

インドネシア共和国  
官民協力による農産物流通システム改善  
プロジェクト  
終了時評価調査報告書

2021年3月

独立行政法人国際協力機構  
経済開発部

経開
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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との討議議事録（Record of Discussions : R/D）に基づき、技術協力プロジェクト「官民協力による農産物流通システム改善プロジェクト」を2016年2月から2021年3月までの期間で実施しています。

今般、本プロジェクトの協力期間終了を目前に控え、協力期間中の成果と実績を振り返るとともに、プロジェクト終了期間までの取り組みの整理や、2021年度より実施が計画されている本プロジェクトフェーズ2等に資する教訓に係る検討を行うため、2020年8月31日から9月18日にかけて、日本・インドネシア国側双方の合同評価団による終了時評価調査を実施しました。

本報告書は、終了時評価に関する調査結果を取りまとめたものであり、プロジェクトが2021年3月で終了するため、次期プロジェクト及び類似プロジェクトの計画・運営に広く活用されることを願うものです。

最後に、調査の実施にあたりご協力を頂いた内外の関係各位に深く感謝申し上げます。

2021年3月

独立行政法人 国際協力機構  
経済開発部長 佐野 景子



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## プロジェクトの位置図



出所 : [https://www.id.emb-japan.go.jp/oda/jp/provinces/odaprojects\\_map\\_jabar.htm](https://www.id.emb-japan.go.jp/oda/jp/provinces/odaprojects_map_jabar.htm)

図－1 西ジャワ州の地図



出所 : Rossche Licensed under CC BY-SA 3.0 via Wikimedia Commons

[http://commons.wikimedia.org/wiki/File:Map\\_of\\_West\\_Java\\_with\\_cities\\_and\\_regencies\\_names.png#/media/File:Map\\_of\\_West\\_Java\\_with\\_cities\\_and\\_regencies\\_names.png](http://commons.wikimedia.org/wiki/File:Map_of_West_Java_with_cities_and_regencies_names.png#/media/File:Map_of_West_Java_with_cities_and_regencies_names.png)

図－2 プロジェクトサイト



## 略 語 表

略 語	正式名称	日本語
ASEAN	Association of South-East Asian Nations	東南アジア諸国連合
BNI	Bank Negara Indonesia	ネガラ・インドネシア銀行
BTPN	PT. Bank Tabungan Pensiunan Nasional Tbk	タブンガン・ペンシウナン・ナショナル銀行
CWF	PT. Calbee-Wings Food	カルビー・ウィングス・フード社
DGH	Directorate General of Horticulture	農業省園芸総局
DINAS	Agriculture Department	地方政府（州、県、市政府）の農業局
FSP	Financial Service Provider	金融サービス提供機関
HSI	PT. Hasil Sayur Indonesia	ハシル・サユル・インドネシア社 (園芸作物のサプライヤー)
IDR	Indonesian Rupiah	インドネシアルピア
JCC	Joint Coordinating Committee	合同調整委員会
JETRO	Japan External Trade Organization	独立行政法人日本貿易振興機構
JICA	Japan International Cooperation Agency	独立行政法人国際協力機構
KMBM	Koperasi Maju Berkah Mandiri	ケイ・エム・ビー・エム (チアンジュール県農家グループによる農協)
KUR	Kredit Ushaha Rakyat	インドネシア政府による小規模融資制度
MM	Man Months	人/月
MOA	Ministry of Agriculture	農業省
MOU	Memorandum of Understanding	覚書
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PT	Perseroan Terbatas	株式会社
R/D	Record of Discussions	討議議事録
RPJMN	Rencana Pembangunan Jangka Menengah Nasional	国家中期開発計画（5カ年計画）
STA	Sub-Terminal of Agribusiness	産地農産物卸売市場



