DIC Banjarbaru, DIC Maros and DIC Subang. These DICs have been founded as “type-A laboratory” that cover several provinces for diagnosis of animal diseases. In addition, type-B and type-C laboratories are disposed at provinces and districts, respectively. Type-A laboratories under DGLAHS practice surveillance and diagnosis of animal diseases; type-B and type-C laboratories on each province and district practice management of animal diseases along with the animal disease control. Under the situation that Indonesia has been implementing the decentralization system, the relationship and collaboration among these three types of laboratories has to be strengthened to improve the management of animal and livestock disease control system.

The Government of Japan had implemented a grant aid project entitled “*Improvement on Animal Health Laboratory for Avian Influenza and other Strategic Animal Disease*” from 2007 to 2009. The purpose of the Grant Aid Project was to improve DIC Medan and DIC Lampung and to establish a new DIC in Subang in order to carry out the National Strategic Plan for Avian Influenza Control steadily and properly. The DIC Subang is located approximately 100 km from Jakarta, supervising DKI Jakarta Province, West Java Province and Banten Province, where the DIC Wates previously had jurisdiction over. Since these three provinces are caught on poultry farming in Indonesia, it is naturally regarded as very important areas on the animal health control. Forty-seven (47) staff including technical staff including 21 veterinarians and 16 paraveterinary workers (hereinafter referred to as “*paravets*”) was allocated at newly-established DIC Subang, but the most of those had less experiences on testing and diagnostic techniques as well as other duties regarding animal and livestock disease control. Under such circumstances, the Government of Indonesia requested the Government of Japan to implement a technical cooperation project with the purpose of strengthening the function of the DIC Subang in their diagnostic services for animal and livestock diseases, in order to realize effective animal and livestock disease control in the West Java region. On the basis of the request, the Japan International Cooperation Agency (hereinafter referred to as “*JICA*”) commenced a 4-year technical cooperation entitled “*the Project on Capacity Development of Animal Health Laboratory*” from July 2011.

With the project closure approaching in July 2015, JICA dispatched the Terminal Evaluation Team (hereinafter referred to as “*the Team*”) to evaluate the Project by the “*Five Evaluation Criteria*” (Relevance, Effectiveness, Efficiency, Impact and Sustainability) based on their performances, progress of the project activities and implementation process of the Project as a joint evaluation with the Indonesian side. On the basis of the evaluation results, the Team provided recommendations for relevant parties on the project activities to secure fulfillments of the Outputs and the Project Purpose as well as better sustainability of the benefits derived from the Project. Lessons learnt from the Project, in parallel, are identified in order for JICA to utilize them for designing and organizing similar other projects.

1.2 Objectives of the Terminal Evaluation

The objectives of the Terminal Evaluation are as follows:

4

- 1) To review the overall progress of the Project and evaluate the achievement as of the time of the Terminal Evaluation in accordance with the five evaluation criteria on the basis of latest version of Project Design Matrix (hereinafter referred to as 'PDM') version 2 (Annex 2);
- 2) To identify the contributing and hindering factors for the achievements of the Outputs and the Project Purpose;
- 3) To discuss the plan of the Project for the rest of the project period together with the Indonesian side based on reviews and analysis of the project performances;
- 4) To make recommendations in order to ensure the steady achievement of the Project Purpose by the end of the project period, and to revise the PDM as necessary; and
- 5) To summarize the results of the review and evaluation in the Joint Terminal Evaluation Report.

1.3 Joint Terminal Evaluation Team

The members of the Team are indicated below.

<The Japanese Side>

Name	Designation	Title and Affiliation	Duration of Survey
Dr. Masaharu KANAMEDA	Leader	Senior Adviser, JICA	17/May/2015 – 27/May/2015
Dr. Tetsuya NAKAO	Livestock Disease Diagnosis	Director, Microbiological Inspection Division, Department of Investigation and Research, Animal Quarantine Service, Ministry of Agriculture, Forestry and Fisheries	17/May/2015 – 27/May/2015
Dr. Takehisa YAMAMOTO	Veterinary Epidemiology	Senior Researcher, Viral Disease and Epidemiological Research Division, Epidemiological Research Team, National Institute of Animal Health	17/May/2015 – 27/May/2015
Mr. Shinji HIRONAKA	Planning and Management	Associate Expert, Team 1, Agricultural and Rural Development Group 1, Rural Development Department, JICA	17/May/2015 – 27/May/2015
Dr. Yoichi INOUE	Evaluation Analysis	Senior Consultant, Consulting Division, Japan Development Service Co., Ltd.	7/May/2015 – 27/May/2015

<The Indonesian Side>

Name	Title and Affiliation
Dr. Nilma Lubis	Senior Veterinary Officer, Sub Directorate of Animal Disease Surveillance, Directorate of Animal Health, DGLAHS
Dr. M. Farid. AZ	Senior Veterinary Officer, JICA Project Management Unit, DGLAHS
Dr. Megawaty Iskandar	Veterinary Officer, Sub Directorate of Institutional and Animal Health Resources, Directorate of Animal Health, DGLAHS
Ms. Yuliana Susanti	Senior Officer, Subdivision Cooperation and Public Relation, Planning Division, DGLAHS

The field study was conducted from the 8th to 26th of May 2015. The investigation period was used for site visits, interviews and scrutinizing various documents and data related to planning, implementation and monitoring processes of the Project (Annex 1).

1.4 Framework of the Project

Implementing and related agencies, target areas and beneficiaries are described below. The Narrative Summary of the Project (Project Purpose, Outputs and Activities) set in the latest PDM (version 2) is described below.

[Target Group]

Staff of DIC Subang

[Project Site]

DIC Subang

[Implementing Agency]

Directorate of Animal Health of DGLAHS-the Ministry of Agriculture (MOA) and JICA

[Narrative Summary of the latest PDM (version 2, Date: May 23, 2013)]

Overall Goal	Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.
Project Purpose	The quality and quantity of animal disease diagnosis service at DIC Subang are improved.
Outputs	<p><u>Output 1</u> The DIC Subang staff obtains basic and systematic diagnosis for animal diseases.</p> <p><u>Output 2</u> The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.</p> <p><u>Output 3</u> The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.</p> <p><u>Output 4</u> The DIC Subang staff conducts the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.</p>
Activities	<p><u>Activities under Output 1</u></p> <p>1-1. The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang.</p> <p>1-2. Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and target levels of the techniques for each laboratory.</p> <p>1-3. The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory in DIC Subang.</p> <p>1-4. The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc.</p>

1-5. The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.

1-6. The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.

Activities under Output 2

2-1. The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang.

2-2. The staff of DIC Subang analyzes the current situation of sample submission from the fields.

2-3. The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be planned in Output 4).

2-4. The staff of DIC Subang conducts the improved diagnostic services.

2-5. The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.

Activities under Output 3

3-1. The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.

3-2. The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.

3-3. The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.

3-4. The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.

3-5. The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feedback.

Activities under Output 4

4-1. The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field veterinarians and farmers in the 3 provinces of West Java region.

4-2. The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field veterinarians and farmers in the pilot site through cooperation with B/C type laboratories.

4-3. The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)

4-4. The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.

4-5. The staff of DIC Subang organizes and conducts the monitoring and the feedback of the results to the next actions.

CHAPTER 2 EVALUATION PROCESS

The Terminal Evaluation was conducted in accordance with the 1st and 2nd edition of “*JICA Guidelines for Project Evaluations*” issued in June 2010 and May 2014, respectively. Achievements and implementation process were assessed based on the review results, which are consolidated in the evaluation grid (Annex 3-1, 3-2), in accordance with the five evaluation criteria of relevance, effectiveness, efficiency, impact, and sustainability, as well as the Verification of Implementation Process.

Based on the evaluation grids, the Team conducted surveys at the project sites to review the Project through questionnaires and interviews to counterpart personnel, related organizations and the JICA experts involved.

Both the Indonesian and Japanese sides jointly analyzed and reviewed the Project based on the Project Cycle Management (PCM) concept. The evaluation was performed on the basis of PDM version 2. Both sides jointly analyzed the achievements of the Project, evaluated the Project based on the five evaluation criteria, and consolidated the findings in this Joint Review Report.

Description of the five evaluation criteria that were applied in the analysis for the Terminal Evaluation is outlined in Table 1 below.

Table 1: Description of Five Evaluation Criteria

Five Criteria	Description
Relevance	Relevance of the Project was reviewed by the validity of the Project Purpose and the Overall Goal in connection with the government development policy and the needs in the Indonesia. Relevance of the Project was verified on the basis of facts and achievements at the time of the Terminal Evaluation.
Effectiveness	Effectiveness was assessed as to what extent the Project has achieved its Project Purpose, clarifying the relationship between the Project Purpose and the Outputs. Effectiveness of the Project was verified on the basis of facts and achievements at the time of the Terminal Evaluation.
Efficiency	Efficiency of the project implementation was analyzed with emphasis on the relationship between the Outputs and the Inputs in terms of timing, quality and quantity. Efficiency of the Project was verified on the basis of facts and achievements at the time of the Terminal Evaluation.
Impact	Impact of the Project was assessed in terms of positive/negative, and intended/unintended influence caused by the Project. Impact of the Project was verified on the basis of extrapolation and expectation at the time of the Terminal Evaluation.
Sustainability	Sustainability of the Project was assessed in terms of political, financial and technical aspects by examining the extent to which the achievements of the Project will be sustained after the Project is completed. Sustainability of the Project was verified on the basis of extrapolation and expectation at the time of the Terminal Evaluation.

CHAPTER 3 PROJECT PERFORMANCE

3.1 Inputs

1) Inputs from the Japanese Side

The following are inputs from the Japanese side to the Project as of December 2014. See Annex from 4 to 9 for more information.

Components	Inputs
Dispatch of JICA experts	Long-term Experts: a total of three (3) persons (Chief Advisor/Animal Health Administration, Veterinary Diagnosis/Epidemiology and Coordinator / Animal Health Information) (a total of 121.8 M/M, estimation as of the time of the end of project period) Short-term Experts: a total of 17 personnel (28.1 M/M)
Employment of Local Staff	Clerical staff: a total of 2 persons, System Engineer: 1 person, Field Trainer: 1 person, and Drivers: 2 persons
Provision of Equipment	Desktop/Notebook PCs Photocopier, Vehicle (4WD), Testing and Diagnostic instruments such as Refrigerated Micro Centrifuge, Microscope with CCD camera and monitor, etc.
Training in Japan and Third Countries	Training in Japan: a total of 16 persons (Zoonosis Control in Japan, Research on Veterinary Technology in Japan, Advanced Research Course on International Animal Health, Training on Veterinary Diagnosis for Paramedics, Research on Veterinary Technology in Japan) Training in Third countries: 1 person for Diagnosis of Avian Influenza at Source in Southeast Asia Region in Malaysia, and 2 persons for Training on diagnosis & surveillance of Brucellosis in Thailand
Other Activity Costs	Meeting Package, etc.: IDR 62,095,000 IDR

2) Inputs from the Indonesian Side

The followings are inputs from the Indonesian side to the Project as of December 2014. See details on the Annex 8 and 9.

Components	Inputs
Allocation of Counterpart	A total of 64 persons
Researchers	- DAH of DGLAHS: a total of 6 persons - DIC Subang: a total of 58 persons
Facilities, Equipment and Materials	Project Office with desks, chairs, miscellaneous items, etc. in the DIC Subang
Local costs	IDR 63,707,558,600 (Implemented from 2011 to 2014, and planned budget in 2015)

3.2 Performance and Achievements of the Project

1) Performance of the Project Activities

Performances of the Project Activities under Outputs are as indicated below.

Output 1 The DIC Subang staff obtains basic and systematic diagnosis for animal diseases.	
Activities	Performances
1-1. The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang.	<ul style="list-style-type: none"> ● The Project conducted a baseline survey promptly after the commencement of the Project with the following items of targets and contents: <ul style="list-style-type: none"> - The inside of DIC Subang; and Capacity of disease diagnosis, the number of diagnosis for each disease, the situation of daily operation and instruments, equipment, facilities, etc. - The out side of DIC Subang. the situation of livestock business, questionnaire surveys to a total of 27 local organizations such as local governments (DINAS) and dairy cooperatives in the jurisdictional area of the DIC Subang on general information, the way of simple submission to DIC, the situation of active surveillance, training opportunities for animal and livestock health, the feedback system of test results with its commentaries from DIC Subang to clients, etc. ● On the basis of the survey results, the Project determined unfix matters on the PDM version 0 such as the target values of the Objectively Verifiable Indicators (OVIs). The updated PDM was authorized as version 1 by the Joint Coordinating Committee (JCC) on the 14th of March, 2012.
1-2. Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and target levels of the techniques for each laboratory.	<ul style="list-style-type: none"> ● On the basis of the baseline survey, the Project selected the target sites as well as the target diseases, and the Plan of Operation (PO) was also developed. ● At the same time, the Project prepared a "Target Goal" sheet for each laboratory that stipulate diagnostic techniques and services to be acquired or operated with accomplishment indicators and due date.
1-3. The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory in DIC Subang.	<ul style="list-style-type: none"> ● The preparation works for the sheets were done mainly in the 1st quarter of 2012, and completed by the 3rd quarter of 2012 in all laboratories.
1-4. The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc.	<ul style="list-style-type: none"> ● A total of JICA short-term experts were dispatched to Indonesia in accordance with the Plan of Operation (PO) for necessary duration and at necessary timing (a total of 842 days, 28.1 M/M). ● In addition, the Project built a list of Indonesian trainers by the 1st quarter of 2012, and utilized it for seminars and workshops. ● Indonesian trainers were appointed from various types of organizations (composed mainly of Professors of universities). The Project forged links with them by taking such opportunities. ● The Project has been updating the list from time to time.
1-5. The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.	<ul style="list-style-type: none"> ● At the time of the Terminal Evaluation, a total of 16 counterpart personnel had received the "Training in Japan" at Japanese institute and universities, namely, the National Institute of Animal Health, the Hokkaido University and the Obihiro University of Agriculture and Veterinary Medicine in the themes of "Research on Veterinary Technology in Japan", "Zoonosis Control in Japan", "Training on Veterinary Diagnosis for Paravets" and "Advanced Research Course on International Animal Health". ● One (1) counterpart personnel participated a training course in the theme of "Diagnosis of Avian Influenza at Source in Southeast Asia Region in Malaysia" under the support of the Third Country Training Programme in October 2011 (0.8 M/M). Other two (2) personnel participated a training course in the theme of "Training on diagnosis & surveillance of Brucellosis in Thailand" under the support of JICA in June 2011 (0.6 M/M).

	<ul style="list-style-type: none"> ● A number of Indonesian eligible personnel from the DIC Subang, Type-B/C laboratories, DINAS, etc. had participated in a total of 41 seminars, workshops and training organized by the Project, the Government of Indonesia, DGLAHS or the Food and Agriculture Organization (FAO). ● The Project has organized seminars and meetings for 65 times, and a total of 133 presentations were made by the staff of the DIC Subang or JICA experts.
1-6. The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.	<ul style="list-style-type: none"> ● There were 2 different types of proficiency testing mechanisms until 2013: one by the Australian Animal Health Laboratory to which the World Organization for Animal Health (OIE) accredited; and the other by a laboratory assigned as the organizer of inter-laboratory tests to harmonize the level of laboratories in Indonesia ● In 2012, The Minister of Agriculture assigned DIC Wates as the national reference laboratory for AI, and DIC Wates organized the quality assurance testing mechanism from 2013. ● The DIC Subang has received the comparison/proficiency tests for a total of 103 times for leveling facilities among DICs and NVDAL with the target diseases of Brucellosis, AI, Rabies, etc. as of the time of the Terminal Evaluation. ● In accordance with the standards to be followed under the accreditation of ISO, the DIC Subang is placed an obligation to receive proficiency tests annually (or comparative test with other DIC). Therefore, external quality assurance of the DIC Subang will surely be continued even after the end of the project period.

Output 2	
The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.	
Activities	Performances
2-1. The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang.	<ul style="list-style-type: none"> ● The Baseline survey was conducted from the 4th quarter of the year 2011 to the 1st quarter of the year 2012 to investigate and analyze the situation of sample flow, diagnosis procedures and sample delivery. ● The survey revealed several agendas at each laboratory to be improved, such as putting necessary instruments and tools for testing, streamlining daily duties and the necessity of instruments and devices, on top of the necessity of acquiring new technologies and improving testing skills described in Output 1.
2-2. The staff of DIC Subang analyzes the current situation of sample submission from the fields.	<ul style="list-style-type: none"> ● The survey identified the problems regarding the quality of samples that are delivered to the DIC Subang in terms of insufficient part of body were collected as specimens, insufficient volume of specimens, improper method of specimen preservation, insufficient epidemiological information, etc.
2-3. The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be planed in Output 4).	<ul style="list-style-type: none"> ● The Project elaborated a plan for the improvement in the sample flow from the reception to the feedback of results, from the 3rd quarter 2011 to the 1st quarter 2012. ● After the time of the 1st JCC held in March 2012, the DIC Subang has been putting great efforts to improve the testing and diagnostic services continuously, and developed a reporting system in accordance of the plan aforementioned.
2-4. The staff of DIC Subang conducts the improved diagnostic services.	<ul style="list-style-type: none"> ● At the time of the Terminal Evaluation, it is guaranteed by the JICA experts that the head of each laboratory has acquired capacity to give diagnoses properly in general. In addition, since the DIC Subang was certified as an ISO 17025-certified facility in 2014, it is proved that the management system in the DIC Subang is compliant with international standards for the testing and diagnostic laboratory. ● As aforementioned, the system of testing and diagnostic services has been improved significantly; nevertheless, there are several challenges for ideal implementation of comprehensive diagnoses in terms of sample quality, insufficient epidemiological information, etc. Therefore, the DIC Subang should continue efforts to raise the

	awareness and capacity of clients including staff in type-B/C laboratories.
2-5. The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.	<ul style="list-style-type: none"> ● The DIC Subang has been conducting regular monitoring for the system of testing and diagnostic services in accordance with the requirements of ISO 9001 and ISO 17025. ● In addition to that, the DIC Subang has been conducting a survey on client's satisfaction annually, and giving feedback the results of the survey to their services.

Output 3	
The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.	
Activities	Performances
3-1. The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.	<ul style="list-style-type: none"> ● The Project gathered basic information for the selection of pilot sites from the baseline survey. ● Amongst the contagious animal diseases strategically designated in the National Priority Diseases (rabies, HPAI, brucellosis, anthrax and hog cholera), the Project selected bovine brucellosis with high prevalence and fewer countermeasures as a target disease. West Java region has a big number of dairy cattle; however, accurate data from surveillance has not been obtained even though high prevalence is expected. The Project selected East Jakarta in DKI Jakarta as pilot site considering the data showing the high positive rate of brucella antibody as 15.3% (23/163) tested by Complement Fixation Test (CFT). Banten province was reported to be free from Brucellosis; therefore, the Project selected there as a pilot site since it is necessary to monitor the freedom from brucellosis. ● In addition to bovine brucellosis, the Project commenced an active surveillance on abortion in cattle from 2014. The surveillance on abortion targeted water buffalo in Banten province and dairy cattle in Lembang district in West Java. Pangalengan district was added to the target site for the surveillance on abortion based on the request from the provincial government of West Java.
3-2. The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.	
3-3. The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.	<ul style="list-style-type: none"> ● After the commencement of the Project, a short-term expert in the field of veterinary epidemiology took initiative to investigate actual situation and challenges at Epidemiology Laboratory in the DIC Subang, subsequently, transferred the methods and technologies with regard to selection of target sites, sampling, data analysis. A manual for isolation and identification of <i>Brucella abortus</i> was developed at the initiative of the JICA long-term expert from January to February 2012. Based on the manual, Bacteriology laboratory has commenced the preparation of selection media, followed by culturing the bacterium <i>Brucella abortus</i>. ● Based on "the concept of practical epidemiology", "the method of field survey for epidemiological analysis" and "the method of data analysis using epidemiological techniques" that were technically-transferred by the said short-term expert from April to July 2012. On the basis of these technical transportations, the Project conducted the surveillance on bovine brucellosis. The Project tested 5,400 head of cattle for brucella antibody by the Rose Bengal Plate Agglutination Test, and showed that 3.2% of those (173/5,400) were positive. ● The results of surveillance on bovine brucellosis conducted from 2013 were summarized as below: <ul style="list-style-type: none"> - DKI Jakarta Province In collaboration with type-B/C laboratories, the Project established an individuals identification system for cattle, and subsequently investigated the prevalence of brucellosis. One hundred twenty eight (128) out of 1,567 head of cattle (8.2%) showed positive for brucella antibody. - West Java Province The Project conducted the surveillance on brucellosis, and estimated the prevalence at each district. The Project estimated the

	<p>prevalence of it in entire West Java as approximately 4% from a total of 433 dairy farms.</p> <ul style="list-style-type: none"> - Banten Province <p>The Project conducted questionnaire and brucella antibody surveys for farmers possessing water buffalo, and confirmed negative results for all the water buffalo tested (1,955 head). Meanwhile, the survey showed that approximately 20% of the farmers experienced abortions. It is notable the survey was the very first full-scale survey on brucellosis in Banten Province.</p> ● The Project conducted the surveillance on brucellosis in DKI Jakarta, West Java and Banten in a total of 8,026 head of dairy cattle and water buffalo, and the prevalence was 0.57% in entire area investigated. The Project find out the heterogeneity in prevalence as follows: 6.8% in Sumedang, 4.2% in Bandung and 3.7% in East Jakarta whereas 0.0% in 23 out of 29 districts. ● The surveillance on abortion in cattle was conducted from September to November 2014 in Pangalengan and Lembang districts in West Java Province. The Epidemiology laboratory of the DIC Subang, with support from JICA experts, took initiative to elaborate the plan of field surveys, questionnaire, and data analysis of the active surveillance. Other laboratories participated the surveillance to investigate the abortion cases caused by bacteria, viruses and/or parasites in cattle. The target pathogens of each laboratory were as follows: Bacteriology laboratory for Brucella, Salmonella and Campylobacters; Virology laboratory for Arbovirus; and Parasitology laboratory for parasites in blood and feces. The Pathology laboratory also participated the survey. <ul style="list-style-type: none"> - Brucellosis <p>The positive rate of brucella antibody in serum was 6.3% (48/760) in CFT. The Project identified a strain isolated from 50 samples of vaginal swabs as <i>Brucella abortus</i> by biochemical characterization and PCR test. The Project also identified two (2) cases of <i>Brucella abortus</i> infection from existing suspected samples. Eventually, the Project has identified <i>Brucella abortus</i> from three (3) head of cattle with abortion history.</p> - Arbovirus, a cause of premature parturition, abortion and stillbirth in cattle, was investigated for its prevalence in cattle. Three hundred and eighty three (383) out of 526 serum samples (72.8%) were positive for Akabane virus (a type of Arbovirus) antibody. The Project identified the localizations in antibody prevalence rate as well as antibody titer using neutralization reaction. ● Meanwhile, as a collaboration between the Project and the DIC Subang, bird feces was continuously collected for the isolation and serotyping of Salmonella as a part of active surveillance on HPAI in the DIC Subang. The Project also collected infected poultry together with the feces, and tested them histopathologically and bacteriologically. As a result, Mycoplasma was isolated for the first time at the DIC Subang in April 2012.
<p>3-4. The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.</p>	<ul style="list-style-type: none"> ● The Project conducted meetings and workshops with stakeholders such as DINAS, type-B/C laboratories, dairy cooperatives, etc. at each pilot site to share the results of surveillance and to discuss countermeasures for better control of animal and livestock diseases. The plans of field activities were also discussed at the meetings. The Project also presented the results of risk analysis at Banten as well as the development of individuals identification system in DKI Jakarta through reports and meetings to the stakeholders. ● The Project convened coordination meeting annually and shared the performance of the Project to the stakeholders. ● The Project is still working on the development of comprehensive analyses of the results from active surveillances as of the time of the Terminal Evaluation. The recommendation report is supposed to be compiled together with the advanced analyses that are conducted in Japan by the staff of Epidemiology laboratory the DIC Subang, and the Project is expecting to finalize it in October 2015.