## 評価調査結果要約表

<b>1. 案件の概要</b>	
国名：インドネシア共和国	案件名：官民協力による農産物流通システム改善プロジェクト
分野：農村開発、官民連携	援助形態：技術協力プロジェクト
所轄部署：経済開発部	協力金額（評価時点）：4億1,000万円
協力期間 2016年2月～ 2021年3月	先方関係機関：農業省、西ジャワ州農業局、チアンジュール県農業局、ガルット県農業局、ボゴール県・市農業局、スカブミ県・市農業局、バンドン県農業局、西バンドン県農業局
	日本側協力機関：有限会社アイエムジー、株式会社タスクアソシエーツ
	他の関連協力：特になし
<b>1-1 協力の背景と概要</b>	
<p>インドネシア共和国（以下、「インドネシア」と記す）におけるスーパーマーケット等の近代的小売店、レストランやファーストフード等の外食産業の普及は、中間所得層の多くが居住する都市部を中心に急速に進んでおり、今後も中間所得層や人口の50%以上を占める30歳未満の若年層を中心に近代的店舗の利用が更に浸透していくと予想されている。また、近年の高度経済成長に伴い国民の平均可処分所得が上昇しており、消費意欲の旺盛な富裕・中間所得層（世帯年間可処分所得5,000米ドル以上3万5,000米ドル未満）の割合は1990年の5.8%から2010年には57.7%に大幅に増加し、2020年には73.5%にまで増加することが予想されている。</p> <p>国民の所得構造の変化に伴い、食の多様化や消費者の食品嗜好の変化（健康志向や環境配慮により安全で高品質な食品を求める傾向、洋食・日本食ブームにみられる新しい食品への関心、調理時間が短縮できる加工食品やファーストフードの利用等）が進み、輸入の急激な伸びとともに、生鮮食品・加工食品を含めた食品市場は拡大し続けている。野菜・果物の輸入も急激な伸びを示しており、高品質な野菜・果物を求める消費者が増加していることがわかる。インドネシアの食料費支出額は2005年から2009年までの4年間で48%上昇しており、この傾向が続けば、2020年の食料品市場規模は1,925兆ルピア（17.5兆円）に達すると見込まれている。</p> <p>その一方で、インドネシアの農産物流通システムや食品市場の近代化は、他のASEAN主要国との比較においても低い水準にあるといえる。食品マーケット全体でみた場合の近代的小売店の売上シェアはまだ低く、「パサール」と呼ばれる公設市場や昔ながらの家族経営の個人商店、屋台等の伝統的小売が多くを占めている。伝統的市場への流通プロセスは、多数の仲介業者が介在することによって複雑かつ高コストとなり、また、不衛生な卸売・小売市場の施設環境等が問題になっている。そのため一定の品質と安全性を備えた産品を安定的に調達したい近代的小売業者は、信頼できる取引相手を自社で開拓せざるを得ない。さらに、輸送インフラやワールドチェーンの整備の遅れは、特に生鮮食品の鮮度・品質管理上の障害となり、国内で高品質の園芸作物を生産できる技術があるにもかかわらず、輸入品で代替されることが多い。</p> <p>このような状況は生産者側にとっても問題で、手間とコストをかけて高品質で安全な農産物を栽培しても適切な価格で取引できる近代市場へのアクセスが困難であるため、生産意欲を削がれる結果となっている。近代市場（スーパーマーケット、コンビニエンスストア、外食産業、食品加工業等）と一定の生産技術を有する信頼性の高い農民組織との間で直接的な取引ネット</p>	

ワークを確立することができれば、富裕・中間層を中心とする消費者のニーズに応えつつ、小規模農家の所得と生産意欲の向上をもたらすだけでなく、外資食品関連企業にとっても高品質で安全な農産物供給元を安定して確保することができ、直接投資や企業進出の促進が期待される。

以上の背景から、安全で高品質な農産物サプライチェーンの構築を目的とした本技術協力「官民協力による農産物流通システム改善プロジェクト」（以下、「本プロジェクト」と記す）がインドネシア政府より要請され、2016年2月より実施されている。本終了時評価は、2021年3月のプロジェクト完了に先立ち、プロジェクト・デザイン・マトリックス（Project Design Matrix：PDM）に基づき、プロジェクト活動の実績、成果及びプロジェクト目標の設定状況の評価・確認するとともに、残りの実施期間及び終了後に向けた検討・提言を行うことを目的として実施された。

## 1-2 協力内容

### (1) スーパーゴール

西ジャワ州の農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。

### (2) 上位目標

西ジャワ州対象地域の農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。

### (3) プロジェクト目標

西ジャワ州対象地域の対象農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。

### (4) 成果

成果 1-1：対象農家が高品質で安全な農産物の栽培・生産技術を習得する。

成果 1-2：対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる。

成果 1-3：対象農家グループが近代市場への販路を開拓する。

成果 1-4：対象農家グループの金融アクセスが改善される。

成果 2：園芸作物の生産流通システム近代化に関与する行政機関関係者の行政運営能力が向上する。

### (5) 投入

#### 1) 日本側：総投入額：4億1,000万円

- ・ 専門家派遣：12名
- ・ ローカルコスト負担：9,690万円
- ・ 研修員受入：41名（9名の農家グループ代表を含む）
- ・ 資機材の提供

#### 2) インドネシア側

- ・ 相手国実施機関：59名
- ・ ローカルコスト負担：560万円
- ・ プロジェクト事務所の提供



2. 評価調査団の概要			
調査者	日本側		
	担当分野	氏名	所属
	団長/総括	溝江 恵子	JICA 経済開発部 農業・農村開発 第一グループ 課長
	フードバリュー チェーン	板垣 啓四郎	日本財団 参与
	営農	上堂 蘭 明	JICA 経済開発部 国際協力専門員
	協力企画 1	齋藤 美穂子	JICA 経済開発部 農業・農村開発 第一グループ 主任調査役
	協力企画 2	山口 集	JICA 経済開発部 農業・農村開発 第一グループ 職員
	評価分析	松浦 わか子	一般社団法人アクセスアドバイザー ジャパン
	インドネシア側		
	総括	Mr. Ahmad Widodo Heru	Division of Planning, Secretariat of Directorate General of Horticulture, Ministry of Agriculture
	Ms. Novida Siti Jubaedah	Division of Planning, Secretariat of Directorate General of Horticulture, Ministry of Agriculture	
調査期間	2020年8月31日～2020年9月18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) 投入の実績			
〈日本側の投入〉			
1) 専門家の派遣			
下記の2つの運営管理業務と10の専門分野に係る活動を行うため、合計12名の日本人専門家が派遣された。			
<ul style="list-style-type: none"> <li>・運営管理業務 (2)：総括/副総括</li> <li>・専門分野 (10)：マーケティング/商品開発/園芸栽培技術/協同組合組織運営/官民連携促進/金融アクセス改善/収穫後処理/農産物流通/能力強化/インパクト調査</li> </ul>			
プロジェクト開始以降、2020年8月31日時点の専門家の投入実績合計は60.78人/月(MM)であった。派遣された日本人専門家のリストは下表のとおり。			
<b>本プロジェクトに従事した専門家 (2016年、立ち上げ期)</b>			
担当業務		氏名	
総括/農産物流通/マーケティング/商品開発		森 真一	
副総括/農産物流通		西村 勉	
園芸栽培技術		森田 健雄	

協同組合組織運営	松見 靖子、梶田 未央
協同組合組織運営/官民連携促進	清水 俊博
金融アクセス改善	米山 明季子
収穫後処理/加工	田中 俊祐

本プロジェクトに従事した専門家（2017-2020年）

担当業務	氏名
総括/農産物流通/本邦研修	西村 勉
官民連携促進	森 真一
園芸栽培技術/収穫後処理/加工	森田 健雄
園芸栽培技術	山崎 勝
協同組合組織運営/官民連携促進	清水 俊博
金融アクセス改善	米山 明季子
インパクト調査/農産物流通	末永 純平
情報・デジタル技術活用促進	竹内 知成
電子商取引（EC）の活用状況調査	北野 正人

2) 本邦研修

本邦研修は2016年、2017年、2018年の3度行われた。合計で32名のインドネシア側実施機関職員及び9名の対象農家グループの代表が2週間にわたり近代生産技術、マーケティング、高品質な農産物の流通システム等に関する研修に参加した。

3) 資機材

プロジェクト開始初年度に対象県の産地農産物卸売市場（Sub-Terminal of Agribusiness : STA）の機能強化、及びトライアルプロジェクトの有効性を向上させるために必要な資機材がSTAと農家グループに供与された。主な供与機材としては、果物や野菜の洗浄機や皮むき器が含まれており、終了時評価調査時点では、すべての資機材が使用されていることが確認された。