<p>3-5. The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feedback.</p>	<ul style="list-style-type: none"> ● As was described in the Activity 3-4, the results of surveillances were shared to the stakeholders. ● The DIC Subang is publishing the animal disease map annually for monitoring livestock and animal health status, and distributed to the stakeholders. The map is made by integrating the data at type-B/C laboratories and PUSKESWAN into that at the DIC Subang. The User can have a grasp of the number of tests, the number of positive and test spots.
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Output 4 The DIC Subang staff conducts the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.	
Activities	Performances
<p>4-1. The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java region.</p>	<ul style="list-style-type: none"> ● The Project developed the brochure for introducing the Project and distributed 500 and 1,000 copies in October 2010 and February 2012, respectively (Annex 10). ● Substituting for news letter, the Project created a website of the DIC Subang in December 2011 geared to the stakeholders at central level, DINAS, veterinarians, paravets who are accessible to internet, and disseminate information with regard to disease information regarding animal disease map in the jurisdiction area of the DIC Subang, seminars/workshops, etc. As an instance of beneficial utilization of the website, DINAS and type-B/C laboratories develop a operational plan of surveillance on the basis of the animal disease map issued by the DIC Subang annually for the following fiscal year. Besides, the users can check the items with its prices that can be tested in the DIC Subang in the website. The DIC Subang, hereafter, is planning to improve the system of the website to add the function of ordering tests and receiving test results on the Web, and to enrich technical information, at the initiative of the Epidemiology laboratory. (The improvement work is expected to be completed after the end of the project period) A newsletter was published in October 2013 by JICA experts just for one time. ● The Project developed 8 brochures written in Bahasa Indonesia to raise awareness of animal and livestock diseases geared to type-B/C laboratories, dairy farmers, etc. and distributed 1,000 copies for each to all the relevant parties such as agencies at central level, DINAS, dairy cooperatives, etc. The Project revised the brochures in March 2013 and distributed the said stakeholders. The brochures were distributed to dairy farmers by taking opportunities of field activities of the active surveillances. ● The Project developed the calendar as a public awareness tool annually from January 2012. ● The Project developed 3 video learning aids entitled “<i>Sampling method of cattle brain for BSE diagnosis</i>” in February 2013, and distributed a total of 40 copies to the livestock industry bureaus at provincial and district level (slaughter house) and other relevant agencies at national and provincial level. ● The Project developed “<i>A Manual for the Control of Mastitis in Dairy Cattle</i>” in July 2013, by revising an existing manual developed by a JICA technical cooperation entitled “<i>Project for the Improvement of Countermeasure on the Productive Diseases of Dairy Cattle</i>” implemented in West Java from 2008 to 2011. The Project distributed a total of 20 copies of the Manual to the stakeholders. ● The Project developed “<i>Diagnostic Flowchart Manual –Reference for the Animal Priority Diseases in Indonesia</i>” in March 2015 by reference to JICA’s technical cooperation entitled “<i>The Project of the Japan-Thailand Technical Cooperation on Animal Disease Control in Thailand and Neighboring Countries</i>” (2001-2006) as well as “<i>The Technical Assistance to Improve National Diagnostic Capacity for Animal Disease Control</i>” (2010-2014) conducted in Uganda, and the

	<p>DIC Subang is working on translating it into Bahasa Indonesia as of the time of the Terminal Evaluation, and planning to distribute a total of 50 copies to the stakeholders immediately after the translation be completed.</p> <ul style="list-style-type: none"> ● In addition to those described above, the Project has been developing the annual report and the disease distribution map to share with the stakeholders.
<p>4-2. The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p>	<ul style="list-style-type: none"> ● The DIC Subang has launched biannual coordination meetings consist of organizations at central level such as DGLAFHS, the Animal Quarantine Office, the Indonesian Research Institute for Veterinary Science and the National Veterinary Drug Assay Laboratory, at provincial level such as DINAS and Type-B laboratories and at district level such as DINAS, type-C laboratories and the Center for Animal Health (PUSKESWAN), with the function of designing the plan of activities for awareness raising as well as technical assistance for eligible personnel and organizations concerning animal health or husbandry. ● The Project conducted training seminars and workshops geared to type-B/C laboratories, PUSKESWAN and dairy cooperatives from June 2013. Staff member of the DIC Subang provided 7 lecture courses at seminars and workshops with a total of 171 participants as of the time of the Terminal Evaluation.
<p>4-3. The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)</p>	<ul style="list-style-type: none"> ● The DIC Subang constructed dormitory for trainees and provided a lot of training opportunities for staff in type-B/C laboratories, field veterinarians in PUSKESWAN and paravets. ● As was described in the Activity 4-1, the Project is doing awareness raising activities by means of website, newsletter, brochures. ● The DIC Subang has developed the disease map annually with the objective of monitoring livestock and animal health, and distributed to the stakeholders. See the Activity 3-5 for more information. ● The Project participated “the Agricultural exhibition of World Food Day” held in Padang in 2013 and “the National Agriculture and Fishery exhibition” held in Malang in 2014, and exhibited posters as publicity activities of the DIC Subang.
<p>4-4. The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p>	<ul style="list-style-type: none"> ● The DIC Subang conducted awareness-raising activities geared to dairy farmers by taking opportunities of field activities of active surveillance. Nevertheless, awareness raising activities as well as technical assistances comes under the jurisdiction of the livestock industry bureaus of DINAS, not under DICs or type-B laboratories. Thus, the DIC Subang can only provide indirect assistance via the bureaus; however, the DIC Subang has supported DINAS at provincial and district level to select and mediate dairy farmers for active surveillance and to instruct them for countermeasures and vaccinate with their livestock on the basis of diagnosis results. ● In addition to the said activities, as was described in the Activity 1-5, the Project has been conducting awareness raising activities and technical assistance to the stakeholders by means of a total of 65 seminars and meetings (a total of 133 presentations by JICA experts or the staff of the DIC Subang) (Annex 11). Besides, the staff of the DIC Subang and JICA experts participated meeting at national level such as “Preparatory Committee for Proclamation of the Minister of Agriculture for a Guide in Animal Disease Surveillance (2011)” and “Technical and Scientific Meeting of Animal Health (2012)”, and exchanged views and shared the performance of the Project with other participants. ● See the Activity 4-1 for the utilization of materials developed by other projects supported by JICA.
<p>4-5. The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions.</p>	<ul style="list-style-type: none"> ● The DIC Subang convenes coordination meeting biannually, and planning and evaluation of operation are discussed. ● Especially for the activities at the pilot sites, the Project analyzed the results of the surveillance and gave feedback to the next action plan.

2) Achievements of the Outputs

a) Output 1

Achievements of the Objectively Verifiable Indicators (OVIs) for Output 1 are as indicated below.

<p>[Output 1] The DIC Subang staff obtains basic and systematic diagnosis for animal diseases.</p>	
OVIs	Achievements
<p>1-1. The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013.</p>	<ul style="list-style-type: none"> ● Basic techniques and technologies stipulated in "the Project Technical Target Sheet" "had been transferred by time of the Mid-term Review; however, it was deemed that the staff of the DIC Subang were supposed to rehearse what they learnt to establish it at the time. ● As of the time of the Terminal Evaluation, the staff's skill and techniques were far improved after the time of the Mid-term Review, and it is evaluated by the JICA experts that the staff have reached at desirable level in their technical skills for the target stipulated in the said Sheet.

After the commencement of the Project, testing and diagnostic instruments, equipment and materials necessary for the technical transfer of diagnostic techniques had been installed in the DIC Subang.

Diagnostic techniques and services that were stipulated in "the Project Technical Target Sheet" had been transferred to the DIC Subang by time of the Mid-term Review (May 2013), and thereafter, the quality of testing and diagnostic services have far improved through on-the-job training as well as the said training opportunities such as seminars and workshops, as a result, the time necessary for diagnosis was shortened. Improvement of the accuracy of tests conducted in the DIC Subang can be explained by the results of the Proficiency Tests aforementioned. Meanwhile, the DIC Subang could provide diagnosis services only for 13 diseases before the commencement of the Project (the year of 2010). The DIC Subang, as of the time of the Terminal Evaluation, has raised their capacity to provide diagnostic services in 41 diseases with 75 diagnostic methods at desired level enough to operate the services independently with sufficient quality (see Annex 18). Through these activities for technical transfer, the Project standardized the test procedures and operation of services, and subsequently, developed 58 testing and diagnostic protocol (Standard Operating Procedures: SOPs), 3 manuals, 20 technical references, 6 formats and 4 other documents.

As was just described above, the DIC Subang has ensured the system to conduct standardized testing and diagnosis in accordance with the SOPs. The number of testing and diagnostic methods is no less than 75. Though some of those needs to be more rehearsed even after the end of the project period, it is deemed that the DIC Subang can provide accurate test results using testing protocols in conformity to the international or national standards by the staff with sufficient skills since the DIC Subang gained accreditation of ISO 9001 (quality management principles) and certification of ISO 17025 (global quality standard for testing and calibration laboratories) by the International Organization for Standardization. The DIC Subang is supposed to receive the Proficiency Test in conformity to the requirements of ISO; therefore, it is deemed that the External Quality Assurance (EQA) system is established in the DIC Subang. Further, a JICA short-term expert was dispatched to the DIC Subang, and established a system for proper maintenance and management of facilities and equipment in accordance with the manual¹.

For these reasons, it is deemed that the DIC Subang obtained basic and systematic diagnosis for animal diseases; to wit, the achievement level of the Output 1 is deemed to be appropriate at the time of the Terminal Evaluation.

¹ The manual was developed by the JICA short-term expert and geared not only to the DIC Subang but also to the DIC Medan and the DIC Lampung.

b) Output 2

Achievements of the OVI for Output 2 are as indicated below.

[Output 2] The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.	
OVI	Achievements
2-1. More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory.	<ul style="list-style-type: none"> As of the time of the Mid-term Review, final diagnoses were made only by the head of veterinary services section provided the final diagnoses. Comments on the test results were given by 12 veterinary staff. As of the time of the Terminal Evaluation, the Chiefs of each laboratory provide the final diagnosis as diagnosticians in rotation. The short-term JICA expert with expertise of comprehensive diagnosis guaranteed that those diagnosticians could provide proper final diagnoses in general.
2-2. Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.	<ul style="list-style-type: none"> The seven (7) diagnosticians (the chiefs of laboratories) gained greater understanding of actual situation of stock farming on the ground through the project activities such as active surveillance; as the result, the comments on the test results became more feasible and specific.

The Project, on top of the technical issues under the Output 1, identified several challenges for ideal system of comprehensive diagnosis such as intra- and inter-facility intra-sample flow and standardizing and streamlining of testing and diagnostic services through the baseline survey conducted at the initial phase of the Project. To counter this, the Project has been working on the improvement the testing and diagnostic services continuously from 2011 by promoting reform measures, developing a reporting system, etc. As the results of the efforts of the Project, the DIC Subang is providing testing and diagnostic services under the operational system compatible with the international standards since the DIC gained ISO 17025 as was mentioned in the Achievement of output 1.

Meanwhile, as was described in the Achievements of OVI for Output 2, final diagnoses were made only by the head of veterinary services section provided the final diagnoses as of the time of the Mid-term Review; however, it is deemed by the short-term JICA expert that 7 laboratory chiefs (diagnosticians) can provide practical comments on the diagnosis results and proper final diagnoses in general through gaining basic technologies of testing and diagnosis (Output 1) and experiencing active surveillance (Output 3).

For these reasons, it is deemed that the capacity to provide the customer oriented diagnosis services (Passive Surveillance) of the DIC Subang is strengthened; to wit, the achievement level of the Output 2 is deemed to be appropriate at the time of the Terminal Evaluation.

However, though it might be beyond the framework of the Project, there were problems regarding the quality of samples, delivered to the DIC Subang by clients such as type-B/C laboratories, PUSKESWAN and dairy farmers via DINAS, in terms of insufficient part of body were collected as specimens, insufficient volume of specimens, improper method of specimen preservation, insufficient epidemiological information, etc. To counter this, the DIC Subang started a countermeasure that the samples that does not meet the requirements are refused to accept and returned to the clients with proper instruction on parts, volume and preservation methods, etc. in accordance with the newly-developed SOP from January 2015.

c) Output 3

Achievements of the OVIs for Output 3 are as indicated below.

[Output 3]	
The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.	
OVIs	Achievements
3-1. Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.	<ul style="list-style-type: none"> ● The DIC Subang elaborates the annual activity plan including active surveillance not only for brucellosis but also for other strategically prioritized diseases stipulated in the National Priority Diseases. ● Before the commencement of the Project, the head of veterinary services section took the initiative of planning and implementation of disease surveillance. After the commencement of the Project, the DIC Subang established a system that all veterinary staff and paravets should participate the active surveillance. This helped them to conduct multimodal assessment on the surveillance results and to reflect the analysis results in activity planning for coming year.
3-2. Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.	<ul style="list-style-type: none"> ● Before the commencement of the Project, recommendations did not presented on the basis of the disease surveillance. As of the Terminal Evaluation, the number of field activities under active surveillance has increased up to over 100 times in a year. Veterinary staff including chiefs bear the responsibility of the survey to feed back the recommendations that were made based on the results for the sample.

The DIC Subang has been doing active surveillance on bovine brucellosis as well as abortion in cattle as the target diseases of the Project. In addition, the DIC Subang is implementing active surveillance, as daily activities, on HPAI, rabies, hog cholera, parasitic diseases, anthrax, hemorrhagic septicemia and exotic infectious diseases such as bovine spongiform encephalopathy (BSE), foot-and-mouth disease (FMD) and infectious bovine rhinotracheitis (IBR). Reproductive disorder is also targeted for active surveillance. Every batch of surveillance targeted one species of animal; however, several diseases are targeted by sampling several parts of organs and/or fluids from each individual animal. The Veterinary Public Health Laboratory of the DIC Subang is also conducting surveillance activities on livestock products such as meat, egg, milk, etc.

Before the Project, JICA experts identified the needs of technical transfer regarding epidemiological studies an advance of the surveillance since the Epidemiology laboratory of the DIC Subang had less experiences in epidemiological survey methods for effective and efficient implementation of field activities, and accordingly, the analytical results were not accompanied with sufficient epidemiological evidences. After the technical transfer of basic epidemiology, the Epidemiology laboratory acquired the ability to establish the implementation plan of surveillance including the preparatory work for sampling methods, preparation of questionnaires, data analysis methods, with the support of JICA experts. The said laboratory also played a key role in the field activities and subsequent data analyses. In relation to this, the DIC Subang is performing active surveillance for over 100 times annually, and giving feedback comments on the results to the stakeholders. For these reasons, it is deemed that the DIC Subang is organizing and operating the active surveillance effectively and efficiently.

In consideration of the sustainability of the DIC Subang, the Project conducted project-led surveillance targeting bovine brucellosis and abortion in cattle as a part of active surveillance system routinely conducted in the DIC Subang. As was described in the achievement of Output 3 above, all the veterinarians and paravets are supposed to be involved in the active surveillance. Accordingly, the staff of DIC Subang recognized that there were positive influence of the project-led surveillances on the implementation and organization of other routine surveillance activities to a certain extent.

The DIC Subang has just commence a new active surveillance on reproductive disorder in cattle under the instruction of DGLAHS, and the knowledge and techniques gained through the project-led surveillance on bovine brucellosis and abortion in cattle are expected to be utilized to the said surveillance beneficially. Further, through the collaboration with the Project in the surveillance on bovine brucellosis and abortion in cattle, partners such as DINAS, type-B/C laboratories and dairy cooperatives raise the awareness for epidemic prevention and the capacity with regard to the implementation of surveillance to a certain extent; consequently, cooperative framework amongst stakeholders were enhanced further than before. For a typical instance concerning the coalition, The 2nd and 3rd surveillance on bovine brucellosis conducted in 2014 were conducted only by DINAS and dairy cooperative in Lembang; neither the staff of the DIC Subang nor JICA experts accompanied them, confirmation tests were conducted by the DIC Subang.

As has been described, the DIC Subang enhanced the capacity for the implementation of the whole active surveillance through the project-led surveillance under the coalition of stakeholders. For these reasons, the achievement level of the Output 3 is deemed to be appropriate at the time of the Terminal Evaluation.

d) Output 4

Achievements of the OVIs for Output 3 are as indicated below.

[Output 4]	
The DIC Subang staff conducts the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.	
OVIs	Achievements
4-1. DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.	<ul style="list-style-type: none"> ● Before the commencement of the Project, information sharing activities via newsletter, etc. had not been done by the DIC Subang. ● As a substitute of newsletter, the Project launched the web page in December 2011, and disseminates the information with regard to disease information regarding disease map in the jurisdiction area of the DIC Subang, seminars/workshops, etc. at monthly intervals. With an eye on the people who are inaccessible to Internet, the Project transmitted paper-based information for the stakeholders through 10 kinds of brochures to raise awareness of them to animal disease control and to let them know the function and mission of the DIC Subang. In addition to them, the Project published disease map, the video and calendars to introduce the DIC Subang for the Public, manuals (see the Activity 401 for more information).
4-2. Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.	<ul style="list-style-type: none"> ● The DIC Subang launched biannual coordination meeting from September 2011, and discusses amongst the stakeholders with regard to planning and evaluation for awareness raising activities as well as technical assistances. As was described in the Activity 4-2, the Project provided seminars and workshops geared to the staff of type-B/C laboratories, PUSKESWAN and dairy cooperatives from June 2013. Staff member of the DIC Subang provided 7 lecture courses at seminars and workshops with a total of 171 participants as of the time of the Terminal Evaluation. JICA experts also provided many lectures and seminars. ● The DIC Subang conducted field activities under active surveillance more than 100 times in one year in accordance with the annual plan, and is taking opportunities of field activities to conduct awareness raising activities and technical assistances toward field veterinarians and paravets, dairy farmers, etc. continuously.
4-3. Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.	<ul style="list-style-type: none"> ● Though the annual activity plan is subject to change due to financial constraints, planned activities are almost fulfilled basically.

Before the commencement of the Project, the DIC Subang had not actively conducted information sharing via newsletters, routine-run meetings etc., awareness raising activities and technical assistances geared to veterinarians and paravets in the jurisdiction area of the DIC Subang. After the commencement, those activities have been conducted by means of the website and brochures for raising awareness of animal and livestock diseases in accordance with the activities under the Output 4. Moreover, Activity plans are discussed biannually at the coordination meetings; that is to say, a system was founded to continue those activities even after the end of the project period.

On the other hand, the livestock industry bureaus in district DINAS bears responsibility to provide awareness raising and technical assistances to farmers for better control of animal and livestock health, whereas neither DICs and type-B laboratories can provide such activities directly to them. Under such circumstances, the staff of the DIC Subang is taking opportunities of field activities in the active surveillances, implemented over 100 times a year, to conduct awareness raising and technical assistance activities toward farmers as much as possible. Besides, the coverage of districts and cities for disease monitoring in the jurisdiction areas of DKI Jakarta, West Java and Banten has increased from 78% (32/41) to 100% (41/41) in 2010 and 2014, respectively.

As has been described, the DIC Subang established the system to continue information sharing, awareness raising and technical assistances to field veterinarians/paravets and dairy farmers, and the staff of the DIC Subang has acquired capacity to implement such activities properly. For these reasons, the achievement level of the Output 4 is deemed to be appropriate at the time of the Terminal Evaluation.

Having said that, as was pointed out at the Achievement of Output 2, the DIC Subang has encountered difficulties for ideal implementation of comprehensive diagnosis due to the problem of the quality of samples brought into the DIC Subang. Even though this issue is beyond the framework of the Project and the project activities under the Output 4 regarding technical assistances to clients have limitations, it is strongly suggested that the DIC Subang should continue efforts to conduct awareness raising and technical assistance activities perseveringly even after the end of the project period.

3) Achievements of the Project Purpose

Achievements of the OVIs for Project Purpose are as indicated below.

[Project Purpose]	
The quality and quantity of animal disease diagnosis service at DIC Subang are improved.	
OVIs	Achievements
1. The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kinds at the end of the Project.	<ul style="list-style-type: none"> As the technical transfer activities progressed, the number of diseases that the DIC Subang can test greatly increased, and consequently, the number of tests performed increased significantly. The number of tests performed in the DIC Subang in 2014 was 61,156, far exceeded the target value of the OVI already, the same goes for the number of diseases to be tested at DIC Subang (32 kinds of diseases that were actually tested), implying that the number is approaching the capacity limit of the DIC Subang.
2. The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project.	<ul style="list-style-type: none"> The results of the baseline survey conducted in 2011 showed that the time needed to feedback the test results to clients was one (1) week on average, and 20% of those was even more than 3 weeks; indeed, far beyond the standard duration even though it is dependent on the type of test. The Project had been working on the improvement of the flow of samples from the reception to diagnosis as well as transferring diagnostic technologies; eventually, seven (7) chiefs of laboratories

	acquired capacity to provide proper final diagnoses. As a result, the time needed to give the results back to clients was shortened to standard duration. Though it takes approximately two weeks in bacteriological culture testing and histopathological diagnosis, other tests such as serological diagnosis and parasite examination takes two days on average to obtain the results.
3. The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year.	<ul style="list-style-type: none"> ● The Project planned the active surveillance targeting bovine brucellosis and abortion in cattle in consideration of the characteristics of the jurisdiction areas of the DIC Subang, and conducted its field activities in 2012 and 2014. Planning, implementation, monitoring and feedback were shared with the stakeholders through the opportunities such as meetings and workshops every year. ● The DIC Subang provided recommendations based on the results of active surveillance regardless of that conducted as project activities or as daily activities of the DIC Subang.
4. Eighty percent (80%) of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognize improvement of diagnosis services of DIC Subang by the end of the Project.	<ul style="list-style-type: none"> ● The survey on the satisfactory of clients showed that respondents who answered "satisfied" or "almost satisfied" was increases from 87.4% to 94.8% in 2011 and 2014, respectively.

After the commencement of the Project, instruments for testing and diagnosis, equipment and materials necessary for the project activities were properly installed to the DIC Subang. Technical transfer activities such as hands-on training at the DIC Subang as well as the "Training in Japan" or "Training in Third Countries" were conducted in parallel, resulting that the staff improved their knowledge, techniques and experiences. Consequently, the number of diagnosable diseases as well as the number of tests performed at the DIC Subang has substantially increased with high accuracy of testing (Output 1). The streamlining of workflow (standardization of sample flow from reception to feedback, establishment of reporting system, etc.) as well as the capacity raising of the staff to provide recommendations based on the diagnosis results (Output 2) were seemed to contribute significantly to the increase of the number of samples dealt with at the DIC Subang with high reliability of test results. Under the Output 3, the Project had selected bovine brucellosis and abortion in cattle as target diseases for active surveillance, and revealed the actual situation and burden of the diseases, and challenges for ideal control of animal and livestock diseases. In addition, the Epidemiology laboratory has played a central role to establish a system that many laboratories of the DIC Subang participate the active surveillance, and enhanced the capacity to organize a sequence of the surveillance in terms of planning, implementation and data analysis/interpretation. This has also impacted other routine surveillance positively. Furthermore, the DIC Subang improved the collaboration with the stakeholders such as DINAS, type-B/C laboratories and dairy cooperatives through the project-led active surveillance; as a consequence, work-sharing amongst the stakeholders are being progressed for efficient implementation of surveillance activities. Meanwhile, the Project has established the system to carry on the activities for information dissemination, awareness raising and technical assistance continuously in a structured way, and developed various types of learning materials such as posters and brochures, and the website as well.