4) 日本側ローカルコスト負担実績

終了時評価調査時点で、園芸作物の流通支援に係る建物の改装、資機材の調達や供与、フィールドスタッフ等ローカルスタッフの雇用に係る経費、車両費等現地移動に係る経費、トライアルプロジェクトに係る経費、各種セミナー開催関連経費等、プロジェクト実施に必要な資金のうち現地通貨で支出されたローカルコストとして、約9,700万円が支払われた。プロジェクトでは、フィールドスタッフとして、プロジェクト期間中に合計で10名が雇用され、うち1名がプロジェクトコーディネーター、1名が秘書、2名がエリア総括、6名がフィールド担当となっている。

〈インドネシア側の投入〉

1) 実施機関側プロジェクト担当者の配置

本プロジェクトの担当者として、合計59名の職員が、農業省園芸総局、総務局、果実

花卉局、園芸保護局、園芸種子局、園芸加工流通局、野菜薬用作物局、及び西ジャワ州、ボゴール県・市、スカブミ県・市、バンドン県、西バンドン県、チアンジュール県、ガルット県農業局に配置された。

## 2) インドネシア側投入予算実績

終了時評価調査時点で、プロジェクト運営に関する意思決定機関である合同調整委員会（Joint Coordinating Committee : JCC）の開催に係る費用や、インドネシア側実施機関のプロジェクト担当者が会議に参加する際の旅費等を含む、約 560 万円（7 億 8,700 万ルピア）がインドネシア側によりローカルコストとして支出された。

## (2) 成果の達成状況

### 成果 1-1：対象農家が高品質で安全な農産物の栽培・生産技術を習得する。

成果 1-1 に係る活動として 2017 年から 2020 年にかけて、年 2 回（乾期と雨期に 1 回ずつ）のトライアルプロジェクトを実施した。プロジェクトでは対象農家に対し特定作物の栽培技術指導を行い、複数の対象農家が数回のトライアルプロジェクトへの参加を通じて、農産物の品質改善と収量増加を達成することができた。さらにプロジェクトでは、新たに市場性のある品目の栽培をめざす農家を支援することを目的として、近代市場の日本野菜への高い需要を見込み、種子登録を含む日本野菜の導入を支援した。

また、プロジェクトでは、PT. Calbee-Wings Food (CWF)、ユニチカ株式会社、アサヒバイオサイクル株式会社、PT. TAKIRON INDONESIA、株式会社シモタ農芸など、日本企業を中心に多くの民間企業とパートナーシップを構築し、日本の高度な農業技術や農業資材の導入を支援した。以上より、成果 1-1 の目標は達成したといえる。

### 成果 1-2：対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる。

プロジェクトでは対象農家グループの栽培管理能力を向上させるため、栽培の詳細な過程（播種、定植、整地、農薬散布、殺虫剤散布等）とタイミングを記録する「栽培カレンダー」を導入した。栽培カレンダーは多くの対象農家グループにとって新しい手法であったが、栽培カレンダーを導入した多くの農家グループにおいて、栽培管理及び生産量と品質が向上した。

他方、成果 1-2 の達成状況を測るために設定された「トライアルプロジェクトを完了した対象農家の 60%が栽培記録をつける」という指標は、成果 1-2 がめざす「対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる」という状態を必ずしもとらえておらず、市場ニーズに応じた栽培を計画・実行するためには、栽培記録の徹底に加え、市場の需要を十分に把握し、それらに応じて収穫時期や生産量を計画するといった更なる能力強化が必要となる。このことから、成果 1-2 は部分的に達成されたと評価した。

### 成果 1-3：対象農家グループが近代市場への販路を開拓する。

プロジェクトは農業省（Ministry of Agriculture : MOA）園芸総局（Directorate General of Horticulture : DGH）とともに、民間企業（スーパーマーケットチェーン、外食産業、大手輸出・貿易業者等）、農家グループ、金融機関を招いてのビジネスフォーラムを 4 回開催し、販路開拓に向けた対話や情報交換の促進を支援した。プロジェクト前半では農産品の生産