Table 2: Performanc of DIC Subang in Diagnostic Services

	Year					
	2010	2011	2012	2013	2014	
Number of tests performed	14,875	32,016	47,466	50,544	61,157	
Number of samples received	Passive	N/A	N/A	10,392	9,841	N/D
	Active	N/A	N/A	19,555	41,052	N/D
Kinds of diagnosable diseases	15	22	22	31	32	

The DIC Subang has been putting great efforts to realize ideal quality control and operation of the organization to meet the international standards and gained accreditation of ISO9001 in 2013 and certification of ISO17025 in 2014. The DIC Subang is supposed to continue the quality control and operation of organization in accordance with the stipulation of ISO after the end of the project period. However, the Project had encountered several challenges such as improper sample collection/preservation, necessity of further reinforcement of collaboration and work-sharing with stakeholders such as DINAS and type-B/C laboratories, expansion of coverage of technical assistance for the stakeholders, even though those are recognized as the issues beyond the framework of the Project. Therefore, the DIC Subang has commenced the new system as a countermeasure to conduct comprehensive diagnosis ideally (see the Achievement of Output 2). The DIC Subang is required to control the system whether it works properly for increasing the number of comprehensive diagnosis at DIC Subang. The DIC Subang is also expected to continue testing and diagnosis services steadily, and is required to enhance the collaboration with the stakeholders further for better animal and livestock disease control in West Java region in future.

For these reasons, it is deemed that the quality and quantity of animal disease diagnosis service at DIC Subang has improved; thus, the Project Purpose is achieved at a high level at the time of the Terminal Evaluation.

3.3 Implementation Process

1) Project Management and Communication Amongst Parties Concerned

After the commencement of the Project, JICA experts assisted the DIC Subang to launch monthly meeting. Though the experts withdrew from the meeting a couple of months after its establishment, it is continued to date without any assistances of the JICA experts. The Project do not have an official meeting opportunities for the management of the project, JICA experts held meetings with the administration and/or technical staff of the DIC Subang as the need arise to discuss the plan of operation, progress monitoring and evaluation of performance of the Project adequately in general. Project's performance and achievements were shared to the member of the Joint Coordinating Committee (JCC) annually. In addition, daily activities of JICA experts and the progress of the Project are shared monthly with all laboratories of the DIC Subang and DGLAHS as well. Furthermore, the coordination meeting was launched from September 2011 biannually with external partners such as DGLAHS, DINAS, type-B/C laboratories, dairy cooperatives, with the participation of JICA experts. Meanwhile, a total of 17 JICA short-term experts had been dispatched to the DIC Subang, and shared information regarding their terms of references and plan of technical assistance at their arrivals and results and achievements at their resignations with DGLAHS and the DIC Subang for a total of 32 times at the time of the Terminal Evaluation. The staff of the DIC Subang and JICA short-term experts continuously communicated by email as needed. JICA experts had attended the development partners' meeting for 5 times to date, and shared the performances and achievements of the Project. Through the aforementioned meetings and active surveillance, preferable communication amongst JICA experts, counterparts and the stakeholders has been maintained throughout the project period. For these reasons, it is considered that the management of the Project has been appropriate.

Meanwhile, two thirds of JICA short-term experts dispatched to the DIC Subang were young specialists with insufficient experience for working in abroad. They sometimes encountered the language barrier to communicate with counterpart personnel; as a result of mutual efforts, necessary knowledge and techniques were properly transferred eventually. The Coordinator of the Project (JICA expert) sometimes acted as an interpreter when the JICA experts could not communicate with the external stakeholders who were not good at English.

2) Ownership and Autonomy

The Project has been implemented by strong ownership and commitment of the Indonesian side, both implementing agencies and related organizations. It is particularly worth noting that project activities have been implemented at the initiative of the Indonesian side after the “*Training in Japan*” and hands-on training in DIC Subang, while JICA experts, both long- and short-term experts, have provided technical support with the project activities as requested.

The Indonesian side has also placed the significance to strengthen the function of the DIC Subang, and demonstrated the strong commitment by increasing the budget of the DIC Subang from 5.6 billion IDR in 2010 to 14.4 billion IDR in 2014. The Project trained to incorporate the project-led active surveillance into daily surveillance activities of the DIC Subang in light of future sustainability. Further, even the project-led seminars and field trip requiring overnight stay, those were conducted as joint hosting with the DIC Subang to share the budget. The DIC Subang has bore travel cost and daily allowance for their staff as well as meeting costs that JICA could not bear. Most of reagents and consumables were procured by the DIC Subang; to be more specific, contribution percentage of the Indonesian side for the procurement was 82% for 5 years from 2011 to 2015. The Government of Indonesia constructed dormitory for trainees, Veterinary Public Health Laboratory, generator hut and building for training and enlargement of poultry houses by their own budget.

As was described above, DIC Subang has been implemented the project activities with autonomy and demonstrated high financial commitment throughout the project period.

CHAPTER 4 EVALUATION RESULTS

4.1 Relevance

The relevance of the Project is highly maintained as of the time of the Terminal Evaluation

- 1) Consistencies of the Project Purpose with the Indonesian livestock and animal health policies and the needs of the Target Group

With regard to the consistency of the Project Purpose with the Indonesian livestock and animal health policies, the needs of the target groups, and Japan's aid policies that were confirmed at the Ex-ante Evaluation of the Project conducted in October 2010, there has not been any alteration of the Indonesian livestock and animal health policies since then as well as the needs of the target group. The Team can therefore conclude that there has not been any change that may have undermined the relevance of the Project, and therefore the consistencies have been maintained at the time of the Terminal Evaluation

In particular, as were confirmed at the time of the ex-ante evaluation and the mid-term review of the Project, "*the Livestock Industry Development Mid-term Plan (2010-2014)*" stated that the establishment of novel system for animal health program is one of the prioritized areas to address as the decentralization progresses in Indonesia. The Project is assisting the DIC Subang to enhance the function of disease investigation for the betterment of animal and livestock health in the West Java region as the Project Purpose through the achievement of 4 Outputs as follows: reinforcement of testing and diagnostic capacity (Output 1); reinforcement of passive surveillance (Output 2); reinforcement of active surveillance (Output 3); and strengthening collaborative relationship and capacity of the stakeholders such as DINAS and type-B/C laboratories (Output 4). For this reason, the Project Purpose is still consistent with related policies in Indonesia as of the time of the Terminal Evaluation. Though the next policies for the livestock industry development after 2015 is still in the process of preparation, the officers of DGLAHS clearly stated that the significance of animal and livestock disease control would be maintained in the next policies. In this context, DGLAHS has been putting political efforts for effective animal and livestock disease control; in particular, the Integrated Animal Health Information System (ISIKHNAS) is developed and in operation from 2012, and the roadmap for the eradication of brucellosis by 2025 was published.

After the detection of human infection cases of Avian Influenza H5N1 (HPAI) in July 2005 in Indonesia, AI human cases has been reported continuously and resulting in 159 cases of the world's highest number of human fatalities as of the 10th of August, 2012. The situation raises deep concern about emerging novel influenza virus attributed to the mutation of AI virus in the process of spread of HPAI human infection, and pandemic not only in Indonesia but also all over the world. Thus, it is required not only Indonesia but also international society to minimize the social influence of novel influenza through the early detection and rapid response. Since HPAI is a zoonosis, the implementation of surveillance and early containment should be done not only for human cases but also for animal and livestock cases to realize ideal HPAI control. The Project is designed to enhance the capacity of the DIC Subang that bears a part of responsibility of infectious disease control in Indonesia, and intended to enhance disease surveillance capacity for the National Priority Diseases including HPAI through the project-led active surveillances targeting bovine brucellosis and abortion in cattle (brucellosis is also listed in the National Priority Diseases). JICA's "Country Analytical Work" for Indonesia (2012) states that the significance of assistances to raise the capacity for responding global issues including infectious disease control. For these reasons, the consistency of the Project Purpose with Japan's aid policies has been maintained as of the time of the Terminal

Evaluation, and the Project Purpose is considered to meet the international demands in terms of the response for the global issues.

2) Appropriateness of Implementation Method

① Appropriateness of Assistance Approaches

The Project assisted the DIC Subang to increase and/or strengthen the testing and diagnostic capacity (Output 1) as well as passive and active surveillances (Output 2 and 3), all of which are the functions to have as an investigation center. These approaches cover necessary elements to achieve the Project Purpose of the improvement of diagnostic services in quality and quantity at the DIC Subang with no logical error.

On the other hand, in order to realize the enhancement of animal and livestock disease control in West Java region (Overall Goal), it is inevitable for the DIC Subang to closely work together with the stakeholders such as DGLAHS, DINAS, type-B/C laboratories and dairy cooperatives. To this end, the Project set the project activities to enhance the collaboration with the stakeholders through the Output 4 (the activities of awareness raising and technical assistances) in the PDM. For these reasons, the assistance approaches that the Project applied is considered to be appropriate.

② Special consideration for gender issues, social grades, environment, ethnic groups, etc.

There is no specific activity that requires special consideration for gender issues, social grades, environment, ethnic groups, etc.

4.2 Effectiveness

The effectiveness of the Project is considered to be high.

1) Probability of Achievement of Project Purpose

As described in the Achievements of Outputs and Project Purpose, necessary instruments as well as equipment were installed into the DIC Subang, and testing and diagnostic techniques were transferred by JICA experts and a total of 41 diseases are diagnosable at the DIC Subang as of the time of the Terminal Evaluation (Output 1). Under the Output 2, the Project established the system to provide testing and diagnostic services as the passive surveillance with enhancing capacity of the staff members. By following the progresses of Output 1 and 2, the capacity of the DIC Subang to implement whole active surveillances (targeting 10 to 12 diseases) was reinforced through the project-led active surveillance targeting bovine brucellosis and abortion in cattle (Output 3). In addition, the Project also establishment the system to conduct information sharing, awareness raising and technical assistances geared to DINAS, type-B/C laboratories, dairy cooperatives, etc. in light of realization of effective animal and livestock control in West Java region in future. As the results of those achievements, it is deemed that the DIC Subang had far improved diagnostic services for animal and livestock in quality and quantity (Project Purpose), and the OVIs to measure the achievement level of Outputs and Project Purpose were fulfilled in general. Further, it is notable that the DIC Subang gained the accreditation of ISO9001 and the certification of ISO17025, implying quality of the said achievement is secured even after the end of the project period. Therefore, the Project has achieved its purpose as of the time of the Terminal Evaluation.

The capacity of each staff member of the DIC Subang had been fostered through the implementation of the project activities; as a consequence, the DIC Subang has increased the number of diagnosis

substantially without reducing the quality not only of testing services but also of other important tasks of the DIC Subang such as disease surveillance and awareness raising/technical assistance activities. As the byproducts, the Project has gained academic achievements through the implementation of the project activities. Therefore, it is deemed that human resource development was successfully made by mutual efforts between the Indonesian and the Japanese sides. The DIC Subang might still be young as a DIC in Indonesia; likewise, the median age of the veterinarians and paravets of the DIC Subang is 37 and 32.5 years old, respectively. Therefore, it is desired that the staff members of the DIC Subang will continue efforts enthusiastically to seek novel techniques and knowledge even after the end of the project period. Especially for the testing and diagnostic techniques under the Output 1, the DIC Subang can provide testing and diagnostic services for all the planned techniques; nevertheless, some tests are performed by test kits or simple antibody detection tests using ELISA. Further, several diseases cannot be isolated and identified whereas serological testing can be done for it. In order to conduct comprehensive diagnoses, even simple diagnoses, the staff should accumulate knowledge and experiences of diagnostics as well as obtain novel diagnostic techniques further. These matters can be recognized as challenges to be solved in future.

On the other hand, the Project encountered the problem regarding the quality of samples brought into the DIC Subang to conduct comprehensive diagnoses in terms of insufficient parts of organs and/or fluid, improper sample preservation methods and insufficient epidemiological information as was described in the Achievement of Output 2. To counter this, the DIC Subang took a countermeasure to introduce a new operational system from January 2015. Since appropriate operation of the system for comprehensive diagnosis is inevitable for ideal control of animal and livestock diseases in future, this issue will be discussed in the “*Impact*” section hereafter.

2) Important Assumptions for the Achievement of Outputs and Project Purpose

- ① Current status of the important assumption of “*The staffs of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period*” for the achievement of Outputs

One (1) veterinarian staff of the DIC Subang who had participated the Training in the Third Country resigned the post to move other organization as of the time of the Terminal Evaluation. As of the time of the Mid-term Review, the DIC Subang was suffering from the shortage of staff and assigned several technical staff to the general affairs section doubled as their laboratories; however, the DIC Subang increased the staff thereafter, and the situation was almost resolved as of the time of the Terminal Evaluation. On the other hand, the Project encouraged the staff to share and disseminate the knowledge and techniques through a total of 65 diagnosis seminars (133 presentations). Further, the DIC Subang carried out the quality management system in conformity to the requirements of ISO9001 including the development of SOPs for testing and diagnostic techniques that were established in the DIC Subang. As a result of those efforts, the influence of staff turnover on the achievement of Outputs was kept to the minimum.

- ② Current status of the important assumption of “*Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project*” for the achievement of Outputs.

As was described above, in spite of the staff shortage in the DIC Subang, the number of staff who can perform various tests were increased by the technical transfer of the Project, and even the number of diagnosis was greatly increased without decreasing quality of services. Moreover, the budget for the DIC Subang has increased from one year to the next, and that in 2015 was 3-fold higher than that in 2011. As a result of the financial contribution of the Indonesian side, the costs for procuring consumables including reagents were greatly covered

by the DIC Subang.

- ③ Current status of the important assumption of *“The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously”* for the achievement of Outputs.

As was described in the *“Relevance”* section, there was no major alteration of measures and policies for animal and livestock disease control enough to affect the achievement of Outputs or project Purpose throughout the project period.

3) Contributing Factors for Effectiveness

① Academic Achievements through the Project Activities

Through the implementation of the daily duties, the Project has published 6 scientific papers of which first authors are Indonesian counterpart personnel in peer-reviewed international journals. The staff of the DIC Subang had good experiences to summarize the results into a scientific article by undergoing a process of hypothesis formation, determination of research method/protocol, data collection and analyses, and interpretation of the results through the said research activities. This will contribute the infectious disease control in Indonesia; simultaneously, will great help to conduct active surveillance by following same process from the planning to the summarization of results into a report.

② Willingness of Indonesian Counterpart Personnel for New Knowledge and Techniques

Through the implementation of the project activities, the Project has published six (6) scientific journals of which first authors were the staff of the DIC Subang in peer-reviewed international journals. The said staff had acquired experiences of a series of process academic research; hypothesis formulation; determination of research procedure; data collection; analysis and interpretation of results; and summarization of outcomes into an article. These efforts and experiences is anticipated to contribute the infectious disease control in Indonesia and simultaneously, to be a good help for the effective management of active surveillance in terms of similar process from planning (hypothetical formulation) to summarization of analysis results into the reports (academic articles).

4) Hindering Factors Against Effectiveness

No major hindering factor against effectiveness was observed throughout the project period.

4.3 Efficiency

The efficiency of the Project is high in general

1) Progress Management of the Project Activities

After the commencement of the Project, instruments and equipment necessary for the project activities were procured and installed to the DIC Subang, and in parallel, the baseline survey was conducted to grasp the actual situation regarding animal and livestock control in the region, operational system, the capacity of testing and diagnostic services and so on. On the basis of the results of the survey, the Project developed the *“Project Technical Target Sheet”* at each laboratory, stipulating techniques and services to be achieved by the year of 2015. The technical transfer activities were progressed in accordance with the Sheet and the Plan of Operation of the Project, and

as a result, the basic technologies were transferred to the DIC Subang in general. After the time of the Mid-term Review, those techniques were consolidated through the daily duties, and other project activities such as active surveillance as well as awareness raising/technical assistances also progressed steadily.

On the basis of the guidance from JICA experts, the monthly meeting was launched after the commencement of the Project. Though there is not regular meeting for the management of the project activities, it is considered that information sharing and progress management were properly made through occasional consultation and meetings, as well as project monthly report.

2) Beneficial Utilization of Provided Equipment and Materials

Testing and diagnostic instruments and equipment provided under the support of the project were properly used as intended though the frequency in usage is varied with the tests or diagnosis performed. Those instruments and equipment were properly maintained on a daily basis in accordance with the stipulation of ISO. With regard to the facilities, the DIC Subang is also doing maintenance activities on the basis of the maintenance manual that was prepared by a JICA short-term expert. However, some instrument such as Microtome and Gas Chromatography are put in the waiting list for repair. Meanwhile, instrument, equipment and facilities in the DIC Subang are relatively new and working properly at the current moment. In order to maintain the lifespan of them, the DIC Subang is required to continue the preventive maintenance, and also, to take the cost of renewal especially for testing and diagnostic instruments into consideration hereafter.

3) Beneficial Utilization of Knowledge And Skills Acquired at The Training in Japan or Third Countries

A total of 16 Indonesian counterpart personnel have participated the Training In Japan as of the time of the Terminal Evaluation. Those personnel effectively utilized knowledge and techniques acquired at the Training not only to the project activities but also to their daily duties.

On the other hand, the knowledge and techniques acquired at the Training in Japan and hands-on training at the DIC Subang were shared not only with other staff of the DIC Subang but also with the external stakeholders. Moreover, the Project has developed SOPs for testing and diagnostic procedures established through the said trainings to consolidate them at the DIC Subang.

4) Contributing Factors for Efficiency

① Beneficial Utilization of Existing Resources

The facility of the DIC Subang was constructed by the support of the Japan's Grant Aid Project in 2009. The Project was implemented in the DIC Subang and fully utilized existing facilities, equipment and instruments.

Moreover, the Project was designed to utilize local resources (professors of universities, etc.) to give lectures at seminars and workshops. The list of lecturers is updated occasionally. In addition, the Project utilized manuals and references developed by other JICA Technical Cooperation Project to elaborate 2 types of manuals in this Project (see the Activity 4-1).

② Implementation of the Project Activities in consideration of Daily Duties in the DIC Subang

With regard to technical transfer of basic techniques for testing and diagnosis, improvement of operational system for testing and diagnosis, activities for awareness raising and technical assistances, all were regarded as daily duties of the DIC Subang. Likewise, the project-led active surveillances targeting bovine brucellosis as well as abortion in cattle were also

implemented in light of future sustainability, and conducted as a part of active surveillances conducted in the DIC Subang as routine activities. It is considered that this assistance approach has contributed to enhance the sustainability and simultaneously, efficient implementation of project activities.

The activities of awareness raising and technical assistances under the Output 4 were also conducted by taking opportunities of field activities of active surveillances jointly conducted with the stakeholders under the Output 3. This case is also considered to be a contributing factor for effectiveness of the Project.

③ Cost Sharing of Project Activities

Ownership of the Indonesian organizations to the Project is high, and best of all, they demonstrated high financial committed to the Project. This can be one of the reasons for strong commitment of the Indonesian organizations to the Project, resulting in an ideal cost sharing for the project activities as a joint project in addition to the independent-minded project operation.

5) Inhibitory Factors against Efficiency

As was described in the “3) *Beneficial Utilization of Knowledge And Skills Acquired at The Training in Japan or Third Countries*” section above, one (1) counterpart personnel who had participated in the Training in the Third Country was transferred to other DIC. It is considered that this case somewhat reduced the efficiency of the Project from the viewpoint that the input of the Project has not fully turned into the achievement of Outputs. The achievement of Outputs, nevertheless, has not been influenced by that incidence eventually.

6) Others

Some young JICA short-term experts were not always well experienced for working in abroad. Some young staff in the DIC Subang had difficulties to communicate with them in English. Accordingly, they sometimes encounter the difficulties to make presentation and technical transfer in English. However, necessary techniques and knowledge were properly transferred by the mutual efforts eventually, and negative influence has not been caused on the achievement of Outputs.

4.4 Impact

The following positive impacts are confirmed and/or expected by the implementation of the Project.

1) Probability of Achievement of the Overall Goal

As has been described, the Project realized the enhancement of diagnostic function of the DIC Subang in terms of the number of diagnosable diseases and the increase of testing or diagnosis techniques, and simultaneously, the function of passive surveillance are strengthened successfully. The quality of testing and diagnostic services as well as the appropriateness of facility management as a testing agency is deemed to be guaranteed internationally since the DIC Subang has gotten certified by the ISO. Meanwhile, it is inevitable to enhance the capacity of stakeholders such as type-B/C laboratories further for effective and efficient animal and livestock diseases throughout the region; to this end, the Project assisted the DIC Subang to consolidate cooperative relationship amongst the parties in charge of animal and livestock health in West Java region and to establish the foundation to continue awareness raising and technical assistance activities.

As was described in the Achievement of Output 2, the testing and diagnosis system was established in the DIC Subang in general by the mutual efforts; nevertheless, the Project encountered some challenges, to be specific, the quality of specimens brought into the DIC Subang in terms of insufficient epidemiological information, insufficient part of organs or fluids collected as specimens, improper sample preservation method, and so on, for implementing comprehensive analyses. As a countermeasure, the DIC Subang has applied a novel SOP as follows: the samples that do not meet the requirements for comprehensive diagnosis are sent back to clients with instruction with regard to the parts of organs/fluids for sampling, proper preservation methods, etc. and put it into effective in January 2015. It might be concerned about the increase of cost burden for clients for the said operation; however, the DIC Subang has it in mind to avoid hesitation of clients over the cost burden by instructing them to report the incidence (only dead cases) to the DIC Subang via DINAS. On the basis of the report from the DINAS, the DIC Subang will be dispatched to the client for sampling as a part of disease investigation in the field. This measure has been running for 4 months to date without major trouble; nevertheless, the DIC Subang should keep an observant eye on it in parallel with steady implementation of awareness raising and technical assistance activities.

Meanwhile, as the technical transfer of testing and diagnostic techniques progresses, the number of diagnosis at the DIC Subang has substantially increased from approximately 15,000 to 61,000 in 2010 and 2014, respectively. This number is supposed to be approaching the capacity limit of the DIC Subang. In light of the achievement of the Overall Goal of the Project (effective animal and livestock disease control in West Java) after the end of the project period, it is considered necessary to increase the number of comprehensive diagnosis as passive surveillance at the DIC Subang and to strengthen the activities for awareness raising and technical assistances geared to the stakeholders. Having said that, it seems distant to increase the number of diagnosis further in consideration of the capacity limit of the DIC Subang. On the other hand, the capacity of type-B/C laboratories was also improved through the collaborative work with the Project to a certain extent enough to provide testing and diagnostic services for major animal and livestock diseases. Discussions on tasks sharing amongst testing facilities has just commenced at the coordination meeting, but already, some DINAS and type-B laboratories has independently started field activities of active surveillance unaccompanied with neither the DIC Subang nor JICA experts. It is desired that such task sharing will further be enhanced after the end of the project period.