技術の向上に重点が置かれたが、プロジェクト後半では農家グループと市場をつなぐ活動が強化された。一部の対象農家グループが新たな販路を開拓した一方で、多くの農家グループは高品質な野菜を安定的に供給することの難しさから、いまだ市場との長期的なビジネス関係を構築することが困難な状況にある。市場の需要に応じた生産体制の構築、及び長期的なビジネス関係の構築に向けて、商談力や品質管理などを含むマーケティングスキルも必要となる。このように、販路開拓に向けては持続性の観点から課題が残ることから、成果 1-3 は部分的に達成されたと評価した。

#### 成果 1-4：対象農家グループの金融アクセスが改善される。

農家の金融アクセスを改善し自立性を向上させるため、プロジェクトはインドネシア政府による小規模融資スキームである Kredit Usaha Rakyat (KUR) を農家グループが借り入れるための支援を金融サービス提供者 (Financial Service Provider : FSP) と連携し行った。プロジェクトでは民間銀行のタブンガン・ペンシウナン・ナショナル銀行 (PT. Bank Tabungan Pensiunan Nasional Tbk : BTPN) と連携し 2 回の KUR 融資の申請支援を行い、この結果、合計 50 名の農家に対し計 8 億 5,300 万ルピアが貸し付けられた。しかし BTPN の経営方針の変更により第 3 回の融資は実施されず、融資を受けた農家数は 50 名にとどまり、目標であった 150 名には達しなかった。

#### 成果 2：園芸作物の生産流通システム近代化に関与する行政機関関係者の行政運営能力が向上する。

日本において、高品質な農産物の生産、流通、販売を学ぶための本邦研修が 2016 年から 2018 年にかけて 3 回実施され、計 32 名の行政官と 9 名の対象農家が日本での研修 (2 週間) に参加した。終了時評価では、本邦研修に参加したことで農家のモチベーションが高まり、現在もプロジェクトの中核メンバーとして積極的に活動していることが確認された。

また、本邦研修に参加したことで行政官のプロジェクトに対するモチベーションも高まり、プロジェクトの推進に貢献したことも確認された。本邦研修に参加した行政官を含む対象地域各県・市の担当官により、プロジェクト期間中にインドネシア側の実施機関主導による農産物流通改善に関するイベントが 45 件開催されたほか、農産物流通システムの近代化に貢献するプログラムが 33 件実施された。

一方、生産流通システムの近代化を推進するための行政運営能力には、農業技術面のみならず、市場情報を発信し、農家グループと市場の連携促進を支援するための能力も必要となる。農業省園芸総局及び国際協力局、対象地域の各県・市の農業局職員はプロジェクト活動に参加したものの、現状では園芸作物の生産流通システム近代化に向けた組織体制が十分構築されているとはいえないことから、成果 2 は部分的に達成されたと評価した。

### (3) プロジェクト目標の達成状況

#### プロジェクト目標：西ジャワ州対象地域の対象農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。

プロジェクト・デザイン・マトリックス (PDM) にて規定されたプロジェクト目標を測る指標のうち、指標 1「対象農家の 70% が自身の圃場に改善された栽培管理技術を採用す

る」及び指標 2「対象農家グループの 70%が、農産物を近代市場に販売するための流通販売経路を構築する」は既に達成された。他方、プロジェクト終了時までにはプロジェクト目標を完全に達成するためには課題も残っている。例えば、対象農家グループの生産管理技術においては一定の向上がみられたものの、プロジェクト目標に掲げた「高品質で安全な園芸作物の生産流通システムの近代化」を達成するためには、農家グループのマーケティング能力を更に強化し、近代市場との安定かつ継続的な取引関係を確立する必要がある。

### 3-2 評価結果の要約

#### (1) 妥当性：高い

インドネシア長期開発計画（RPJPN2005-2025）及び第 3 次（2015-2019）及び第 4 次（2020-2024）国家中期開発計画（RPJMN）では、それぞれ農業分野を基盤とした経済構造の確立、アグリビジネスの振興、農業生産強化に向けた村落レベルの組織化強化、流通改善の重要性について記載されており、プロジェクトとインドネシア政府の農業政策との整合性は高い。また、RPJMN2015-2019 を基に農業省により「農業戦略政策 2015-2019」が策定されており、国家食糧安全保障の維持、競争力の強化、農水産資源及び農業インフラの維持、農水産人材の増加と能力強化の構築等が重点分野として挙げられている。さらに、現在の「農業戦略政策 2020-2024」では「食料安全保障と質の向上」が優先項目とされている。主な対象分野は下記のとおりであり、プロジェクトとの整合性は高い。