On the other hand, as was described in the “*Effectiveness*” section, the capacity of the staff of the DIC Subang has improved to an expected level. However, animal and livestock sciences as well as diagnostics are making steady progress. During the project period, the staff of the DIC Subang has many opportunities to receive guidance from JICA experts by means of hands-on training and/or email. The opportunities of the staff to touch latest techniques and technologies might be limited after the end of the Project. The DIC Subang is planning to continue staff training even after the end of the project period; nevertheless, the staff should continue efforts to seek latest techniques and technologies by means of Internet or others. Meanwhile, animal and livestock diseases contain many zoonotic diseases like AI. Therefore, it seemed necessary to work more closely with the public health sector to realize effective animal and livestock disease control.

2) Other Positive Impacts

① Academic Achievements through the Project Activities and Contribution to the Testing and Diagnostic Services

After the commencement of the Project in 2013, academic research was added to the functions of the DIC Subang; accordingly, DGLAHS as well as the DIC Subang is encouraging the staff to conduct research activities through their daily duties and to land a degree. As of March 2015, a total of 6 staff members are studying in the bachelor, master or

Ph.D. courses in universities. Meanwhile, the Project had yielded many academic achievements through the project activities as follows: isolation of cryptosporidium from cattle (1st case in Indonesia) and subsequent success in the experimental infection with it in mice (3rd case in the world); isolation of Akabane virus (1st case in Indonesia); Evaluation of a fluorescence-based method for anti-babesial drug screening; and others (see Annex 5.), and published them in international journals. These academic achievements are anticipated to contribute the daily duties of DICs directly, and enhance the capacity of the DIC Subang as a testing and diagnostic facility. For instance, the DIC Subang can investigate the incidence of anti-Akabane virus antibody in cattle by neutralization reaction to the virus isolated. Since the academic research is expected to contribute to better animal and livestock health not only in West Java but also in the whole country, it is desired that the DIC Subang will continue these research activities even after the end of the project period.

② Development of Precise Disease Map

Before the commencement of the project, epidemiological data with regard to the incidence of animal and livestock diseases was gathered not only by the DIC Subang but also by other testing or inspection organizations such as type-B/C laboratories and animal quarantine offices, and the reliability of analysis results were not fully secured because of some problems in operation such as duplication of investigation areas and/or subject animal. After the commencement of the Project, forms and norms used in the jurisdictional area of the DIC Subang were unified, and the data was accumulated in the DIC Subang. As the result, the reliability of the disease map was far improved enough for DINAS to come up with activity plan on the basis of it. For these reasons, it is expected that the animal and livestock disease control in West Java will be more effective and efficient using such disease map hereafter.

③ The Reinforcement of Coalition of the DIC Subang with Stakeholders such as DINAS, Type-B/C laboratories, PUSKESWAN and Dairy Cooperatives

The DIC Subang has reinforced the cooperative relationship with external stakeholders through the collaborative activities of active surveillance as well as the activities for awareness raising and technical assistances. The Project has focused on the functional improvement of the DIC Subang. In light of effective animal and livestock disease control in future, nevertheless, it is inevitable to reinforce the capacity and coalition amongst the stakeholders. For this reason, the reinforcement of the coalition is anticipated to provide positive influence on animal and livestock disease control in future. As of the time of the Terminal Evaluation, indeed, coordination of organizations in charge of surveillance was appropriately done at biannual coordination meeting, of which establishment was supported by the Project. The said duplication of sampling isn't happened any longer. Moreover, budget sharing amongst stakeholders for awareness raising and technical assistance activities is also effectively discussed at the coordination meetings. This can be recognized as a currently-observable positive impact on effective and efficient implementation of infectious disease control.

④ Capacity Development of Indonesian and Japanese Young Human Resources

The Project encouraged the staff of the DIC Subang to raise English proficiency, and gave them opportunities to give presentations in English at seminars and workshops. As a result, their English proficiency was improved especially in young staff and became capable of accessing scientific articles and reference documents written in English easier than before; thus, it is expected for them to enhance the capacity further hereafter. On the other hand, the young Japanese who were dispatched to Indonesia as JICA short-term experts had gained

working experiences in abroad, and is expected that they raised capacity as technologists to deal with exotic diseases.

3) Negative Impact

No negative impact attributed to the implementation of the Project was observed as of the time of the Terminal Evaluation.

4.5 Sustainability

Self-sustainability as well as self-deployment of the benefits provided by the Project can be expected to some extent as of the time of the Terminal Evaluation.

1) Political and Institutional Aspects

As was described in “*Relevance*” section, DGLAHS has been putting political efforts to the control of animal and livestock diseases; accordingly, established the integrated information for disease surveillance and presented a roadmap for the eradication of bovine brucellosis. Even though DGLAHS is still on the preparation work for the next “*the Livestock Industry Development Mid-term Plan*”, however, they clearly stated that the significance of animal and livestock disease control under the umbrella of livestock industry. In addition, the MOA expected the DIC Subang to function as a training facility, and constructed a dormitory by their own budget for overnight stay. For these reasons, the political commitment is expected to be continued for the reinforcement of animal and livestock disease control in West Java (Overall Goal) after the end of the project period.

On the other hand, the Project selected brucellosis as a target disease of the project-led active surveillance, and showed the prevalence of it by investigating several pilot sites. In order to realize brucellosis-free, there are many agenda remaining such as the development of institutions regarding compensation for slaughtering infected animals and importation of disease-free animals. However, it is anticipated that the DIC Subang will help the stakeholders to discuss about the proper measure to achieve brucellosis-free by providing accurate information regarding its prevalence and incidences continuously.

2) Financial Aspects

As was described in the “*Effectiveness*” section, both the Indonesian and the Japanese sides went ahead with the project activities such as training seminars and disease surveillance requiring overnight stay under the clear cost sharing in consideration of future sustainability. Meanwhile, the diagnostic techniques transferred by JICA experts are used for their daily testing and diagnostic services, and the same goes for the active surveillance on bovine brucellosis and abortion in cattle. Therefore, those activities are highly expected to be continued by their own budget after the end of the project period. In addition, more than 80% of costs for procuring consumables including reagents were covered by the budget of the DIC Subang, and the operational budget of the DIC Subang were tripled from 2011 to 2014. For these reasons, the financial sustainability is anticipated even after the end of the project period.

The DIC Subang is advancing the coalition with the stakeholders such as type-B/C laboratories and PUSKESWAN. Since activity plans with cost sharing are discussed amongst the stakeholders at the coordination meeting, financial sustainability is anticipated not only at the DIC Subang but also at partner agencies that the Project needs to work with for the achievement of the Overall Goal.

3) Technical Aspects

As was describes at the “Effectiveness” section, SOPs were prepared for the testing and diagnostic techniques and services that were established at the DIC Subang, and the quality of the testing and diagnostic services are secured in accordance with the stipulation of ISO. Though the civil-service workers including the staff of the DIC Subang are subject to transfer to a certain frequency, the technical sustainability is anticipated to be highly maintained under such quality management system. Having said that, the testing and diagnostic technologies are ever-improving; therefore, the staff should continue the efforts to keep in touch with novel technologies. Needless to say, it is important that the DIC Subang is required to discuss about the measures to consolidate the testing and diagnostic techniques transferred by JICA experts in consideration of staff turnover.

Meanwhile, as was described at the “Impact” section, the IC Subang has just started a countermeasure to perform comprehensive diagnosis as the passive surveillance. Consequently, it is expected that samples are properly collected and preserved to meet the requirements to perform comprehensive diagnosis. Having said that, it is necessary for the DIC should steadily continue the activities of awareness raising and technical assistances toward technical staff at type-B/C laboratories and PUSKESWAN in parallel. A staff of the DIC Subang at a managerial level declared to continue those activities after the end of the project period at the time of interviewing with the Team. Meanwhile, DINAS has charge of awareness raising activities dairy farmers. Since it is obvious that it will take long time and need efforts to increase knowledge and subsequently alter attitude and practice for epidemic prevention and to cover a lot of dairy farmers scattered widely in their jurisdiction areas. To this end, DINAS is required to continue efforts steadily, and the DIC Subang and type-B/C laboratories are desired to continue the support to DINAS as heretofore.

DIC Subang is supposed to prepare the plan of mastering diagnostic techniques in each laboratory at every half-decade, and is under a preparation work of them at the time of the Terminal Evaluation.

4) Comprehensive Sustainability

Nevertheless there is a limitation in extrapolating the sustainability at the time of the Terminal Evaluation, securing the comprehensive sustainability within the period of the Project would be anticipated to some extent due to the reasons mentioned above.

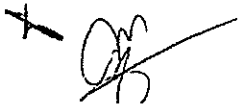
4.6 Conclusion

As the results of the technical cooperation, the number of diagnosable disease was increased in the DIC Subang (Output 1), and the system was established to provide testing and diagnostic services as the passive surveillance with enhancing capacity of the staff members. Further, their capacity to implement whole process of active surveillances (planning, implementation, analysis and feedback) was reinforced through the project-led active surveillance targeting bovine brucellosis and abortion in cattle. In parallel, the coalition of stakeholders was also established for the effective control of animal and livestock diseases in the region (Output 4). In addition to those achievements, it is notable that the DIC Subang was accredited by the ISO, implying that the quality management of testing and diagnostic services of the DIC Subang is conducted in conformity to the international standards. Therefore, it is deemed that the DIC Subang had far improved diagnostic services for animal and livestock in quality and quantity (Project Purpose) as of the time of the Terminal Evaluation.

As the Joint Terminal Evaluation Team analyzed the performance and achievements of the Project with the Five Evaluation Criteria, “Relevance”, “Effectiveness”, “Efficiency” and “Sustainability”

were found to be high in general. Besides, the Team observed several positive impacts derived from the Project with regard to the academic achievements as well as the younger human resource development.

Meanwhile, concerning to the “*Impact*” of the Project, the feasibility of the achievement of Overall Goal (effective animal and livestock disease control in the region) is anticipated to a certain extent; nevertheless, the Team will present recommendations to relevant parties concerned in Chapter 5.



CHAPTER 5 RECOMMENDATIONS AND LESSONS LEARNT

5.1 Recommendations

1) Maintenance and Enhancement of Knowledge and Techniques

The DIC Subang has far enhanced the capacity regarding testing and diagnostic techniques, passive surveillance, active surveillance and activities for awareness raising/technical assistances for stakeholders. The staff of the DIC Subang should maintain those fruit of the Project properly and even continue the efforts to gain new knowledge and techniques further.

2) Continuation of Awareness Raising and Technical Assistance Activities for the Enhancement of Comprehensive Diagnosis System

In order to realize effective animal and livestock disease control in the region, it is required that the comprehensive diagnosis system is functioned properly. However, there were some cases that comprehensive diagnosis could not be performed due to the problems in sample quality, in terms of improper parts of organs and/or fluid collected, improper sample preservation and insufficient epidemiological information. In this regard, the DIC Subang had started a countermeasure to improve the situation on the basis of new SOP. The DIC Subang, nevertheless, should continue the activities of awareness raising and technical assistances to obtain samples having sufficient quality for comprehensive diagnosis.

3) Eradication of Zoonotic Animal Diseases

In order to realize brucellosis-free, there are many agenda remaining such as the development of policies whether in central and local governments regarding compensation for slaughtering infected animals and importation of disease-free animals. Under the situation, the DIC Subang should continue the efforts to provide accurate information on the incidence as well as prevalence, in order to help the stakeholders to take appropriate measures for it. Additionally, the Team recommends the high authority in the central and local governments to exert strong commitment on eradicating zoonotic animal disease such as brucellosis and rabies to utilize the results from the Project optimally.

4) Maintenance and Management of Testing Instruments, Equipment and Facilities

The DIC Subang is performing proper management of laboratories and facilities in accordance with the requirements of ISO. In this regard, the DIC Subang should continue the preventive maintenance to delay the deterioration of testing instruments, equipment and facilities, and should discuss about the budget for renewal, especially for the testing and diagnostic instruments in advance.

5) Revision of PDM

With regard to the Objectively Verifiable Indicator to measure the achievement level of the Overall Goal (OVI-1) of *“the number of test samples for animal disease diagnoses at DIC Subang in West Java region increases 10% by the year of 2018 in comparison with the number in 2015”*, the number of diagnosis performed is approximately 61,000 in the year of 2014, approaching the capacity limit of the DIC Subang. To counter this, the DIC Subang is discussing with the stakeholders to share the simple tests with type-B/C laboratories in consideration of the enhancement of diagnostic capacity in the whole region for effective and efficient animal and livestock disease control. Meanwhile, in order to raise the diagnostic capacity in collaboration with type-B/C laboratories, the DIC Subang should conduct the activities of awareness raising and technical assistances steadily as described in the OVI-3 of *“the number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java region goes up 20% by the year of 2018 in comparison with the number in 2015”* For these reasons, it is considered that OVI-1 and OVI-3 should be evaluated in

an integrated manner. Moreover, the Joint Terminal Evaluation Team suggests that the unit of the target value of the OVI regarding the performance of tests should be changed from *“the number of test samples”* to *“the number of tests”* in consideration that one sample might be subject to multiple tests and the DIC Subang counts the number of tests practically due to the difficulty in grasping the performance with the number of samples.

Concerning the above-mentioned matters, the Team proposes to put a new OVI of *“the number of tests performed for animal disease diagnoses at the DIC Subang, type-B/C laboratories and PUSKESWAN in the jurisdiction area of the Center increases 10% by the year of 2018 in comparison with that in 2015”* to measure the achievement level of the Overall Goal (See Annex 17)..

5.2 Lesson Learnt

The Project has implemented a series of activities such as improvement of diagnostic capacity and operation system as a part of routine work of the DIC Subang in light of future sustainability. In particular, the project-led pilot site activities targeting bovine brucellosis as well as abortion in cattle were conducted as a part of active surveillances routinely conducted in the DIC Subang. This assistance approach had allowed the Project and the DIC Subang to secure budget and promote cooperation easily, and contributed to enhance the sustainability and efficient implementation of project activities.

In this wise, the project activities should be conducted in the operation system of duties at the counterpart organization(s) in light of the technical and financial sustainability. In this regard, however, project activity/-ies that should be newly started or continued as new operations of counterpart organization(s), the project should have done a cost analysis of them including necessary human resources by the end of the cooperation period.

END

Schedule of The Terminal Evaluation

Annex 1

As of 25, May 2015

Date		Japanese Members				Hotel	
		JICA Leader	JICA Planning & Management	Veterinary Epidemiology	Livestock Disease Diagnosis		Evaluation & Analysis
7-May	Thu					Move from Tokyo to Jakarta	Jakarta
8-May	Fri					8:30 - 9:00 Visit to JICA Office 9:00 - 10:30 TV Meeting 11:00 - 14:00 Meeting with JICA Expert	Jakarta
9-May	Sat					Documentation	Jakarta
10-May	Sun					Documentation	Jakarta
11-May	Mon					10:00 - 11:00 Interview with DGLAHS 13:00 - 14:00 Interview with B type Labo (Jakarta Province) 14:00 - 19:00 Move from Jakarta to Subang	Subang
12-May	Tue					8:00 - 16:00 Interview with DIC Subang (Center President / Executives / Maintenance Staffs / Respective Laboratory Staffs.)	Subang
13-May	Wed					8:00 - 12:00 Interview with DIC Suban (Respective Laboratory 13:00 - 16:00 Site visit of DIC Suban	Subang
14-May	Thu					9:00 - 17:00 Move from Suban to Serang (Banten Province)	Serang
15-May	Fri					9:00 - 10:00 Interview with DINAS Banten 11:00 - 12:00 Interview with B type Labo (Banten) 13:00 - 16:00 Move From Serang (Banten Province) to Jakarta	Jakarta
16-May	Sat					Documentation	Jakarta
17-May	Sun					Move from Tokyo to Jakarta Documentation	Jakarta
18-May	Mon					8:30 - 10:00 Visit to DGLAHS Visit to JICA Office 10:00 - 11:30 Interview to the Head of DIS Subang : Ms.Liliak Indrayani 17:30 - 18:00 Visit to JICA Indonesia Office	Jakarta
19-May	Tue					8:00 - 12:30 Move from Jakarta to Subang 13:00 - 16:00 Interview with DIC Subang (Center President / Executives / Respective Laboratory Staffs.)	Subang
20-May	Wed					8:00 - 10:00 Move from Subang to Lembang (West Jawa Province) 9:30 - 11:00 Interview with KPSBU Lembang (Dairy Cooperative) 11:00 - 12:30 Site Visit to dairy farmers (2 farmers : Mr.Ermin/ Mr. Diki) 14:00 - 15:00 Interview with B type Labo (West Jawa Province) 15:00 - 17:00 Move from Lembang (West Jawa Province) to Subang	Subang
21-May	Thu					8:00 - 12:00 Tour of DIC Subang facilities & Interview with DIC Subang researchers. 13:00 - 15:30 Check the contents of the terminal evaluation report within JICA Evaluational Team	Subang
22-May	Fri					8:00 - 11:30 Joint review team meeting (Prepare draft of JTER) 14:00 - 19:00 Move from Subang to Jakarta	Jakarta
23-May	Sat					Documentation	Jakarta
24-May	Sun					Documentation	Jakarta
25-May	Mon					9:00 - 15:00 Joint review team meeting (Prepare final draft of JTER and MM) 15:00 - 16:00 Signing on the JTER	Jakarta
26-May	Tue					9:00 - 12:00 JCC (Signing on MM) 14:00 - 15:00 Report to JICA Office 21:25 Leave from Jakarta	Airplane
27-May	Wed					Arrive in Tokyo	

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Project Design Matrix (PDM)

Project Name Project on Capacity Development of Animal Health Laboratory
 Target Group Staff of Diseases Investigation Center (DIC) Subang
 Project Duration Four (4) years, July 17, 2011 – July 16, 2015
 Project Site DIC Subang
 Implementing Agency Directorate of Animal Health DGLAHS-MoA and JICA

Annex 2

Date: May 28, 2013
Version 2

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
<p>Overall Goal</p> <p>Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.</p>	<p>1 Number of test samples for animal disease diagnoses at DIC Subang in West Java region increases 10% by the year of 2018 in comparison with the number in 2015.</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p> <p>3 Number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java region goes up 20% by the year of 2018 in comparison with the number in 2015.</p>	<p>1 Monitoring Report</p> <p>2 Monitoring Report</p> <p>3 Monitoring Report, Survey on target groups in West Java region by DIC Subang (Terminal evaluation survey and final survey)</p>	
<p>Project Purpose</p> <p>The quality and quantity of animal disease diagnosis service at DIC Subang are improved.</p>	<p>1 The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project.</p> <p>2 The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project.</p> <p>3 The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year.</p> <p>4 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.</p>	<p>1 Monitoring Reports</p> <p>2 Diagnosis records at DIC Subang</p> <p>3 Observation at the time of mid-term review and terminal evaluation.</p> <p>4 Monitoring Reports, The results of questionnaire survey on users at the time of mid-term review and terminal evaluation (questionnaire survey to be done by the project monitoring activity 2-5).</p>	<p>The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously.</p> <p>Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project.</p>
<p>Outputs</p> <p>Output 1 The DIC Subang staff obtain basic and systematic diagnosis for animal diseases.</p> <p>Output 2 The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.</p>	<p>1-1 The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013.</p> <p>2-1 More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory.</p> <p>2-2 Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.</p>	<p>1-1 The results of examination by the Project</p> <p>2-1 Records of comments for diagnosis results</p> <p>2-2 The results of certification by the Project</p>	<p>The staff of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period.</p>

- 118 -

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<p>Output 3 The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.</p> <p>Output 4 The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.</p>	<p>3-1 Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.</p> <p>3-2 Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.</p> <p>4-1 DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.</p> <p>4-2 Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.</p> <p>4-3 Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.</p>	<p>3-1 Record of surveys</p> <p>3-2 Records of Recommendations for animal disease control measures</p> <p>4-1 Records of issued Newsletter</p> <p>4-2 The plan and records of awareness and technical support activities</p> <p>4-3 The plan and records of awareness and technical support activities</p>	
<p>Activities Output 1 1-1 The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang. 1-2 Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and target levels of the techniques for each laboratory. 1-3 The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory in DIC Subang. 1-4 The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc. 1-5 The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country. 1-6 The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.</p> <p>Output 2 2-1 The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang. 2-2 The staff of DIC Subang analyzes the current situation of sample submission from the fields. 2-3 The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be planed in Output 4) 2-4 The staff of DIC Subang conducts the improved diagnostic services. 2-5 The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.</p>		<p style="text-align: center;">Inputs</p> <p><u>Indonesian side</u> 1. Assignment of counterpart personnel 2. Salary, Travel expense, accommodation cost and daily allowance of counterpart personnel 3. Project office space and communication device etc. 4. Budget for operational cost for the Project implementation (electricity etc.) 5. Procurement of Reagents and consumables.</p> <p><u>Japanese side</u> 1. Dispatch of Experts (1) Long-term Experts : - Chief Advisor / Animal Health Administration - Project Coordinator / Animal Health Information - Veterinary Diagnosis / Epidemiology (assigned in half period of the project) (2) Short-term experts: from Japan or from third country Relevant experts in specific subjects of animal health will be dispatched, when necessity arises, for the smooth implementation of the Project within the framework of the Project.</p>	<p>Sufficient budget to conduct the necessary diagnosis is secured by Indonesian side.</p>

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<p>Output 3</p> <p>3-1 The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.</p> <p>3-2 The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.</p> <p>3-3 The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.</p> <p>3-4 The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.</p> <p>3-5 The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feed-back.</p> <p>Output 4</p> <p>4-1 The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java region.</p> <p>4-2 The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-3 The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)</p> <p>4-4 The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-5 The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions.</p>	<p>2. Counterparts training in Japan or in third country</p> <p>3. Provision of machinery / equipment</p> <p>4. Budget for operational cost for the Project implementation</p>	<p>Pre-Conditions</p> <p>-</p>
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Evaluation Grids

Annex 3-1

[Verification of Implementation Process] The Project on Capacity Development of Animal Health Laboratory

Evaluation Item	Evaluation Classification		Criteria	Necessary data and Information	Data Source	Means of Verification	
	Major	Small					
Probability of achievement of the Project	Overall Goal	Whether "Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened" is logically correct as the Overall Goal.	Verification of logical relationship	Verification by the Evaluation Team	① Project documents ② Views of related players	① Document review ② Interview	
		Whether it is expected that the benefit/outcomes derived from the Project is autonomously deployed or disseminated to non-targeted areas after the termination of the Project.	Verification of sustainability	Information indicating their sustainability	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
	Project Purpose	Whether the Project Purpose of "The quality and quantity of animal disease diagnosis service at DIC Subang are improved" is expected to be achieved by the end of the project period.	① Degree of achievement of Objectively Verifiable Indicators (OVIs) ② Comprehensive analysis	① Achievements of OVIs ② Views of related player	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
	Outputs	Whether the Output 1 of "The DIC Subang staff obtains basic and systematic diagnosis for animal diseases" is achieved or expected to be achieved by the end of the project period.	Degree of achievement of OVIs	① Achievements of OVIs ② Views of related players	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
		Whether the Output 2 of "The capacity to provide the customer-oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened" is achieved or expected to be achieved by the end of the project period.					
		Whether the Output 3 of "The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened" is achieved or expected to be achieved by the end of the project period.					
		Whether the Output 4 of "The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites" is achieved or expected to be achieved by the end of the project period.					
	Inputs	Inputs from the Japan Side	Whether JICA Experts were dispatched as scheduled.	Comparison of plan with actual result	Results of Input	① Input records ② Project reports	Document review
			Whether equipment for project activities was provided as planned.				
			Whether C/Ps' training in Japan and/or third countries were implemented as planned.				
Whether local cost from JICA side were implemented as scheduled.							
Inputs from the Indonesian Side		Whether C/Ps were appropriately allocated enough to implement project activities.	Comparison of plan with actual result	① Achievement of Input ② Views of related players	① Input records ② JICA Experts, C/P	① Document review ② Interview	
		Whether office space for JICA experts was provided.					
		Whether local cost from Indonesian side were implemented appropriately.					

[Verification of Implementation Process] The Project on Capacity Development of Animal Health Laboratory

Evaluation Item	Evaluation Classification		Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Small				

Implementation Process	Planned activities	Whether the project activities were implemented as scheduled.	Comparison of plan with actual result	Accomplishment of project activities	Project reports	① Document review ② Questionnaire
		Whether the PDM was updated in accordance with surroundings of the Project under the agreement amongst relevant parties.		Vicissitude of PDMs and its reasons for modification	Meeting minutes of the Joint Policy/Steering Committee (JCC)	① Document Review ② Questionnaire ③ Interview
	Technical transfer	Whether methods and/or approaches of technical transfer were appropriate.		Methods and contents of technical transfer	① Project reports ② JICA Experts, C/P	① Document review ② Interview
	Management system	Who, how and how often the progress of the Project was monitored, and consequent findings were reflected to the operation of the Project.		① Progress monitoring system ② Feedback system	① Project reports ② JICA Experts	① Document review ② Questionnaire
		How the decision-making process for modification of the project activities, assignment of personnel, etc. was.		Process for decision-making	① Project reports ② JICA Experts	① Document review ② Questionnaire
		How the communication and cooperative relationship amongst players in the Project was.		JCC and other meeting	① Project reports ② Views of related players	① Document review ② Questionnaire
		Whether Project information was effectively shared.		JCC and/or other meetings	① Project reports ② Views of related players	① Document review ② Questionnaire
	Ownership and Autonomy	How ownership and autonomy of implementing bodies including C/Ps and beneficiaries were.		Contribution, attitude, etc. for the project activities.	① Project reports ② Views of related players	① Document review ② Questionnaire ③ Interview
	中間レビュー時の 提言へのフォロー アップ状況	[Recommendations 1] Longer assignment of C/Ps to appropriate position in DIC Subang during the project period		Countermeasures taken by the Project and current status	Information from parties and/or persons	① Questionnaire ② Interview
		[Recommendations 2] Systematical collaboration among DIC Subang, provincial and district DINAS including B/C-type Lab		Countermeasures taken by the Project and current status	Information from parties and/or persons	① Questionnaire ② Interview
		[Recommendations 3] Application of new methods introduced by the Project should be referred to the national manual		Countermeasures taken by the Project and current status	Information from parties and/or persons concerned	① Questionnaire ② Interview
		[Recommendations 4] - Revision of OVIs of PDM		Countermeasures taken by the Project and current status	Information from parties and/or persons concerned	① Questionnaire ② Interview
		[Recommendations 5] Implementation of Laboratory Management		Countermeasures taken by the Project and current status	Information from parties and/or persons concerned	① Questionnaire ② Interview
	Problems on implementation process	Whether there were obstacles or problems for the implementation of the project activities.		Contributing and inhibitory factors	① Project reports ② Views of related players	① Document review ② Questionnaire ③ Interview

Evaluation Grids

Annex 3-2

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and information	Data Source	Means of Verification		
	Major	Middle	Small						
Relevance	Priority	Consistency of the Project Purpose with policies for livestock and animal health in Indonesia		Consistency verification	National policies	① Document for livestock and animal health-related policies ② Directorate General of Livestock and Animal Health Services, the Ministry of Ministry of Agriculture (DGLAHS-MOA)	① Document review ② Interview		
		Priority of the strengthening of animal disease diagnosis services in Type-A labs in the policies for livestock and animal health in Indonesia			National policies	① Document for livestock and animal health-related policies ② DGLAHS-MOA	① Document review ② Interview		
		Consistency with Japan's ODA policies and JICA's aid policies	Relativity with prioritized area in Japan's ODA policies		Prioritized area in Japan's ODA policies for Indonesia	Japan's ODA policies for Indonesia	Document review		
			Relativity with prioritized area in JICA's aid policies		Place of agricultural assistance in the JICA's aid policies	Position Paper, Thematic Guidelines, Rolling Plan, etc.	Document review		
	Necessity	Relevance of target group	Consistency of needs of target group with the Project Purpose		① Experiences /performances of C/Ps ② Competency of DIC Subang for testing/diagnostic service provision	① Project documents ② JICA Experts, C/P	① Document review ② Interview ③ Direct Observation		
	Appropriateness of implementation method	Appropriateness of adoption of assistance approach to strengthen the function of DIC Subang for the control of livestock and animal diseases				Background and/or process for selection of assistance approach	① JICA ex-ante evaluation report ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
		Special consideration	Special assidutities for gender issues, social grades, environment, ethnic groups, etc.			Views of related players	① JICA Experts ② JICA HQ	① Document review ② Questionnaire	
		Japan's technical superiority				① Japan's Assistance experiences for livestock and animal health area ② Skills and experiences of experts	① Project documents ② JICA HQ ③ JICA Experts	① Document review ② Interview	
	Effectiveness	Achievements	Status of the achievements of Outputs		Status of the achievements of OVIs for Outputs		① Status of achievements of OVIs ② Project activities and its accomplishments	① Project documents ② JICA Experts, C/P	① Document review ② Interview

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[Five Explanation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Middle	Small				
			<Output 1> Whether the DIC Subang staff obtains basic and systematic diagnosis for animal diseases	Comprehensive confirmation of actual status	Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
			<Output 2> Whether the capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.		Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
			<Output 3> Whether the capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened		Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
			<Output 4> Whether the DIC Subang staff conducts the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.		Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
		Probability of the achievement of the Project Purpose	Whether the quality and quantity of animal disease diagnosis service at DIC Subang is or is expected to be strengthened to an expected extent.	Systematic judgment	① Status of achievements of OVis ② Outputs other than the scope of the project activities	① Project reports ② JICA Experts, C/P	① Document review ② Interview ③ Direct observation
	Cause-and-effect relationship	Whether the Project Purpose was attained as a result of the achievements of Outputs	Whether there was no logical error from the aspect of cause-and-effect relationship.	Verification of logical relationship	Verification by Evaluation Team	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Whether there was any other effective approaches for the achievement of the Project Purpose	Verification of implementation approaches	① Verification by Evaluation Team ② Views of related parties	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
	Contributing and hindering factors	Appropriateness of the important assumptions	Whether important assumptions are appropriate from aspects of current situation.	Confirmation current situation	Verification by Evaluation Team	① Project documents ② JICA Experts, C/P	① Document review ② Interview
			Whether important assumptions are appropriate from aspects of current situation and logical relationship	Verification of logical relationship	Verification by Evaluation Team	① Project document ② JICA Experts, C/P	① Document review ② Interview
		Whether important assumptions are fulfilled.	Confirmation of the current status of "Sufficient budget to conduct the necessary diagnosis is secured by the Indonesian side".		Budget allocation of the Indonesian side to the Project	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
Confirmation of the current status of "The staffs of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period".				Turnover of C/Ps	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview	
	Other expected and/or unexpected external factors		Other expected and/or unexpected external factors	① JICA Experts, C/P ② Project documents	① Interview ② Questionnaire ③ Document review		

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification	
	Major	Middle	Small					
Efficiency	Time resource	Whether Outputs were attained as scheduled.			Progress control of the project activities	① Project documents ② Views of related players	① Document review ② Questionnaire ③ Interview	
	Quality, quantity and timing of inputs	Whether quality, quantity and timing of inputs were appropriate.	Whether the number and period, areas of expertise and timing of dispatch of JICA expert were appropriate.		Comparison of results and plan	① Record of dispatch of experts ② Attitude and performance of experts	① Input records ② Project documents ③ JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Whether types, quantity and timing of installation were appropriate.			① Record of equipment provision ② Utilization status of equipment	① Input records ② JICA Experts, C/P	① Document review ② Questionnaire ③ Direct observation ④ Interview
			Whether equipment and materials provided by the Project are appropriately utilized for achieving Outputs.			① Utilization status of materials ② Input records and operational status	① Project reports ② Input records	① Document review ② Questionnaire ③ Direct observation.
			Whether timing, contents and duration of training in Japan and/or third countries were appropriate, and how the training contributed for the achievement of Outputs.			① Acceptance of trainees ② Views of related parties	① Input records ② Trainees ③ JICA Experts	① Document review ② Questionnaire ③ Interview
			Whether timing, contents, duration follow-up of on-site trainings were appropriate.			① Records of on-site trainings ② Accomplishments of trainings	① Project documents ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
			Whether the overseas activities costs from Japanese side has been appropriately implemented.			Overseas activities cost from Japan side	① Input records ② JICA Experts	① Document review ② Interview
			Whether allocation of Indonesian C/Ps and budget for the Project were appropriate.			Allocation of C/P personnel and local costs from Indonesia side	① Input records ② JICA Experts, C/P	① Document review ② Questionnaire ③ Interview
	Collaboration with existing resources	Utilization of Japanese resources	Whether recommendations and/or points of note at the JCC and/or the Project Assistance Commission in Japan contributed for the achievement of Outputs.		Accomplishment of the project activities	① Project documents ② JICA Experts	① Document review ② Questionnaire ③ Interview	
			Whether there was any collaboration with other Japanese resources contributed for the achievement of Outputs.		Accomplishment of the project activities	① Project documents ② JICA Experts	① Document review ② Questionnaire	
		Collaboration with other development partners	Whether there were any collaboration with other development partners contributed for the achievement of Outputs.		Benefits derived from collaborative activities with other development partners.	① Project documents ② JICA Experts ③ Other development partners	① Document review ② Questionnaire	
	Contributing and hindering factors	Whether there were any contributing factors to efficiency.			Views of related parties	① Project documents ② JICA Experts, C/P	① Document review ② Interview	
		Whether there were any hindering factors to efficiency.			Views of related parties	① Project documents ② JICA Experts, C/P	① Document review ② Interview	

[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification	
	Major	Middle	Small					
Impact	Cause-and-effect relationship	Whether there are any discrepancy between Overall Goal and Project Purpose. (OVIs for Overall Goal will be verified.)		Verification of logical relationship	Policies related to livestock and animal health, etc.	① Policies related to livestock and animal health ② Verification by Evaluation Team	Document review	
	Probability of achievement of the Overall Goal	Whether Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) is strengthened to an desired level, by Indonesian self-help endeavor in 3 to 5 years after the end of the Project.		Exploration based on the current status	① Degree of achievement of the Project Purpose ② Verification of Sustainability	① Project documents ② Views of related players	① Document review ② Questionnaire ③ Interview	
		Hindering factors for the achievement of the Overall Goal	Whether the important assumption of "The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously" is appropriate at the time of the Terminal Evaluation, and expected to be fulfilled in 3 to 5 years time after the end of the project period.		Verification of logical relationship	Possibility of unfulfillment of the assumption	① Views of related players ② Verification by Evaluation Team	① Document review ② Interview
			Whether the important assumption of "Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project" is appropriate at the time of the Terminal Evaluation, and expected to be fulfilled in 3 to 5 years time after the end of the project period.		Verification of logical relationship	Possibility of unfulfillment of the assumption	① Views of related players ② Verification by Evaluation Team	① Document review ② Interview
			Whether other hindering factor for the achievement of Overall Goal are envisaged.			Other necessary information	① Views of related players ② Verification by Evaluation Team	① Document review ② Interview
	Other impacts	Whether there are any positive and/or negative impacts confirmed and/or expected to be generated other than Overall Goal		Positive impacts		Other necessary information	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview
Negative impacts					Other necessary information	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview	
Sustainability	Probability of maintaining the benefits derived from the Project	Political and institutional aspects		Whether policies related to livestock and animal health would be maintained and/or enhanced in Indonesia.		Policies related to livestock and animal health in Indonesia	① DGLAHS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview
				Whether political assistance to enhance the benefits derived from the Project will be discussed for the dissemination of them to other area in Indonesia.		① Policies related to livestock and animal health in Indonesia ② Disposition and policies of DGLAHS-MOA	① DGLAHS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview
	Financial aspect	Whether the budget and human recourse allocation for maintaining activities will be secured.			Policies to livestock and animal health and budget allocation	① DGLAHS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview	

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[Five Evaluation Criteria] The Project on Capacity Development of Animal Health Laboratory

Five Criteria	Evaluation Classification			Criteria	Necessary data and Information	Data Source	Means of Verification
	Major	Middle	Small				
			Whether the budget and personnel for the enhancement of the benefit will be allocated.		Policies and budget allocation	① DGHALS-MOA ② JICA Experts, C/P ③ Views of related players	① Questionnaire ② Interview
		Technical aspect	Whether the improved capacities of DIC Subang in diagnosis service provision for livestock and animals will be maintained and enhanced autonomously after the end of the project period.		① Possibility of continuation of monitoring activity ② Opportunities to update technical skills	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview
			Whether personnel for the deployment of the benefits are nurtured.		Administrative ability for deployment of the benefits	① Project reports ② JICA Experts, C/P ③ Views of related players	① Document review ② Questionnaire ③ Interview
		Contributing and hindering factors	Whether the important assumptions for sustaining the benefits will be maintained.		Views of related players	① Project reports ② JICA Experts	① Document review ② Interview
			Whether countermeasures against contributing and hindering factors for sustainability were discussed by the Project and C/P's.		Views of related players	① Project reports ② JICA Experts	① Document review ② Interview
Comprehensive sustainability		Whether the comprehensive sustainability is secured or not, in the view of above-mentioned aspects.		Analytical evaluation by the Evaluation Team	① Project documents ② JICA Experts, C/P ③ Views of related players	① Document review ② Interview	



A

(2) Results of Experts' Activities
(long-term)

No	Names	Field	Organization	Results of Activity
1	Dr. KISHIMA Masato	Chief Advisor / Animal Health Administration	National Institute of Animal Health, Japan	<p>< As a Chief Advisor ></p> <p>1) Started the seminar in DIC Subang, 2) Made report meeting at DGLABS at the end of the period of short-term experts, 3) Made an action plan in pilot sites, 4) Made a study of how to collect diagnostic material, 5) Advised on the efficient operation of active surveillance, 6) Third-country training in Thailand, 7) Attended meetings</p> <p>< As a Expert of Bacteriology ></p> <p>1) Introduction of the basic concepts for the implementation of diagnosis of animal diseases and surveillance, 2) Isolation and identification of pathogenic agents from the specimens collected from the field, 3) Isolation of bacteria and mycoplasmas from organs of chicken collected from the field continuously, 4) System for the storage and management of isolated bacteria strains, 5) Introduction and manufacture of materials, required for the diagnosis of bacterial diseases of livestock</p>
2	Dr. KOIKE Ikuo	Veterinary Diagnosis / Epidemiology	Unaffiliated	<p>< Techniques related to the diagnosis of viral disease ></p> <p>1) Transfer the diagnostic techniques of viral disease, 2) Transfer the techniques of isolation and identification of virus from the diagnostic samples</p>
4	Mr. MAEDA Yasuyuki	Coordinator / Animal Health Information	JICA	<p>< Coordination to implement the project ></p> <p>1) Administration, 2) Budget management & procurement, 3) Accounting, 4) Equipment provision, 5) Management of Project progress, 6) Coordination of Project Monthly & Quarterly report, 7) Arrangement for short-term expert dispatch, 8) Arrangement for counterpart training in Japan and third country, 9) Arrangement and coordination of diagnostic seminar in DIC Subang, 10) Other arrangement, 11) Coordination of in-house diagnostic seminar, 12) Coordination with related organization, 13) Establishment of internet environment & Web site of DIC Subang, 14) Making project leaflet, 15) Project baseline survey, - Research on the current diagnostic situation, -Research on the field disease situation, - Training demand of the stakeholders</p>

(short-term)

No	Names	Field	Organization	Results of Activity
1	Dr. SHIBAHARA Tomoyuki (1)	Pathological Diagnosis	National Institute of Animal Health, Japan	<p>< Necropsy, basic theory of histopathology, making and observation method of tissue sections (HE staining) ></p> <p>1) Handling of animals, 2) Method of blood collection, 3) Autopsy techniques, 4) Sampling, 5) Macroscopical photography, 6) Recording, 7) Trimming, 8) Tissue processing, 9) Embedding, 10) Making sections, 11) HE staining, Special stains (Gram stain, acid-fast stain, stained Grocott's stain), 12) Immunohistochemistry (avian influenza), 14) Mounting, 15) Using a microscope, 16) Microscopical photography, 17) Creating a presentation, 18) Methods of the output, 19) Presentation, 20) Writing a paper</p>
2	Dr. KOBAYASHI Sota (1)	Veterinary Epidemiology	National Institute of Animal Health, Japan	<p>< Introduction and survey to select the pilot site candidate farm by epidemiological technique ></p> <p>1) Investigation of needs in epidemiology lab - Environment of pilot site - Facility / capacity in the lab - Technical issues, 2) Setting up of the grand design on the activities for coming years cooperating with team members, 3) Role of epi lab so far, 4) Member's needs, 5) Surveillance in future, 6) Experience of data analyses, 7) Next action for brucellosis, 8) Principle of epidemiology, 9) Evaluation of diagnostic tests, 10) "R" was installed in the PC in epi lab, 11) Some basic data analyses, 12) Reference documents to start self-learning, 13) Paper reading started, 14) Sample size for the prevalence estimation, 15) Random sampling technique by spreadsheet</p>
3	Dr. MATSUBAYASHI Makoto	Diagnosis of Parasitic Disease	National Institute of Animal Health, Japan	<p>< Techniques to examine cryptosporidium parasites in the feces and making paper for international journal ></p> <p>1) Floating methods using sugar for the diagnosis of intestinal parasite, 2) Sedimentation methods, 3) Floating methods using NaCl, 4) Identification for Nematoda and Cestoda eggs, 5) Detection and identification of protozoan oocysts, 6) Iodine staining of protozoan cysts and its identification, 7) Counting number of oocysts, cysts, and eggs of parasites, 8) Taking pictures of oocysts, cysts, and eggs of parasites, 9) Measuring of oocysts, cysts, and eggs of parasites in diameter, 10) Immunofluorescent staining using specific monoclonal antibody, 11) Identification of Trematoda eggs, 12) Histopathological diagnosis of intestine infected with protozoa, 13) Collecting samples in livestock fields, 14) Summarization of sample information</p>
4	Dr. MIKAMI Osamu	Pathological Diagnosis	National Institute of Animal Health, Japan	<p>< Introduction of special staining methods such as specific immune staining method and observation techniques of tissue sections ></p> <p>1) IHC (specific detection of influenza A virus in chicken), 2) Gram staining (Hucker-Conn method), 3) Ziehl-Neelsen staining, 4) Löffler's methylene blue staining, 5) PAS reaction, 6) Masson's trichrome staining, 7) Berlin blue staining, 8) Rapid embedding method, 9) Decalcification method (preparation of bone sample), 10) Necropsy procedure, 11) Sampling procedure for histopathological examination, 12) Sampling procedure for BSE examination, 13) Trimming procedure for brain (mammal and chicken), 14) Embedding, 15) Sectioning, 16) H&E staining (adjustment of automatic stainer), 17) Knowledge necessary to histopathological diagnosis, 18) Basics of presentation</p>

No	Names	Field	Organization	Results of Activity
5	Dr. KOBAYASHI Sota (2)	Veterinary Epidemiology	National Institute of Animal Health, Japan	< Training and the transfer of the basic theory of epidemiology, Seminar on veterinary epidemiology, Data collection system on brucellosis surveillance, Sampling methods and procedures, Data analyzing method, Pilot site activity planning > 1) Transferring techniques in epidemiology, - Knowledge & techniques, - Collection of the prior information, - Data analysis on the specific software (SPSS & R) 2) Support on planning and implementation of the activities for the pilot sites, - Database preparation - Activity plan in Banten & Jakarta, - Drafting questionnaire for Banten province, 3) Training course on veterinary epidemiology and data analysis for the participants from all DICs and B/C type labs in West Java area (2 weeks)
6	Dr. FUJISAKI Kozo	Diagnosis of Parasitic Disease	Unaffiliated	< Diagnostic techniques on Theileria disease and chicken Leucocytozoonosis, Observation of protozoa in the blood smear, Detection of antibodies, Anatomy of mites for the sample preparation of PCR method > 1) Diagnostic techniques of leucocytozoonosis in chicken by Giemsa staining of blood smears and serological methods, 2) Collection of blood from chicken for determination of leucocytozoon parasites in the blood and the presence of antibodies, 3) Diagnostic techniques of theileriasis in cattle by Giemsa staining of blood smears and PCR technique, 4) Dissection of ticks under dissecting microscope for preparation of specimens for PCR.
7	Dr. SHIBAHARA Tomoyuki (2)	Pathological Diagnosis	National Institute of Animal Health, Japan	< Improvement of theory and techniques related to the pathological diagnosis: HE staining and immunostaining, Special staining and positive control production for immunohistochemical staining, Sample collection method for BSE diagnosis > 1) Diagnostic criteria (OIE standard), 2) Handling of animals, 3) Autopsy techniques (cattle, goat, pig), 4) Sampling, 5) Macroscopical photography, 6) Recording, 7) Trimming, 8) Improved tissue processing, 9) Embedding 10) Making sections, 11) HE staining, 12) Special stains (Improved Gram stain and acid-fast stain), 13) Immunohistochemistry (e.g. Salmonellosis, infectious bronchitis), 14) Method for producing the positive control (e.g. Salmonella O4, O9 and Avian influenza), 15) Mounting (AEC), 16) Using a microscope, 17) Microscopical photography, 18) Creating a presentation, 19) Methods of the output, 20) Presentation, 21) Writing a paper (Indonesian Journal of veterinary pathology (IJP) (Jurnal Patologi Veteriner Indonesia)), 22) Method of creating manuals
8	Mr. MIYAMOTO Toru (1)	Veterinary Public Health	National Institute of Animal Health, Japan	< Analytical techniques of residual pesticides and antibiotics in livestock products using high-performance liquid chromatography (HPLC) > 1) Basic theory of Chromatography, 2) Basic theory and basic operating procedure of HPLC, 3) Basic theory and basic operating procedure of GC, 4) Basic techniques for analysis of pesticides and antibiotics, 5) Analytical method for quinolone antibiotics in animal products using HPLC, 6) Analytical method for organochlorine pesticides in animal products using GC, 7) Validation method for analysis, 8) How to arrange data and to make reports, 9) How to make presentation
9	Dr. ANRI Akira	Clinical Diagnosis	Unaffiliated	< Transferring techniques of bacteria culture in milk that is necessary to mastitis control of cattle > 1) Survey of current status and issues of mastitis control measures in the pilot site, 2) Transfer of bacteria examination techniques in milk necessary for mastitis control, 3) Conducting seminars on mastitis control for dairy farmers, 4) Making "Manual of mastitis control for cattle" (Indonesian)
10	Dr. SHIRAFUJI Hiroaki	Serological Diagnosis	National Institute of Animal Health, Japan	< Culture techniques of cell lines, isolation of arboviruses, identification of virus by genetic test, antibody testing by neutralization test > 1) Cell culture, 2) Virus isolation, 3) Virus isolation and identification, 4) Antibody test (neutralization test), 5) Pilot surveillance of arbovirus, 6) Seminar on arbovirus infection
11	Mr. MIYAMOTO Toru (2)	Veterinary Public Health	National Institute of Animal Health, Japan	< Transfer the detection technique of hormone (Trenbolone) remaining in the beef and cattle liver > 1) Acquiring techniques of analysis of the residual hormone (Trenbolone) using HPLC, 2) Verification and improvement of measuring techniques and protocols
12	Dr. KOBAYASHI Sota (3)	Veterinary Epidemiology	National Institute of Animal Health, Japan	< Transfer the Epidemiological concepts, theory, method, Brucellosis surveillance and abortion surveillance, sampling method, Data collection and analyzing method > 1) Analysis of risk factors on feeding management related to abortion occurrence of buffalo in Banten, 2) Formulated the abortion surveillance plan for the dairy cooperatives in West Java, 3) Hierarchy structure of diagnostic reporting system of DIC Subang, 4) Statistical analysis techniques
13	Mr. OKADA Motohiro (1)	Laboratory Facility Maintenance	Nilon Sekkei, Inc.	< Investigation of current situation of Laboratory Facility Maintenance in DIC Subang, Medan and Lampung > 1) Confirmation of maintenance staff (educational background and experience), 2) Situation of equipment management, 3) Implementation status of fumigation, 4) Exchange status of HEPA filters, 5) Utilization status of manuals and drawing, 6) Confirmation of issues reported by the project
14	Dr. TAGUCHI Masaji	Comprehensive Diagnosis	Unaffiliated	< Technical transfer of comprehensive diagnosis especially for the viral disease > 1) cell culture techniques, virus isolation and neutralization test, 2) Implementation of abortion surveillance in terms of the viral disease, 3) Arbovirus isolation, 4) Akabane virus neutralization test, 5) Research on prevalence of Akabane virus antibody in West Java Province, 6) Recommendations on comprehensive diagnosis in DIC Subang