- ・食品の安全性、栄養成分強化による消費品質の向上
- ・農産物の入手可能性の向上
- ・農業人材の生産性と福祉の向上
- ・農業人材の能力及び継続性の向上
- ・国家食糧システム管理の向上

日本の対インドネシア国別開発協力方針においては、大都市のみならず農村部の発展を支援することで生活の質の向上を促す「バランスのとれた発展を通じた安全で公正な社会の実現に向けた支援」が掲げられていることから、園芸作物の振興を通じて農村部の発展を支援する本プロジェクトは日本の国別援助方針とも整合的といえる。前述のとおりインドネシアでは、消費者の所得水準の向上による食生活の多様化や嗜好の変化に伴い食品市場が拡大する一方で、質の高い農産物の生産に課題を抱えていることから、対象地域及び対象農家グループにおいても、高品質な園芸作物の生産・販売に向けた支援を行う本プロジェクトへのニーズが確認されている。以上のことから、プロジェクトの妥当性は「高い」と判断される。

#### (2) 有効性：やや高い

プロジェクトでは成果 1-4 を除く、成果 1-1 は指標を達成、1-2、1-3、2 は部分的に達成した。終了時評価では、多くの対象農家グループが農産品の生産量の増加及び品質向上を達成し、プロジェクトの生産管理技術支援に満足していることが確認できた。一方で、プロジェクト指標の設定については次の改善点がみられる。

まず、プロジェクト目標がどのように上位目標（プロジェクト終了後 3 年後に達成され

るべき目標)につながるのか、そのロジックが明確に定義されていない。本プロジェクトにおけるプロジェクト目標と上位目標の違いは、対象地域の受益農家数の拡大であるが、上位目標の指標では拡大範囲が明確に定義されておらず、プロジェクト終了後に活動の効果をより広い範囲に普及していくための道筋が示されていない。プロジェクト目標の達成度は、「対象農家の70%が自身の圃場に改善された栽培管理技術を採用する」、「対象農家グループの70%が、農産物を近代市場に販売するための流通販売経路を構築する」という2つの指標によって定義されているが、この2つの指標を達成することにより本プロジェクトの効果が対象地域以外の農家グループへ普及していくとはいえない。

また、上位目標とスーパーゴールの関係性についても同様の改善点がみられる。以上のことから、プロジェクト期間中の活動の有効性は高いことが確認された一方で、上位目標達成に向けた普及の道筋が不明確であることから、総合的に判断し、本プロジェクトの有効性は「やや高い」といえる。

### (3) 効率性：高い

日本・インドネシア国側双方による投入の質、量、タイミングは、プロジェクト活動を遂行するうえで適切であった。特に、ローカルスタッフを3層に分けて配置したプロジェクト実施体制によって、限られた時間と資金のなかで広範な地域をカバーし、効率よく活動を実施することが可能となった。また、インドネシア側からの投入コストに関し、農業省園芸総局と各県・市の農業局は、プロジェクトの持続可能性を確保するための追加的な活動やプログラムを実施するための予算を別途確保しており、インドネシア側からの投入も効率的であったといえる。

また、PDMに規定されている「前提条件」について、2020年初頭から感染拡大した新型コロナウイルスは明らかに予想外の問題であった。一方、プロジェクトでは、新型コロナウイルスによる影響をかんがみ協力期間を延長し、それに応じて活動を調整したため、運営上の多少の遅延はあったものの大きな負の影響は生じなかった。このことから、本プロジェクトの効率性は「高い」といえる。