No	Names	Field	Organization	Results of Activity
15	Mr. OKADA Motohiro (2)	Laboratory Facility Maintenance	Nihon Sekkei, Inc.	< Conduct training on Laboratory Facility Maintenance in DIC Subang, DIC Medan and DIC Lampung (Air conditioning, Automatic control system, Fumigation and HEPA exchange) > 1) Adjustment of air volume balance in BSL Lab, 2) Formalin fumigation, 3) Exchange of HEPA filter, 4) Training by contractors, 5) Training by manufacturers
16	Mr. OKADA Motohiro (3)	Laboratory Facility Maintenance	Nihon Sekkei, Inc.	< Conduct training on Laboratory Facility Maintenance in DIC Subang, DIC Medan and DIC Lampung (Air conditioning, Water supply and drainage, Water treatment system and Generator) > 1) Training and repairing of the air conditioner, 2) Failure check and training on wastewater treatment system, 3) General training on plumbing system, 4) Improvement of air filters in Poultry House, 5) Checking failure of ATS equipment, 6) Award the Training Certification, 7) Hearing of training outcomes
17	Dr. TAKAHASHI Yuji	Biochemical Diagnosis	National Institute of Animal Health, Japan	< Transfer the techniques of Biochemical diagnosis > 1) Transfer the biochemical diagnostic technique using a spectrophotometer and ELISA reader, 2) The measuring method of serum component (Albumin, ASAT (GOT), Bilirubin, Cholesterol, Gamma-GT, NEFA, β -Hydroxybutyrate (Ketone body), Ca, Mg, P, method of measuring Urea), 3) Application of biochemical diagnostic techniques in abortion surveillance of cattle

Provision Equipment by the Japan side

Annex 7

(1) Major Equipment Provided by JICA (based on the A-4 form or more than 5 million rupiah)

Ref. No.	Items, Model, Specifications	QTY	Unit Price (Rp, \$)	Amount (Rp, \$)	Amount (%)	Place	Operation	Maintenance	Delivery	Remarks	
F.Y. 2011											
PI109281	Copy machine	SHARP MX-2301N	1	44,750,000	44,750,000	386,282	DIC Subang	A	A	28/09/2011	Project Office
PI1112401	Desktop PC	HP Pro 3300	4	\$965	\$3,860	304,274	DIC Subang	A	A	24/11/2011	Project Office, Parasitology, Bacteriology, Pathology
PI1112402	Notebook PC	Lenovo Thinkpad L420	2	\$930	\$1,860	146,619	DIC Subang	A	A	24/11/2011	Project Office, Epidemiology
PI1112403	Color Printer	Canon Pixma MX886	4	\$350	\$1,400	110,358	DIC Subang	A	A	24/11/2011	Bacteriology, Epidemiology, Administration, Pathology
PI1112404	UPS	Ica CKE1200	4	\$87	\$348	27,432	DIC Subang	A	A	24/11/2011	Project Office, Parasitology, Bacteriology, Pathology
PI1112405	Server	Hp Compaq Proliant ML350	1	\$3,150	\$3,150	248,306	DIC Subang	A	A	24/11/2011	Maintenance
PI1112406	CCTV	Sony SSC-N20	8	\$165	\$1,320	247,124	DIC Subang	A	A	24/11/2011	Maintenance
PI1122801	Digital Video Recorder and Monitor for CCTV	GANZ DR8H-DVD	1	\$1,815	\$1,815	247,124	DIC Subang	A	A	28/12/2011	Maintenance
PI1120701	Vehicle	DAIHATSU Terios TX-MT-MC	1	188,100,500	188,100,500	1,623,684	DIC Subang	A	A	07/12/2011	Project Office
PI1120702	Digital Camera	Panasonic Digital Camera LUMIX DM1C-PP1	4	1,391,000	5,564,000	48,028	DIC Subang	B	B	07/12/2011	Project Office
PI1120703	Digital Video Camera	Sony Handycam Camcorder HDR CX130	1	5,457,000	5,457,000	47,105	DIC Subang	B	B	07/12/2011	Project Office
PI1121901	ELISA Reader	THORNIC Multiskan EX Elisa System Work Station	1	104,592,500	104,592,500	902,842	DIC Subang	B	B	19/12/2011	Bacteriology
PI1121902	GPS Terminal	GARMIN GPSMAP 62s	4	4,173,000	16,692,000	144,085	DIC Subang	B	B	19/12/2011	Project Office, Epidemiology
PI2032901	Microscope CCD camera and	Nikon NI-U_DS-Fi2-U3	1	228,400,000	228,400,000	2,038,470	DIC Subang	A	A	29/03/2012	Pathology Lab
PI2022301	8 channel Pipettor 20-200ul	CMSL C200 - 8A-SL	3	6,412,400	19,237,200	171,692	DIC Subang	A	A	23/02/2012	Virology Lab
PI2031901	Vacuum pump	Membrane solution: VP10332	1	9,625,000	9,625,000	85,903	DIC Subang	B	B	19/03/2012	Virology Lab
PI2032701	Slide Staining Set	Firetek 4451	1	8,325,000	8,325,000	74,301	DIC Subang	B	B	27/03/2012	Pathology Lab
F.Y. 2012											
PI2050401	SPSS	IBM SPSS Statistics v.20	1	33,646,500	33,646,500	300,295	DIC Subang	B	B	04/05/2012	Epidemiology Lab
PI2050801	Vehicle (4WD)	Mitsubishi Pajero Sport 4GX 4WD MT	1	458,000,000	458,000,000	4,087,650	DIC Subang	A	A	08/05/2012	Project Office
PI2052201	Centrifuge	TOMY LC-230	1	135,543,000	135,543,000	1,209,721	DIC Subang	A	A	22/05/2012	Parasitology Lab
PI2052202	Autoclave	TOMY BS-215	1	45,928,500	45,928,500	409,912	DIC Subang	A	A	23/05/2012	Bacteriology Lab
PI2052901	Chest Freezer	Nihon VT-208 & TN-208	1	91,491,000	91,491,000	816,557	DIC Subang	A	A	29/05/2012	Bacteriology Lab
PI2071001	8 channel Pipettor 20-200ul	CMSL C200 - 8A-SL	1	6,412,400	6,412,400	57,231	DIC Subang	A	A	10/07/2012	Parasitology Lab
PI2100401	Rabbit Restrainer	Natsune KN-317	1	6,470,625	6,470,625	57,750	DIC Subang	B	B	04/10/2012	Bacteriology Lab
PI2110601	UPS for Thermal Cycler	AFC Smart UPS 1500VA & Serial 230 Volt type	1	5,950,000	5,950,000	49,427	DIC Subang	B	B	06/11/2012	Bacteriology Lab
PI2111201	Thermal Cycler	Bio-Rad T100	1	82,000,000	82,000,000	681,174	DIC Subang	B	B	12/11/2012	Bacteriology Lab
PI3012501	Refrigerated Micro Centrifuge for PCR	Tomyl MX-107	1	145,000,000	145,000,000	1,290,355	DIC Subang	B	B	12/11/2012	Bacteriology Lab
F.Y. 2013											
13-3-001483	Stabilizer for Safety Cabinet	MATSUYAMA AVR-KD-3GS	1	5,600,000	5,600,000	54,432	DIC Subang	A	A	11/04/2013	Bacteriology Lab
13-3-001480	Grass Chopper	ITB	1	9,000,000	9,000,000	90,990	DIC Subang	A	A	11/05/2013	Experimental Animal
13-3-001481	Mupid-exU	Mupid (Advanco)	1	7,300,000	7,300,000	62,831	DIC Subang	B	B	13/01/2014	Bacteriology Lab
13-3-001482	Fume Hood	2150x740.5x1050	1	38,115,000	38,115,000	328,056	DIC Subang	A	A	20/01/2014	Pathology Lab
F.Y. 2014											
14-3-001484	Aspirator Vacuum Pump	sigma-Aldrich Z675733-1EA Eylea 1000-S	1	16,300,000	16,300,000	146,472	DIC Subang	A	A	17/10/2014	Virology Lab (Cell Preparation)
14-3-001485	Differential Pressure Gauge	testo 510	1	5,100,000	5,100,000	45,773	DIC Subang	B	B	06/11/2014	Maintenance
14-3-001486	Formalin Fumigation Sterilizer	BIOBASE FX-100	3	5,400,000	16,200,000	145,395	DIC Subang, DIC Medan, DIC Lampung	B	B	20/11/2014	Maintenance
14-3-001487	Ammonium Hydrogen Carbonate Neutralizer	BIOBASE TZ-100	3	5,400,000	16,200,000	145,395	DIC Subang, DIC Medan, DIC Lampung	B	B	20/11/2014	Maintenance

Total Rp1,815,470,779 ¥16,833,045

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* Classification of the frequency of use of the equipment
(by the manual for JICA coordinators)

rank	statement	frequency	others
A	used frequently	almost daily	
B	used well	1-3 times per week	
C	used in specific season(s)		needs reasons
D	not so much used	3-11 times per year	needs reasons
E	not used by specific reason		needs reasons

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Local Cost Implementation

Annex 8

(1) Indonesia

Unit: Rupiah

Budget Item	2011	2012	2013	2014	2015 (budget plan)	Total Amount
1 Salary	420,510,000	2,564,753,000	3,446,591,000	3,356,988,000	3,614,822,000	13,403,664,000
Base salary for all staff	75,240,000	1,602,833,000	1,633,363,000	1,716,677,000	1,517,273,000	6,545,386,000
Additional salary for all staff	-	311,110,000	1,046,898,000	716,981,000	850,769,000	2,925,758,000
Payment for Outsourcing Staff	265,200,000	402,720,000	497,040,000	618,000,000	936,000,000	2,718,960,000
Operational fee for staff	80,070,000	180,590,000	171,440,000	238,180,000	254,780,000	925,060,000
Honorarium for lecturer	-	67,500,000	97,850,000	67,150,000	56,000,000	288,500,000
2 Staff training and capacity building	255,100,000	1,010,936,000	489,800,000	863,617,000	1,024,920,000	3,643,373,000
Administration	-	152,900,000	-	-	-	152,900,000
Technical (outside training)	-	407,300,000	-	-	-	407,300,000
Inhouse training	-	450,736,000	-	-	-	450,736,000
3 Consumable, Reagentia and Equipment	9,442,017,400.00	3,636,486,200.00	2,612,927,000.00	2,793,510,000.00	4,357,354,000	22,842,164,600
for Diagnostic	7,291,221,000	1,911,036,000	1,942,452,000	1,526,602,000	2,911,943,000	15,586,244,000
for reagents and small instruments	1,898,526,400	1,307,968,200	165,075,000	95,000,000	215,000,000	3,681,569,600
For field surveillance	232,000,000	305,800,000	255,000,000	1,033,098,000	959,701,000	2,765,599,000
For Administration and biosecurity	17,270,000	111,662,000	250,400,000	138,810,000	290,610,000	808,752,000
4 Field survey	334,400,000	431,450,000	800,385,000	874,700,000	1,596,500,000	4,037,435,000
5 Utilities (electricity, water, etc)	420,000,000	558,490,000	699,000,000	591,600,000	707,400,000	2,976,490,000
Electricity	-	468,000,000	570,000,000	523,200,000	540,000,000	2,101,200,000
Water	-	10,200,000	35,400,000	6,000,000	72,000,000	123,600,000
Newspaper	-	3,600,000	3,600,000	3,600,000	4,800,000	14,800,000
Telip and Internet	-	78,000,000	90,000,000	58,800,000	90,000,000	316,800,000
6 Equipment for others (Dormitory, Guest house etc.)	77,211,000	325,494,000	0	0	0	402,705,000
7 Facilities maintenance	257,452,000	523,060,000	532,752,000	473,130,000	828,280,000	2,614,674,000
for Vehicles	78,000,000	184,700,000	165,000,000	123,500,000	123,000,000	673,200,000
for Motorcycle	-	6,480,000	7,560,000	7,560,000	13,080,000	34,680,000
for Building Facilities	179,452,000	331,880,000	360,192,000	342,070,000	693,200,000	1,906,794,000
8 Vehicles	450,800,800	37,500,000	0	0	0	487,500,000
9 Additional food	33,252,000.00	52,080,000.00	66,960,000.00	112,560,000.00	130,560,000	395,472,000
for Laboratory technician	18,252,000	22,080,000	36,960,000	36,960,000	66,960,000	181,212,000
for Others	15,000,000	30,000,000	30,000,000	75,600,000	63,600,000	214,260,000
10 Computer and Equipment for office	65,000,000	200,000,000	15,000,000	0	0	280,000,000
11 Infrastructure (Building, Book, Furniture etc)	3,227,634,000	1,120,810,000	1,131,284,000	855,171,000	1,275,946,000	7,610,845,000
12 Annual Coordination Meeting and Confirmation Test	328,800,000	489,550,000	455,300,000	421,200,000	252,200,000	1,946,750,000
13 Other	96,025,000	270,662,000	251,250,000	28,500,000	20,109,000	666,546,000
14 Project Counter Budget (for Equipment)	0	600,000,000	600,000,000	600,000,000	600,000,000	2,400,000,000
Total Expenditure (Rp.)	15,407,101,400	11,821,241,200	11,101,249,000	10,969,976,000	14,407,991,000	63,707,558,600
Grand Total (Yen)	131,515,013	101,331,680	96,380,600	106,024,813	-	435,752,115
Exchange Rate (December)	0.008536	0.008572	0.008727	0.009665	-	-

(2) Japan

Unit: Rupiah

Budget Item	2011	2012	2013	2014	2015 (from Jan to Feb)	Total amount
1 General operating expenses	276,124,209	1,064,864,371	824,703,800	786,246,300	77,578,900	1,340,988,500
for reagents and small instruments	45,407,900	735,702,629	613,294,870	347,668,450	24,237,500	781,110,529
2 Air fares	1,615,000	22,027,900	7,646,300	62,321,400	5,501,300	99,121,900
3 Travel expenses (except airline fares)	26,650,000	84,913,800	80,401,900	120,196,000	31,406,800	343,568,500
4 Reward & compensation	13,620,000	93,640,100	105,854,900	172,611,300	13,352,200	399,082,500
5 Emplacements (local consultants)	0	0	0	76,300,000	74,050,000	150,350,000
6 Emplacements (local NGO)	0	0	0	0	0	0
7 Business agreement	0	0	0	0	0	0
8 Meeting cost	18,105,000	42,225,000	1,325,000	440,000	0	62,095,000
Total Expenditure (Rp.)	356,124,209	1,307,681,171	1,019,931,900	1,218,115,000	201,889,200	4,083,741,480
Grand Total (Yen)	2,869,156	11,209,443	8,900,946	11,773,081	0	34,752,626
Exchange Rate (Dec.2011, 2012)	0.008536	0.008572	0.008727	0.009665	-	-

* Total amount (2011) Indonesia: from Jan to Dec 2011, Japan: from Jul to Dec 2011

* (2012 - 2014) From Jan to Dec 2012

* (2015) Indonesia: from Jan to Dec 2015 (Budget), Japan: from Jan to Feb 2015 (Actual)


Annex 9**Land, Building, Office and Facility provided by the Indonesia side**

No.	Item	Place	Component
1	Project Office	DIC Subang	Office, Room, Desks, Chairs, Air Conditioners
2	Desks for experts in laboratories	DIC Subang	Desks, Chairs



List of Products

Annex 10

No.	Date	Item	Category	Distributed to	Finalized price
1	Oct 2011	Preparation of Final Report on the Status of the National Health Survey	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	500
2	Feb 2012	Annual Disease Awareness "MALARIA" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
3	Feb 2012	Annual Disease Awareness "TUBERCULOSIS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
4	Feb 2012	Annual Disease Awareness "DIABETES" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
5	Feb 2012	Annual Disease Awareness "HIV/AIDS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
6	Feb 2012	Annual Disease Awareness "MALARIA" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
7	Feb 2012	Annual Disease Awareness "TUBERCULOSIS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
8	Feb 2012	Annual Disease Awareness "DIABETES" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
9	Feb 2012	Annual Disease Awareness "HIV/AIDS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
10	Feb 2012	Introduction of the book "KAPAL TERPUSUK" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
11	Jan 2012	Book "200 Years of the Indonesian Republic" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	100
12	Feb 2012	Sampling method of water for the development of water	Video	Local Government, National Government, National Health Survey, National Health Survey	40
13	Mar 2012	Prepared Annual Disease Awareness "MALARIA" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
14	Mar 2012	Prepared Annual Disease Awareness "TUBERCULOSIS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
15	Mar 2012	Prepared Annual Disease Awareness "DIABETES" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
16	Mar 2012	Prepared Annual Disease Awareness "HIV/AIDS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
17	Mar 2012	Prepared Annual Disease Awareness "MALARIA" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
18	Mar 2012	Prepared Annual Disease Awareness "TUBERCULOSIS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
19	Mar 2012	Prepared Annual Disease Awareness "DIABETES" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
20	Mar 2012	Prepared Annual Disease Awareness "HIV/AIDS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
21	Mar 2012	Prepared Annual Disease Awareness "MALARIA" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
22	Mar 2012	Prepared Annual Disease Awareness "TUBERCULOSIS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
23	Mar 2012	Prepared Annual Disease Awareness "DIABETES" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000
24	Mar 2012	Prepared Annual Disease Awareness "HIV/AIDS" (National)	Leaflet	Local Government, National Government, National Health Survey, National Health Survey	1000

No.	Date of receipt	Title	Author	Distributed to	Status
1	Jan 2011	Monitoring of water quality in the Terminal 3 of Widyah Widya, Jember, East Java	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
2	Jan 2011	Survei Kesehatan Masyarakat (SKM) di Jember Tahun 2010	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
3	Jan 2011	Survei Kesehatan Masyarakat (SKM) di Jember Tahun 2010	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
4	Jan 2011	Survei Kesehatan Masyarakat (SKM) di Jember Tahun 2010	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
5	Jul 2011	Studi Perbandingan Persepsi Faktor dan Persepsi Perilaku Perilaku Jember dan Bantul	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
6	Jul 2011	Monitoring dan Deteksi Penyakit Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
7	Jul 2011	Monitoring dan Deteksi Penyakit Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
8	Dec 2011	Uji Coba Penelitian Tesis di Widyah Widya Jember Tahun 2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
9	Dec 2011	Uji Coba Penelitian Tesis di Widyah Widya Jember Tahun 2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
10	Dec 2011	Uji Coba Penelitian Tesis di Widyah Widya Jember Tahun 2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
11	Dec 2011	Uji Coba Penelitian Tesis di Widyah Widya Jember Tahun 2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
12	Jan 2012	Journal of Health Survey in the Republic of Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Feb, 2012	Article
13	Apr 2012	Activity as a short-term report of JICA - Project on Capacity Development of Annual Health Surveillance in Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	JICA Report, No 42	Article
14	Jan 2012	Perbedaan Hasil Pengukuran Arteri Perifer dan Whole Blood Pressure	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
15	Jun 2012	Pengembangan Program di Daerah Bantul dan Sleman	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
16	Jun 2012	Pengembangan Program di Daerah Bantul dan Sleman	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
17	Jun 2012	Pengembangan Program di Daerah Bantul dan Sleman	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
18	Jun 2012	Pengembangan Program di Daerah Bantul dan Sleman	Dr. Sidiq, Dr. Nurhidayah, et al.	Journal of Health Survey, Vol 1 No 1 June 2011	Article
19	Sep 2012	Project on Capacity Development of Annual Health Surveillance in Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	JICA Report, No 47	Article
20	Mar 2013	Survey on water quality parameters and distribution of Cryptosporidium spp. on cattle in West Java, Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	Asian Pacific Journal of Tropical Medicine 7, 157-161 (2014)	Scientific Paper
21	Jul 2012	Pengembangan dan penerapan Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
22	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
23	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
24	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
25	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
26	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
27	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
28	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
29	Jul 2012	Adaptasi Program Deteksi Zoonosis di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
30	Aug 2012	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	The Journal of Veterinary Medical Science 75 1455-1462 (2012)	Scientific Paper
31	Dec 2012	Molecular characterization of new E. coli strains (serotype O157:H7) isolated from cattle in West Java, Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	PLoS One 7 (12): e42305 (2012)	Scientific Paper
32	Feb 2014	Genotype of E. coli serotype O157:H7 isolated from cattle in West Java, Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	Parasitology 142 (2014)	Scientific Paper
33	Aug 2014	Isolation of a new E. coli serotype O157:H7 from cattle in West Java, Indonesia	Dr. Sidiq, Dr. Nurhidayah, et al.	Antonie van Leeuwenhoek 106 (2014)	Scientific Paper
34	Oct 2014	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
35	Oct 2014	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
36	Oct 2014	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
37	Oct 2014	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
38	Oct 2014	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation
39	Oct 2014	Uji coba metode uji coba di Widyah Widya Jember Tahun 2010-2011	Dr. Sidiq, Dr. Nurhidayah, et al.	Proceeding of Technical Meeting and Academic Conference of Annual Health Surveillance, Vol 1, No 2, 2011	Contribution & Presentation

No.	Date of receipt	Title	Author	Distributed to	Status
1	Jan 2011	Book on the status of the health survey	Dr. Sidiq, Dr. Nurhidayah, et al.	National Health Survey	Finalized
2	Jan 2011	Book on the status of the health survey	Dr. Sidiq, Dr. Nurhidayah, et al.	National Health Survey	Finalized

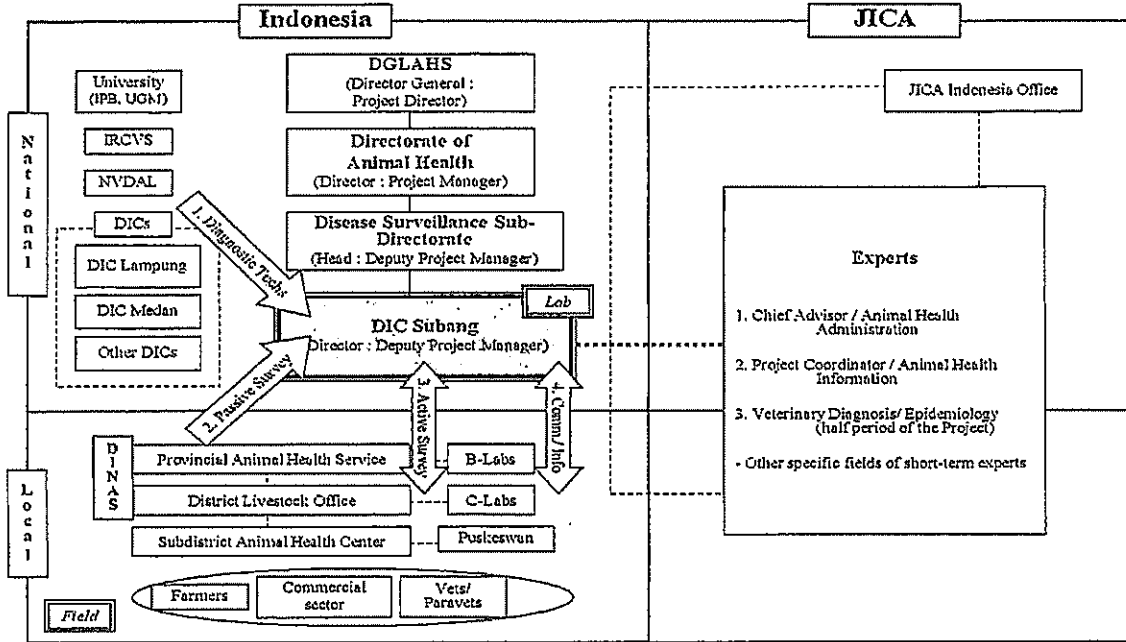
List of Seminar and Presentation

Annex 11

No.	Date	CP or Expert	Presenter	Presentation Title	Name of the Seminar/Meeting	Number of Participants	Place	Organization of Participants
1	25/02/2011	Expert	Mr. Masah	Culture of the Project	Project First Meeting	35	ECG Subang	Staff of EDC Subang
2	05/03/2011	CP	Er. Tri	Disease epidemiology	Diagnostic Seminar	25	ECG Subang	Staff of EDC Subang
3	05/03/2011	CP	Er. Tri	Prevalence of zoonotic zoonotic laboratory	Diagnostic Seminar			
4	05/03/2011	CP	Mr. Eka	Quality assurance in pathology laboratory	Diagnostic Seminar	20	ECG Subang	Staff of EDC Subang
5	05/03/2011	Expert	Dr. Euse	QAE Diagnostic Standard	Diagnostic Seminar			
6	12/03/2011	CP	Er. Tri	Amn epidemiologic	Diagnostic Seminar	20	ECG Subang	Staff of EDC Subang
7	12/03/2011	Expert	Er. Masah	QAE Diagnostic Standard	Diagnostic Seminar			
8	12/03/2011	CP	Er. Tri	Amn epidemiologic	Diagnostic Seminar	20	ECG Subang	Staff of EDC Subang
9	12/03/2011	CP	Er. Pans	Monthly Epidemiology Progress - Evaluation of	Diagnostic Seminar			
10	18/03/2011	CP	Er. Daryo	Monthly Epidemiology Progress	Diagnostic Seminar	20	ECG Subang	Staff of EDC Subang
11	26/03/2011	CP	Er. Tri	ICTA - Pathology Training Progress	Project Monthly Meeting			
12	26/03/2011	CP	Er. Euse	ICTA - Bacteriology Progress	Project Monthly Meeting	20	ECG Subang	Staff of EDC Subang
13	26/03/2011	CP	Er. Dikanan	ICTA - Virology Progress	Project Monthly Meeting			
14	26/03/2011	Expert	Mr. Masah	Activity Plan on the Month	Project Monthly Meeting	20	ECG Subang	Staff of EDC Subang
15	02/04/2011	Expert	Er. Dikanan	EDC Subang To be the testing Diagnostic Lab in Indonesia	Project Opening Ceremony			
16	02/04/2011	Expert	Mr. Masah	Introduction of the New Project	Project Opening Ceremony	20	ECG Subang	Japan Embassy, IICA, DOLAHC, Hewan Kesehatan, Kowasa dan Educat Asia di Hewan, RICA, RICA library, dan lain-lain
17	02/04/2011	CP	Er. Tri	Pathology Training Progress	Project Opening Ceremony			
18	02/04/2011	CP	Er. Euse	Pathology Training Progress	Project Opening Ceremony	20	ECG Subang	Staff of EDC Subang
19	02/04/2011	CP	Er. Euse	Pathology Training Progress	Project Opening Ceremony			
20	02/04/2011	CP	Er. Euse	Pathology Training Progress	Project Opening Ceremony	20	ECG Subang	Staff of EDC Subang
21	02/04/2011	CP	Er. Euse	Pathology Training Progress	Project Opening Ceremony			
22	27/04/2011	CP	Er. Daryo	Survey to estimate prevalence of Avian Influenza in Wild Birds	Report of Training in Japan	12	ECG Subang	Staff of EDC Subang
23	27/04/2011	CP	Er. Ali	Surveillance of Brucellosis in Target Area	Report of Training in Japan			
24	27/04/2011	CP	Mr. Eka	Utilization of Automatic Drawing Machine	Report of Training in Japan	20	ECG Subang	Parasitology Lab staff from all EDCs, DOLAHC, Hewan Kesehatan
25	27/04/2011	Expert	Mr. Masah	Introduction of Project ICTA & EDC Subang	National Parasitology Training			
26	27/04/2011	CP	Er. Dikanan	Practical Parasitology EDC Subang	National Parasitology Training	20	ECG Subang	Staff of EDC Subang
27	04/11/2011	CP	Er. Ali	Monthly Progress on Ocular (Parasitology Lab)	Project Monthly Meeting			
28	04/11/2011	Expert	Mr. Masah	Activity Plan on the Month	Project Monthly Meeting	20	ECG Subang	Staff of EDC Subang
29	04/11/2011	Expert	Er. Euse	Introduction of Epidemiology	Project Monthly Meeting			
30	10/11/2011	Expert	Dr. Euse	Advancement of 2 weeks activity in EDC Subang	Project Monthly Meeting	25	ECG Subang	Staff of EDC Subang
31	10/11/2011	CP	Er. Daryo	Active and Passive Surveillance in EDC Subang	Project Monthly Meeting			
32	10/11/2011	Expert	Dr. Euse	Profile of Expert	Project Monthly Meeting	25	ECG Subang	Staff of EDC Subang
33	22/11/2011	CP	Er. Dikanan	Introduction of Modified Enzymatic Method Compared with Traditional 2-Indole Oxidation	Parasitology Seminar			
34	22/11/2011	CP	Er. Euse	Identification of Intestinal Parasites by the Modified Method of Rank of Examination in	Parasitology Seminar	28	ECG Subang	Staff of EDC Subang
35	02/12/2011	CP	Er. Euse	Monthly Progress on November	Project Monthly Meeting			
36	02/12/2011	CP	Er. Ali	Monthly Progress on November	Project Monthly Meeting	20	ECG Subang	Staff of EDC Subang
37	02/12/2011	CP	Er. Euse	Monthly Progress on November	Project Monthly Meeting			
38	02/12/2011	CP	Er. Euse	Monthly Progress on November	Project Monthly Meeting	20	ECG Subang	Staff of EDC Subang
39	02/12/2011	CP	Er. Euse	Monthly Progress on November	Project Monthly Meeting			
40	02/12/2011	CP	Mr. Eka	Monthly Progress on November	Project Monthly Meeting	28	ECG Subang	Staff of EDC Subang
41	15/12/2011	CP	Er. Dikanan	Final report of the surveillance for active and passive surveillance	Parasitology Lab Activity Termination Seminar			
42	15/12/2011	Expert	Dr. Euse	Outline of short-term expert activity	Parasitology Lab Activity Termination Seminar	28	ECG Subang	Staff of EDC Subang
43	27/01/2012	CP	Er. Euse	Published Test report of Fecal and Drove Viral Outbreak	Report of Training in Japan			
44	27/01/2012	CP	Er. Euse	Improvement of diagnostic technique on Parasitic Survey	Report of Training in Japan	21	ECG Subang	Staff of EDC Subang
45	17/02/2012	Expert	Dr. Masaru	1st Meeting on IFAH and introduction of manual parasite	Short-term expert activity initiation seminar			
46	17/02/2012	CP	Er. Euse	Results of Project Baseline Survey	Short-term expert activity initiation seminar	21	ECG Subang	Staff of EDC Subang
47	14/02/2012	CP	Er. Euse	Project Achievement in 2011 & Activity Plan in 2012	Joint Coordinating Committee			
48	14/02/2012	CP	Er. Euse	Results of the Baseline Survey	Joint Coordinating Committee	31	DOLAHC	ECG Subang, DOLAHC, Provincial Animal Health Service, PUSPT, PUSPT, PUSPT, RICA, RICA library, dan lain-lain
49	14/02/2012	CP	Er. Euse	Activity Plan in Project field site	Joint Coordinating Committee			
50	29/03/2012	Expert	Dr. Masaru	Post-mortem by using placid in cattle and case study of laboratory diagnosis in cattle and goat	Workshop pathology veteriner dan terapan lainnya nasional	45	ECG Subang	Pakage staff of all EDCs, DOLAHC, Hewan Kesehatan, Gubernur
51	29/03/2012	CP	Er. Euse	Prevalence of cryptosporidiosis in cattle and goat	Pathological diagnostic seminar			
52	29/03/2012	CP	Mr. Eka	Improvement of histopathological diagnosis with immunohistochemistry	Pathological diagnostic seminar	20	ECG Subang	Staff of EDC Subang
53	29/03/2012	Expert	Dr. Masaru	Advances in EDC Subang - To increase and improve diagnostic	Short-term expert activity termination seminar			
54	29/03/2012	CP	Er. Tri	Improvement of Diagnosis in Pathology Lab	Short-term expert activity termination seminar	18	ECG Subang	Staff of EDC Subang
55	15/02/2012	CP	Er. Ali	Report The 7th & 8th. Emergency Conference	Training report seminar on Emergency and Biosecurity			
56	15/02/2012	CP	Er. Euse	Annual Events Management	Training report seminar on Emergency and Biosecurity	22	ECG Subang	Staff of EDC Subang
57	15/02/2012	CP	Er. Ali	Laboratory Diagnosis of Brucellosis	Training report seminar on Emergency and Biosecurity			
58	15/02/2012	CP	Er. Euse	Prevalence in Cattle, Sheep & Goat Fundamentals of surveillance and diagnosis	Training report seminar on Emergency and Biosecurity	22	ECG Subang	Staff of EDC Subang
59	17/02/2012	CP	Er. Euse	Prevalence control trial in collaboration with EDC Subang and Jakarta Province requested by RICA	New projects on brucellosis control activities in Jakarta and EDC Subang			
60	13/07/2012	CP	Er. Euse	Survey on pneumonic psittacosis in Free Birds	New projects on Brucellosis control activities in Jakarta and EDC Subang	15	ECG Subang	Staff of EDC Subang
61	01/02/2012	CP	Er. Euse	The status of current safety equipment in EDC Lab	ECG Subang on biosecurity			
62	01/02/2012	CP	Er. Daryo	The staff meetings in EDC Lab	ECG Subang on biosecurity	16	ECG Subang	Staff of EDC Subang
63	12/01/2012	Expert	Er. Euse	Field survey as a method between engagement and management	Short-term expert Parasitology Seminar			
64	02/11/2012	CP	Er. Euse	Review of Advances in Diagnosis of Protection Diseases	Parasitology Seminar & Report of Training in Japan	22	ECG Subang	Staff of EDC Subang
65	02/11/2012	CP	Er. Tri	RICA Training Report on "Gastrointestinal"	Parasitology Seminar & Report of Training in Japan			
66	02/11/2012	CP	Mr. Ali	RICA Training Report on "Gastrointestinal"	Parasitology Seminar & Report of Training in Japan	22	ECG Subang	Staff of EDC Subang
67	02/11/2012	CP	Er. Tri	RICA Training Report on "Research on Veterinary Parasitology"	Parasitology Seminar & Report of Training in Japan			
68	13/11/2012	CP	Er. Euse	Review on Prevalence of Pseudoepithelium (Geophagia) and T. coli in Cattle in Activity in EDC Subang, West Java	Parasitology Seminar	14	ECG Subang	Staff of EDC Subang
69	29/11/2012	CP	Er. Euse	RICA Short-term expert activity report and Recommendations in the field of Parasitic Disease (Microbiological method)	Short-term expert activity termination seminar			
70	29/11/2012	Expert	Dr. Euse	RICA Short-term expert activity report and Recommendations in the field of Parasitic Disease (Microbiological method)	Short-term expert activity termination seminar	15	ECG Subang	Staff of EDC Subang
71	29/11/2012	Expert	Er. Dikanan	Advances in EDC Subang - To increase and improve diagnostic	Short-term expert seminar			
72	19/02/2013	Expert	Er. Dikanan	EDC presentation and control activities in Japan	10-hours Training Program dan Pengetahuan tentang EDC dan PLOD di Indonesia	28	ECG Subang	DOLAHC, DOLAHC, Hewan Kesehatan, Kowasa dan Educat Asia di Hewan, RICA, RICA library, dan lain-lain
73	19/02/2013	Expert	Er. Dikanan	EDC presentation and control activities in Japan	10-hours Training Program dan Pengetahuan tentang EDC dan PLOD di Indonesia			

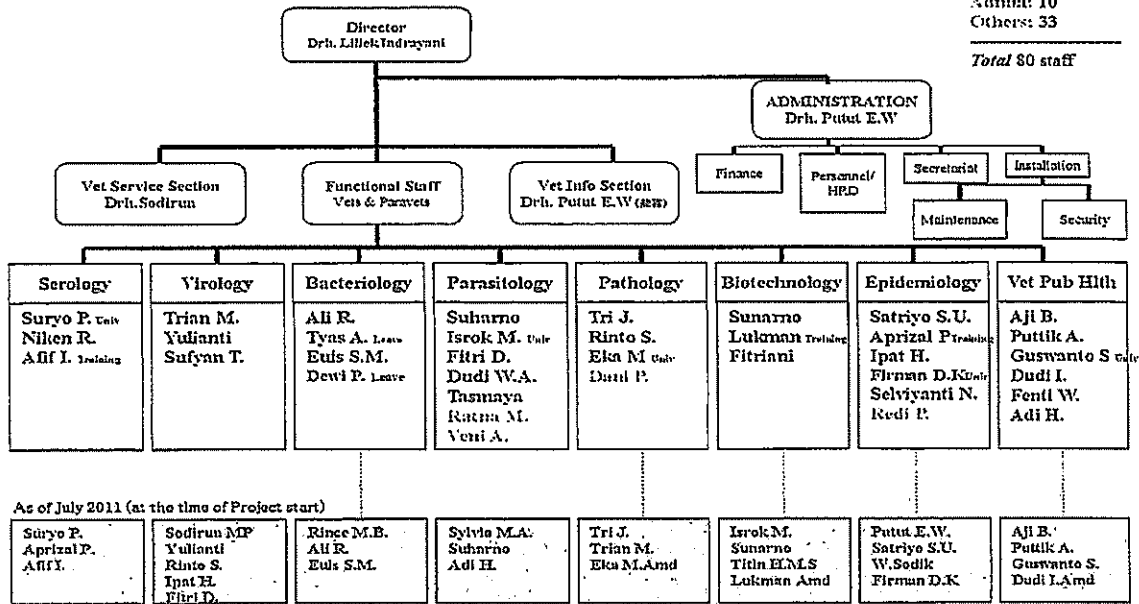
No.	Date	OP or Expert	Presenter	Presentation Title	Name of the Seminar/Workshop	Number of Participants	Place	Organization of Participants
74	15/05/2017	OP	Dr. Tri	ICE Capping Curriculum Program	20-hour Training Program and Workshop for ICE dan PLS & Jember			
75	21/05/2017	Expert	Dr. Laksana	Biology in Curcumin for Anticancer Drug Subst.	Workshop - 6th National Training Meeting on Laboratory Research	20	DOLAH	ICR, DOLAH, Fergo, Sene
76	01/03/2019	Expert	Dr. Murnanti	Development of an assay in GC/MS analysis in public health laboratory	Short-term Expert Activity Plan & Workshop Seminar			
77	01/03/2019	OP	Dr. Tri	Analysis of Chroma Capillary Electrophoresis Assisted with Hypodermis in GC/MS laboratory	Short-term Expert Activity Plan & Workshop Seminar	25	DIC Dabang	Staff of DIC Dabang
78	01/03/2019	OP	Dr. Tri	Analysis of Chroma Capillary Electrophoresis Assisted with Hypodermis in GC/MS laboratory	Short-term Expert Activity Plan & Workshop Seminar			
79	13/02/2019	Expert	Dr. Laksana	ICE Capping Curriculum Program	Short-term expert activity termination seminar	15	DIC Dabang	Staff of ICE Dabang
80	14/02/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar	20	DIC Dabang, DOLAH (Apr 15)	Staff of DIC Dabang & DOLAH (Apr 15)
81	14/02/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar			
82	14/02/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar			
83	14/02/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar			
84	17/04/2019	Expert	Dr. Murnanti	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
85	17/04/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar	19	DIC Dabang, DOLAH (Apr 15)	Staff of DIC Dabang & DOLAH (Apr 15)
86	17/04/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar			
87	17/04/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar			
88	17/04/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar			
89	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
90	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
91	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
92	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
93	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
94	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
95	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
96	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
97	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
98	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
99	14/06/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
100	05/07/2019	Expert	Dr. Laksana	Biology in Curcumin for Anticancer Drug Subst.	Workshop - 6th National Training Meeting on Laboratory Research	40	DIC Dabang	Staff of DIC Dabang, UPT Gajah, DOLAH, B-type Lab, ST Center, WJHP, etc
101	05/07/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar	14	DIC Dabang, DOLAH (Apr 15)	Staff of DIC Dabang & DOLAH (Apr 15)
102	05/07/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar	15	DIC Dabang	Staff of DIC Dabang
103	29/07/2019	OP	Dr. Tri, Dr. Setiawan, Dr. Laksana	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	27	DOLAH Dabang	Staff of DIC Dabang - DOLAH Dabang
104	06/08/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	15	DIC Dabang	Staff of DIC Dabang
105	06/08/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
106	11/08/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	20	DIC Dabang	Staff of DIC Dabang
107	14/08/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	110	DIC Dabang	Staff of DIC Dabang
108	05/11/2019	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	22	DIC Dabang	Staff of DIC Dabang
109	27/11/2019	OP	Dr. Tri	Final Report JICA Short-term Activities in Public Health Laboratory	Short-term expert activity termination seminar	40	DIC Dabang	Staff of DIC Dabang
110	17/01/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	15	DIC Dabang	Staff of DIC Dabang
111	29/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	20	DIC Dabang	Staff of DIC Dabang
112	29/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
113	29/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	19	DIC Dabang	Staff of DIC Dabang
114	29/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
115	17/06/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	15	DIC Dabang	Staff of DIC Dabang
116	18/03/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	25	DIC Dabang	Staff of DIC Dabang
117	16/03/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
118	04/04/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	22	DIC Dabang	Staff of DIC Dabang
119	04/04/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
120	10/04/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	28	DIC Dabang	Staff of DIC Dabang
121	10/04/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
122	02/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	14	DIC Dabang	Staff of DIC Dabang
123	02/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
124	23/02/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	150	DIC Dabang	Staff of DIC Dabang
125	23/02/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	20	DIC Dabang	Staff of DIC Dabang
126	23/02/2014	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
127	23/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	15	DIC Dabang	Staff of DIC Dabang
128	23/02/2014	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
129	12/01/2015	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	25	DIC Dabang	Staff of DIC Dabang
130	12/01/2015	OP	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
131	12/01/2015	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	21	DIC Dabang	Staff of DIC Dabang
132	30/01/2015	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar			
133	31/03/2015	Expert	Dr. Setiawan	Development of an assay in GC/MS analysis in public health laboratory	Short-term expert activity termination seminar	17	DIC Dabang	Staff of DIC Dabang

Project Organization Chart



DIC Subang

< as of Mar. 2015 >
 Veterinarians: 19
 Paramedics: 18
 Admin: 10
 Others: 33
 Total 80 staff



Accomplishment Grid

Annex 14

as of Mar. 2015

Outputs and Activities		2011		2012				2013				2014				2015		Progress	Issues / Plan	Accomplishment (%)
		III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II			
Output 1	The DIC Subang staff obtain basic and systematic diagnosis for animal diseases.																			
Activity 1-1	The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang.	Planned	x													Conducted a baseline survey in DIC Subang and grasped the situation.	-	100%		
		Actual	o	oo																
1-2	Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and a target levels of the techniques for each	Planned	x	x												Already conducted surveys at each laboratory and set target levels.	-	100%		
		Actual	o	ooo																
1-3	The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory of DIC Subang.	Planned	xx		x				x					x		Already made the draft mastering plans for each lab.	DIC Subang reviews the mastering plans every 5 years.	100%		
		Actual	o	oo	o			o						o						
1-4	The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc.	Planned	xx													Already made the resource list of each fields.	Many local experts were invited as a trainer and the relationship with other institutes has been established.	100%		
		Actual	o	oo	o				o											
1-5	The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.	Planned	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	Diagnostic techniques have been transferred by JICA and local experts.	The planned techniques have been transferred. But C/Ps must continue learning after the project.	100%		
		Actual	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo					
1-6	The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.	Planned		x					x					x		The proficiency test and diagnostic comparisons with other DIC were conducted.	In order to apply for accreditation of ISO, DIC Subang is required to have proficiency test periodically.	100%		
		Actual	o	o	ooo	oo	oo	ooo	o	o	oo	oo	oo	ooo	x					
Output 2	The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.																			
Activity 2-1	The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang.	Planned	x													Conducted a baseline survey in DIC Subang and grasped the situation.	-	100%		
		Actual	o			o				ooo	oo									
2-2	The staff of DIC Subang analyzes the current situation of sample submission from the fields.	Planned	x	x												ditto	-	100%		
		Actual	o	o		o				o										
2-3	The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be placed in Output 4)	Planned		xx												DIC Subang staff are making procedures of sample reception & diagnosis flow related to the application of ISO	-	100%		
		Actual	o	ooo	o					ooo	oo									
2-4	The staff of DIC Subang conducts the improved diagnostic services.	Planned			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	According to the above plan of improvement, we developed the new reporting system and continue improving.	Sometimes it is difficult to collect epidemiological information of the sample. It is also necessary to teach the methods to customers.	100%		
		Actual			ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo					
2-5	The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.	Planned			x	o	o	o	x	o	x	o	x	o	x	DIC Subang conducts the customer satisfaction survey every year to improve the service.	The end-line survey will be conducted to evaluate the improvement of services in detail.	90%		
		Actual			o	o	o	o	o	o	o	o	o	o	o					
Output 3	The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.																			
Activity 3-1	The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.	Planned	xxx													Conducted a baseline survey of the stakeholders and grasped the situation.	-	100%		
		Actual	ooo	oo		o				o										
3-2	The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.	Planned		xx												Picked up some candidate place and target disease.	-	100%		
		Actual	oo	ooo	oo	o				o										
3-3	The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.	Planned			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	The surveillance considering the specificity of the pilotsite situation was planned and conducted collaborating with DINAS and B-type labs.	Active surveillance has already been carried out as a routine work, but the purpose of the survey should be more cleared after the project.	100%		
		Actual	oo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo	ooo					
3-4	The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.	Planned				x		x		x		x		oo	The reports of the surveillance were shown at the meeting or report: Prevalence of brucellosis (West Java), Risk analysis (Banten), Brucellosis control & animal ID system (Jakarta).	Conducted the coordination meeting every year, and the survey results are presented to there. But the abortion surveillance is still on going and Dr. Aprizal will develop the reports by	90%			
		Actual				oo		oo		oo		oo		oo						