### (4) インパクト：中程度

終了時評価では、プロジェクトに参加しなかった農家が、対象農家グループや県・市の農業局から、プロジェクトを通じて移転された栽培管理技術を学んだという波及効果を数件確認した。上位目標達成を考慮した普及メカニズムが構築されることで、更に波及効果が拡大することが期待される。また、新型コロナウイルスの発生はインドネシアの農家に前例のない困難をもたらしたが、プロジェクトを通じて生産能力を高めたことにより、長引く移動制限のなか急速に需要が拡大しているeコマース事業への参画が可能となった農家グループがいることも確認できた。このように、プロジェクトは、一部の農家グループの非常事態下におけるレジリエンスを高めることにも貢献したといえる。

さらに、プロジェクトでは広報活動にも力を入れており、実施期間中には日本・インドネシア国側双方のメディアに複数回取り上げられ、日本・インドネシア間の協力関係の認知度向上にも貢献した。なお、プロジェクトの実施に係るジェンダー、環境等に係る負のインパクトは確認されなかった。

(5) 持続性：中程度

・政策面の持続性：高い

農家グループの栽培能力向上と園芸作物の品質改善は、中央・州・県レベルのいずれの政府においても優先的な政策事項であり、本プロジェクトの政策面の持続可能性は「高い」といえる。

・組織面の持続性：比較的高い

農業省園芸総局は、プロジェクト期間中、一貫して本プロジェクトに対してオーナーシップを示してきたほか、スカブミ市やバンドン県等、一部の県・市の農業局では独自に県・市の予算を配分し農家グループを継続的に支援するためのプログラムを開始する等、プロジェクトのフォローアップを積極的に行っている。一方、すべての農業局がそのような対応を行っているわけではなく、特に職員の異動により体制に変更が生じた農業局では、前述のような対応は行われていない。また、農家グループ、アソシエーション、協同組合等の農家組織に関しては、プロジェクトの効果を持続させていくために更なる能力強化が必要である。大規模な協同組合を除き、多くの農家グループでは組織の運営能力がいまだ限定的であることが確認されているが、農家グループの能力強化によって将来的に融資や貯蓄等の金融サービスや、小規模農家への技術支援等が行われることが期待される。このため、本プロジェクトでは直接的に実施されなかったものの、農家グループの組織力強化を支援することは、組織面の持続性を高めるうえで重要である。

・技術面の持続性：中程度

プロジェクトの実施によって農家の栽培技術が大きく向上した一方で、プロジェクトに参加可能な農業普及員の数が限られていたことから、農業普及員への技術移転は限定的であった。今後は、プロジェクトが作成した栽培管理マニュアル等を活用し、農業普及員や他の農業局職員が農家グループに対し同様の技術支援を行うことが期待される。また、規模が大きい農家グループでは、プロジェクトから学んだ技術を持続的に活用していくことが可能である一方で、比較的規模の小さいグループはその技術力の低さからプロジェクトで学んだ生産管理技術を維持できない可能性がある。小規模農家グループの組織力向上を支援し、プロジェクトで学んだ技術を維持するための支援を行うことが重要であると考えられる。さらに、販売能力強化に向けて、引き続きマーケティング技術の改善に取り組む必要があるほか、対象農家グループの市場分析力やビジネス交渉能力といった技術の向上が必要である。

・財務面の持続性：中程度

農産物のサプライチェーン構築を優先課題の1つとした RPJMN2020-2024 に基づき、農業省園芸総局と地方政府の農業局はプロジェクト関連活動の継続的な実施のための予算を確保しており、プロジェクト活動の財政的な持続可能性は「高い」と考えられる。また、多くの農家グループが、プロジェクト終了後も自費でプロジェクトから学んだ栽培管理技術を継続する意向を表明している。しかしながら、農家グループのなかには投入資材を自費購入する資金力のない農家グループも存在するため、農家がプロジェクトの活動を継続するためには、資金的にも自立する必要がある。そのためには、農家グループが自身の財務状況を把握するためにプロジェクトが提供してきた農業資材や、農家グループの労働コスト等、関連費用を考慮した費用便益分析を行う必要がある。また、終了時評価調査の

インタビューにてほぼすべての農家グループが言及していた、近代市場に農産物を販売する際に着金までに時間がかかりすぎるといった課題についても、更なる対応が必要である。終了時評価調査の時点では、この点に取り組むことができる FSP との安定的かつ継続的な関係を構築できていないことから、財務面の持続性は「中程度」と考えられる。