Outputs and Activities	Planned Actual	2011		2012				2013				2014				2015		Progress	Issues / Plan	Accomplishment (%)
		III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II			
3-5 The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feed-back.	Planned Actual							X	O	X	O	X	O	X	O	X	O	DIC Subang develops and distributes disease map every year as a feed-back of surveillance to improve the disease control situation and make next surveillance plan.	DIC Subang is expected to continue making disease control plan and its evaluation according to the results of the surveillance.	100%
Output 4 The DIC Subang staff conduct the continuous support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health in the pilot sites.																				
Activity 4-1 The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java area.	Planned Actual		X O		X O		X O		X O		X O		X O		X O		X O	Web site of DIC Subang has been developed and the news of the activity is released periodically.	We focused on the web site developing other than the newsletter. The technical information in web site is going to be developed more.	100%
4-2 The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.	Planned Actual				XXXX						XXXX						XXXX	DIC Subang holds annual coordination meeting 2 times a year. Also, meeting with B/C lab and puskesmas has been conducted frequently.	-	100%
4-3 The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flin-chart for dairy farmers.)	Planned Actual										XXXX						XXXX	DIC Subang built the accommodation facilities in 2012, and conducts trainings. At the time of active surveillance, awareness support has been done for the farmers.	-	100%
4-4 The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C	Planned Actual										XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	DIC Subang conducts technical training for the laboratory workers and field vets through cooperation with B/C type	Activities of awareness for the farmers is responsibility of DINAS district, and DIC cannot conduct directly.	100%
4-5 The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions.	Planned Actual																	Activity planning and evaluation has been made with stakeholders at the coordination meeting every year. The results of surveillance are discussed and feed-backed to the next actions.	-	100%

Progress and Results on the Project Activities based on PO (Plan of Operation)

Annex 15

As of March 2015

No.	Objectively Verifiable Indicators	Status before the project	Progress at the time of review
1-1	The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013.	The target goal had not been set.	The target goal until 2014 was set in each lab. All laboratories almost accomplished the planned technical target.
2-1	More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory.	The head of veterinary service section makes diagnosis according to the results of each laboratory test.	Currently, the laboratory chief conducts final diagnosis as a diagnostician in rotation every month. All laboratory chief were certified by the short-term expert that they can diagnose almost adequately.
2-2	Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.	The understanding of field situation was not enough and the feed-back comment was not appropriate enough.	The staff have had experience to visit farmers on active surveillance, and they are become able to feedback the appropriate comment. But the short-term expert recommended to make more specific comment especially for the brucellosis positive cattle.
3-1	Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.	Head of diagnostic service indicates the planning and implementation of disease surveillance, another member of staff was working accordingly.	The system that all veterinarian and paramedic staff participate in disease surveillance was established. The evaluation of surveillance feedback to next activity are discussed with local government every year.
3-2	Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.	The recommendations for the customer had not been made.	Active surveillance is conducted more than 100 times a year. The veterinary staff including laboratory chief is in charge of each surveillance. The results and recommendation is feedbacked after the surveillance every time.
4-1	DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.	Information through such as newsletter, has not been carried out.	Instead of the newsletter, web site of DIC Subang was developed to provide information on a regular basis. Also, the project issued awareness brochures of livestock disease, bulletin and disease map, and they were distributed to stakeholders.
4-2	Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.	Technical support activity for the stakeholder had not been implemented.	The plan of active surveillance is developed collaborating with stakeholders every year. Also, the coordination meeting combined with training is implemented twice a year by gathering stakeholders.
4-3	Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.	Awareness activity had not been planned.	Sometimes there are some revision of activity plan caused by the budgetary problems, but basically, almost all planned activity is implemented every year.

	Objectively Verifiable Indicators	Status before the project	Achieve prediction at the time of evaluation
Project Purpose	1. The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project.	The number of sample for diagnosis was 14,875 (15 diseases) in 2010.	2011: 32,016 samples (23 diseases), 2012: 47,466 (23), 2013: 50,554 (31), 2014: 60,156 (32)
	2. The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project.	According to the result of baseline survey, it depends on the kind of test, but the average is about 1 week. But 20% of the customer get the result after more than 3 weeks.	The flow of sample in DIC Subang has been improved and the feedback is returned to the customer in standard period. The culture of bacteria and pathological diagnosis take 2 weeks, but the serological test and pathological test take only 2 days.
	3. The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year.	The pilot sites had not yet been set.	The pilot sites were set and disease surveillances were planned. The activity implementation, Monitoring and Feedback have been done thorough the workshop and meeting every year. 2012: 8 times, 2013: 22 times, 2014: 17 times.
	4. 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.	Recognition of DIC Subang was low in 2010, there were no customer to ask diagnosis besides the local government.	The study on customer satisfaction has been conducted by DGLAHS. The percentage of satisfied customer is 87.4% in 2011 and 94.8% in 2014.
Overall Goal	1. Number of test samples for animal disease diagnoses at DIC Subang in West Java area increases 10% by the year of 2018 in comparison with the number in 2015.	Until the end of the project, we assume that the diagnostic sample number increase of 5% every year. After that, it is to increase 10 percent in three years.	The number of diagnostic sample is already more than 60,000 in a year, and it is almost the limit of manpower for DIC Subang. DIC Subang has promoted to share the role of diagnosis between they and B/C type labs. For the time of Post-evaluation, increase of the diagnostic samples in B/C type labs or quality of diagnosis in DIC Subang should be considered.
	Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java area by the year of 2018.	The number of district monitored was 31 in 2010.	DIC Subang monitors all districts (41 districts) in 2014.
	3. Number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java area goes up 20% by the year of 2018 in comparison with the number in 2015.	There was no awareness and technical support activity conducted by DIC Subang.	The technical support activities (Training, Seminar, etc.) for the staff of local laboratories were conducted as following. 2011: 5 times, 2012: 8 times, 2013: 15 times, 2014: 12 times. Active surveillances conducted with DINAS were as following. 2012: 91 times, 2013: 105 times, 2014: 130 times.

Suggestion for revisions of Objectively Verifiable Indicators (OVI) on Project Design Matrix (PDM) by the Joint Terminal Evaluation Team

Annex 16

PDM Narrative Summary	Objectively Verifiable Indicators		Reason for Change
	Current OVI	Suggested OVI	
<p>Overall Goal</p> <p>Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.</p>	<p>1 Number of <u>test samples</u> for animal disease diagnoses at DIC Subang in West Java region increases 10% by the year of 2018 in comparison with the number in 2015.</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p> <p>3 Number of awareness and technical support activity concerning animal health conducted by DIC Subang in West Java region goes up 20% by the year of 2018 in comparison with the number in 2015.</p>	<p>1 The number of <u>test performed</u> for animal disease diagnoses at the DIC Subang, type-B/C laboratories and PUSKESWAN in the jurisdiction area of the Center increases 10% by the year of 2018 in comparison with that in 2015</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p>	<p>Current OVI 1 and OVI 3 are integrated as Suggested OVI 1 because of that;</p> <ul style="list-style-type: none"> The number of test performed is approximately 61,000 in the year of 2014, approaching the capacity limit of the DIC Subang. By sharing simple tests from DIC Subang to type-B/C laboratories enhances diagnostic capacity of type-B/C laboratories. DIC Suban should conduct activities of awareness raising and technical assistances steadily for type-B/C as describe on Current OVI 3. <p>The unit of the target value of the OVI regarding the performance of tests should be changed from “the number of test samples” to “the number of tests performed” because of that;</p> <ul style="list-style-type: none"> One sample might be subject to multiple tests and the DIC Subang counts the number of tests practically due to the difficulty in grasping the performance with the number of samples.

Project Design Matrix (PDM)

Project Name Project on Capacity Development of Animal Health Laboratory
 Target Group Staff of Diseases Investigation Center (DIC) Subang
 Project Duration Four (4) years, July 17, 2011 – July 16, 2015
 Project Site DIC Subang
 Implementing Agency Directorate of Animal Health DGLAHS-MoA and JICA

Annex 17

(Draft)

Date: May 26, 2015
Version 3

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
<p>Overall Goal</p> <p>Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.</p>	<p>1 The number of tests performed for animal disease diagnoses at the DIC Subang, type-B/C laboratories and PUSKESWAN in the jurisdiction area of the Center increases 10% by the year of 2018 in comparison with that in 2015.</p> <p>2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.</p>	<p>1 Monitoring Report, Survey on target groups in West Java region by DIC Subang (Terminal evaluation survey and final survey)</p> <p>2 Monitoring Report</p>	
<p>Project Purpose</p> <p>The quality and quantity of animal disease diagnosis service at DIC Subang are improved.</p>	<p>1 The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project.</p> <p>2 The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project.</p> <p>3 The DIC Subang staff are ready to conduct Active Surveillance (Planning, implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year.</p> <p>4 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.</p>	<p>1 Monitoring Reports</p> <p>2 Diagnosis records at DIC Subang</p> <p>3 Observation at the time of mid-term review and terminal evaluation.</p> <p>4 Monitoring Reports, The results of questionnaire survey on users at the time of mid-term review and terminal evaluation (questionnaire survey to be done by the project monitoring activity 2-5).</p>	<p>The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously.</p> <p>Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project.</p>
<p>Outputs</p> <p>Output 1 The DIC Subang staff obtain basic and systematic diagnosis for animal diseases.</p> <p>Output 2 The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.</p>	<p>1-1 The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013.</p> <p>2-1 More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory.</p> <p>2-2 Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.</p>	<p>1-1 The results of examination by the Project</p> <p>2-1 Records of comments for diagnosis results</p> <p>2-2 The results of certification by the Project</p>	<p>The staff of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period.</p>

<p>Output 3 The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.</p> <p>Output 4 The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.</p>	<p>3-1 Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.</p> <p>3-2 Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.</p> <p>4-1 DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.</p> <p>4-2 Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.</p> <p>4-3 Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.</p>	<p>3-1 Record of surveys</p> <p>3-2 Records of Recommendations for animal disease control measures</p> <p>4-1 Records of issued Newsletter</p> <p>4-2 The plan and records of awareness and technical support activities</p> <p>4-3 The plan and records of awareness and technical support activities</p>	
<p>Activities</p> <p>Output 1</p> <p>1-1 The Staff of DIC Subang surveys the current capacities and needs in the diagnostic techniques at DIC Subang.</p> <p>1-2 Based on the results of the survey, the staff of DIC Subang sets the necessary diagnostic techniques (kind of disease, diagnostic method etc.) and target levels of the techniques for each laboratory.</p> <p>1-3 The staff of DIC Subang makes the plan of mastering diagnostic techniques for each laboratory in DIC Subang.</p> <p>1-4 The staff of DIC Subang makes the list of trainer resources, for example, staff of other DICs, IRCVS, NVDAL, Vet Faculty of university, foreign experts etc.</p> <p>1-5 The staff of DIC Subang learns the planned diagnostic techniques from the resources trainers through training in Indonesia, Japan or third country.</p> <p>1-6 The staff of DIC Subang receives the diagnostic capability evaluation (including the proficiency tests) by resource trainers about the transferred diagnostic tests.</p> <p>Output 2</p> <p>2-1 The staff of DIC Subang analyzes the current situation of sample flow and examinations at DIC Subang.</p> <p>2-2 The staff of DIC Subang analyzes the current situation of sample submission from the fields.</p> <p>2-3 The staff of DIC Subang makes the plan of improved sample flow and examination system at DIC Subang. (Measures for the sample senders will be planed in Output 4)</p> <p>2-4 The staff of DIC Subang conducts the improved diagnostic services.</p> <p>2-5 The staff of DIC Subang monitors the improved diagnostic services (sample reception, diagnostic flow and customer's comment etc.) and conducts the feed-back to the system.</p>	<p>Inputs</p> <p><u>Indonesian side</u></p> <ol style="list-style-type: none"> 1. Assignment of counterpart personnel 2. Salary, Travel expense, accommodation cost and daily allowance of counterpart personnel 3. Project office space and communication device etc. 4. Budget for operational cost for the Project implementation (electricity etc.) 5. Procurement of Reagents and consumables. <p><u>Japanese side</u></p> <ol style="list-style-type: none"> 1. Dispatch of Experts (1) Long-term Experts : <ul style="list-style-type: none"> - Chief Advisor / Animal Health Administration - Project Coordinator / Animal Health Information - Veterinary Diagnosis / Epidemiology (assigned in half period of the project) (2) Short-term experts: from Japan or from third country Relevant experts in specific subjects of animal health will be dispatched, when necessity arises, for the smooth implementation of the Project within the framework of the Project. 	<p>Sufficient budget to conduct the necessary diagnosis is secured by Indonesian side.</p>	

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<p>Output 3</p> <p>3-1 The staff of DIC Subang conducts preliminary surveys to select pilot site(s) from livestock / poultry industry promoted areas.</p> <p>3-2 The staff of DIC Subang specifies the pilot site and some animal diseases for the surveys and control.</p> <p>3-3 The staff of DIC Subang plans and conducts the surveys on animal health considering the specificity of promoted livestock / poultry sectors in the pilot site through cooperation with B/C type laboratories.</p> <p>3-4 The staff of DIC Subang analyses the results of surveys and develops the recommendation reports to the authorities for the improvement of animal health situation.</p> <p>3-5 The staff of DIC Subang organizes and conducts the monitoring of the animal health improvement for the follow-up of recommended activities and the feed-back.</p> <p>Output 4</p> <p>4-1 The DIC Subang issues periodical Newsletters to provide and exchange information on animal health for laboratory workers, field vets and farmers in the 3 provinces of West Java region.</p> <p>4-2 The staff of DIC Subang examines and conducts necessary measures of information exchange (on site meetings, etc.) for veterinary officers, laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-3 The staff of DIC Subang makes plans of sustainable activities of awareness and technical supports for improvement of animal health and production, which are necessary for laboratory workers, field vets and farmers in the pilot site. (Utilize other JICA projects outcomes such as a Flip-chart for dairy farmers.)</p> <p>4-4 The staff of DIC Subang conducts sustainable activities of awareness and technical support for the laboratory workers, field vets and farmers in the pilot site through cooperation with B/C type laboratories.</p> <p>4-5 The staff of DIC Subang organizes and conducts the monitoring and the feed-back of the results to the next actions.</p>	<p>2. Counterparts training in Japan or in third country</p> <p>3. Provision of machinery / equipment</p> <p>4. Budget for operational cost for the Project implementation</p>	<p>Pre-Conditions</p>
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Diagnostic test conducted in DIC Subang

Annex 18

No	Disease	Diagnostic Test	Lab	Before Project Implementation (2010)	End of the Project (2014)
1	Hemorrhagic Septicemia	Isolation and identification	Bacteriology	x	○
2	Anthrax	Isolation and identification	Bacteriology	x	○
		ELISA	Bacteriology	○	○
		Pathology Staining	Bacteriology	x	○
3	Brucellosis	Rose Bengal Test	Bacteriology	○	○
		CF Test	Bacteriology	x	○
		Isolation and identification	Bacteriology	x	○
4	Campylobacteriosis	Isolation and identification	Bacteriology	x	○
5	Salmonellosis	Quick Test (Pullorum serum test)	Bacteriology	○	○
		Pullorum isolation and identification	Bacteriology	x	○
		Salmonella isolation and identification	Bacteriology	x	○
6	Rabies	FAT	Virology, Serology	○	○
		ELISA	Virology, Serology	○	○
		Biological Test	Virology, Serology	x	○
7	Jembrana Disease	ELISA	Virology, Serology	x	○
		PCR	Virology, Serology	x	x
8	BVD	ELISA	Virology, Serology	○	○
		PCR	Biotechnology	x	○
9	IBR	ELISA	Virology, Serology	○	○
10	Classical Swine Fever	ELISA	Virology, Serology	○	○
		PCR	Biotechnology	x	○
11	Avian Influenza	TET Isolation	Virology, Serology	○	○
		HA/HI (Serology)	Virology, Serology	○	○
		PCR (Type A)	Biotechnology	x	○
		PCR (H1)	Biotechnology	x	○
		PCR (H5)	Biotechnology	x	○
		PCR (H7)	Biotechnology	x	○
12	Newcastle Disease	TET Isolation	Virology, Serology	○	○
		HA/HI (Serological Test)	Virology, Serology	○	○
		PCR	Biotechnology	x	○
13	IBD	ELISA	Virology, Serology	x	○
		PCR	Biotechnology	x	○
14	Foot and Mouth Disease	ELISA	Virology, Serology	x	○
15	Enzootic Bovine Leukosis	ELISA	Virology, Serology	○	○
		PCR	Biotechnology	x	○
16	Mycoplasma (CRD)	Quick test	Bacteriology	○	○
		Isolation and identification	Bacteriology	x	○
17	BSE	Histopathology	Pathology	x	○
18	Swine flu (H1N1)	ELISA	Virology, Serology	○	○
		PCR	Biotechnology	○	○
19	Blood parasite	Trypanosomiasis	Parasitology	○	○
		Anaplasmosis	Parasitology	x	○
		Theileriosis	Parasitology	○	○
		Babesia	Parasitology	x	○
		Plasmodium	Parasitology	x	○
		Leucocytozoon	Parasitology	x	○
		Eperythrozoon	Parasitology	x	○
		Clinostomum	Parasitology	x	○
20	Endoparasite	Fasciolosis	Parasitology	○	○
		Paramphistomum	Parasitology	○	○
		Moniezia	Parasitology	○	○
		Eimeria (Coccidiosis)	Parasitology	○	○
		Nematodiasis	Parasitology	○	○
		Bunostomum	Parasitology	x	○
		Cooperia	Parasitology	x	○
		Cotyloporon	Parasitology	x	○
		Mecistocirus	Parasitology	x	○
		Oesophagostomum	Parasitology	x	○
		Strongyloides	Parasitology	x	○
		Trichostrongylus	Parasitology	x	○
		Trichuris	Parasitology	x	○
21	Neosporosis	ELISA	Parasitology	x	○
22	Toxoplasmosis	ELISA	Parasitology	x	○
23	Trichomoniasis	ELISA	Parasitology	x	○

24	Colibacillosis	Isolation and identification	Bacteriology	x	○
25	Johne's disease	ELISA	Bacteriology	x	○
		PCR	Biotechnology	x	○
26	Akabane disease	Isolation and identification	Virology, Serology	x	○
		Neutralization test	Virology, Serology	x	○
27	Food-borne poisoning	Total Plate Count	Public Health	x	○
		Pig containing	Public Health	x	○
		Antibiotics residue	Public Health	x	○
		Borax residue	Public Health	x	○
		Coliform culture	Public Health	x	○
		Salmonella culture	Public Health	x	○
		Formalin Test	Public Health	x	○

Appendix 2

Project Design Matrix (PDM)

Project Name Project on Capacity Development of Animal Health Laboratory
Target Group Staff of Diseases Investigation Center (DIC) Subang
Project Duration Four (4) years, July 17, 2011 – July 16, 2015
Project Site DIC Subang
Implementing Agency Directorate of Animal Health DGLAHS-MoA and JICA

Date: May 26, 2015
Version 3

Narrative Summary	Objectively Verifiable Indicators	Means of Verifications	Important Assumptions
Overall Goal Measures for animal disease control in West Java region (Jurisdictional area of DIC Subang) are strengthened.	1 The number of tests performed for animal disease diagnoses at the DIC Subang, type-B/C laboratories and PUSKESWAN in the jurisdiction area of the Center increases 10% by the year of 2018 in comparison with that in 2015. 2 Number of district where the animal disease control is monitored by DIC Subang amounts to all district required in West Java region by the year of 2018.	1 Monitoring Report, Survey on target groups in West Java region by DIC Subang (Terminal evaluation survey and final survey) 2 Monitoring Report	
Project Purpose The quality and quantity of animal disease diagnosis service at DIC Subang are improved.	1 The number and the kind of animal disease diagnosis at DIC Subang becomes more than 35,000 samples in a year and 16 kind at the end of the Project. 2 The feedbacks of diagnosis (Passive Surveillance) to the customers are returned promptly in prescribed days set by the Project. 3 The DIC Subang staff are ready to conduct Active Surveillance (Planning, Implementing, Monitoring and Feedback the results to next survey) on animal health considering with livestock / poultry industry promotion in the pilot sites more than 2 times/site in a year. 4 80% of inquired customers (stakeholders such as DINAS staff, Field vets, and Farmers) recognizes improvement of diagnosis services of DIC Subang by the end of the Project.	1 Monitoring Reports 2 Diagnosis records at DIC Subang 3 Observation at the time of mid-term review and terminal evaluation. 4 Monitoring Reports, The results of questionnaire survey on users at the time of mid-term review and terminal evaluation (questionnaire survey to be done by the project monitoring activity 2-5).	The measures and policies concerning of animal disease control will be implemented by the government of Indonesia continuously. Enough budget and personnel are allocated to DIC Subang for sustaining outcomes of the Project.
Outputs Output 1 The DIC Subang staff obtain basic and systematic diagnosis for animal diseases. Output 2 The capacity to provide the customer oriented diagnosis services (Passive Surveillance) of DIC Subang staff is strengthened.	1-1 The technical levels acquired on diagnostic tests in each laboratory (8 laboratories) of DIC Subang attain to the target levels set up in the "Project Technical Target Sheet" by June 2013. 2-1 More than one staff in DIC Subang are certified by the Project he/she is able to make a final diagnosis based on the result of tests in each laboratory. 2-2 Each laboratory chief in DIC Subang he/she is able to make an appropriate comments based on the result of tests in each laboratory.	1-1 The results of examination by the Project 2-1 Records of comments for diagnosis results 2-2 The results of certification by the Project	The staff of DIC Subang who have been transferred techniques by the Project are not transferred to other office during the Project period.

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<p>Output 3 The capacity to conduct the surveys and the technical support of animal disease control (Active Surveillance) in the pilot sites of DIC Subang staff is strengthened.</p> <p>Output 4 The DIC Subang staff conduct the continuous technical support activities for laboratory workers, field vets and farmers, including information exchange, awareness on animal health improvement in the pilot sites.</p>	<p>3-1 Active surveillances on animal health are conducted annually with a framework (Planning, Implementing, Analyzing and feedback) by the staff of DIC Subang.</p> <p>3-2 Each laboratory chief in DIC Subang are able to make recommendations of animal disease control in the pilot sites for the veterinary officers and laboratory workers.</p> <p>4-1 DIC Subang (Vet. Information section) issues periodical Newsletter of animal health 2 times a year for laboratory workers, field vets and farmers in the three provinces by June 2012.</p> <p>4-2 Each laboratory chief in DIC Subang is able to make annual plan of technical support activities to the laboratory workers, field vets and farmers in the pilot site by December 2013.</p> <p>4-3 Achievement rate of annual activity plan (set in 4-2) becomes more than 90% in the pilot site.</p>	<p>3-1 Record of surveys</p> <p>3-2 Records of Recommendations for animal disease control measures</p> <p>4-1 Records of issued Newsletter</p> <p>4-2 The plan and records of awareness and technical support activities</p> <p>4-3 The plan and records of awareness and technical support activities</p>	
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