### 3-3 効果発現に貢献した要因

#### (1) 計画内容に関すること

栽培技術に係る支援活動により、多くの対象農家グループにおいて農産物の収量及び品質が向上し、プロジェクトの支援に対する満足度も高いことが確認できた。栽培技術の向上（成果 1-1）については、高い農業技術をもつ日本人専門家による技術支援が、対象農家グループの栽培技術の大幅な向上に寄与したことが確認された。加えて、特に日本の民間セクターとの緊密な連携により、農家は先進的な農業投入資材を利用する機会を得ることができた。

また、農家グループが市場ニーズに応じた栽培計画を策定し、実行する能力の強化（成果 1-2）については、栽培カレンダーの導入が農家グループの栽培管理の向上に貢献していることが確認された。プロジェクト終了までに栽培カレンダーの活用を更に推進することで、市場ニーズに応じた栽培計画の策定・実施能力が強化されることが期待される。

販路開拓（成果 1-3）では、農家グループとジャカルタの近代市場、特に日系スーパーマーケットをつなげ、日本野菜の販売に取り組んだことが有効であった。終了時評価では、プロジェクトを通じ販売経路が多様化し、農家グループの販売先が伝統的な市場のみならず、e コマースを含む近代市場へと変化していることが確認できた。また、ビジネスフォーラムやサプライヤーとの商談等、ビジネスネットワーキングを促進するためのプロジェクトの支援も成果 1-3 の達成において効果的であった。

行政機関関係者の能力強化（成果 2）については、本邦研修への参加によりプロジェクトへのモチベーションが増加し、プロジェクト活動への積極的な参加が確認できた。また、プロジェクトの実施が、インドネシア側実施機関による中央・地域レベルにおいて園芸作物の流通システムを強化するための数々のプログラムの実施につながったことが確認された。

#### (2) 実施プロセスに関すること

##### ・効果的なプロジェクト実施体制の構築

本プロジェクトでは西ジャワ州の 6 県・2 市という広範囲が対象地域であったことから、圃場における活動のモニタリングを密に行い、問題が起きた際に迅速に対応するためのプロジェクト実施体制が整えられた。実施体制では、日本側により各県・市にフィールド担当が 1 名ずつ配置されたほか、巡回指導を実施するため 2 名のエリア総括が配置された。フィールド担当とエリア総括は各農業局及び農業普及員に情報共有を行い、各地域の流通・市場関係者との関係構築に努めた。さらに、プロジェクト業務全体を総括するため、ジャカルタにプロジェクト事務所が設置され、農業省園芸総局との定期的かつ頻繁な会議を通してプロジェクトの進捗状況や課題が共有され、解決策が検討された。また、頻繁な現地視察やモニタリングを通じて、プロジェクトチームが対象農家グループとの信頼関係



を築いたことが、プロジェクトの効率的な実施及び成果の達成に大きく貢献した。

### 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

PDMで規定されている指標、具体的にはプロジェクト目標、成果1-2、及び成果2の指標については、次のとおりの改善の余地があると考えられる。まず、プロジェクト目標がどのように上位目標（プロジェクト終了後3年後に達成されるべき目標）につながるのか、そのロジックが明確に定義されていない。本プロジェクトにおけるプロジェクト目標と上位目標の違いは、対象地域の受益農家数の拡大であるが、上位目標の指標では拡大範囲が明確に定義されておらず、プロジェクト終了後に活動の効果をより広い範囲に普及していくための道筋が示されていない。プロジェクト目標の達成度は、「対象農家の70%が自身の圃場に改善された栽培管理技術を採用する」、「対象農家グループの70%が、農産物を近代市場に販売するための流通販売経路を構築する」という2つの指標によって定義されているが、この2つの指標を達成することにより本プロジェクトの効果が対象地域以外の農家グループへ普及していくとはいえない。また、上位目標とスーパーゴールの関係性についても同様の改善点がみられる。

上位目標とスーパーゴールを達成するためには、活動をプロジェクトの対象農家・対象地域外に広めるための追加的なメカニズムが必要である。例えば、地域レベルでの行政官の能力強化等が挙げられるが、この点はプロジェクト目標の指標の1つに含めることができると考えられる。また、もし農家グループがプロジェクトから得られた優良事例から積極的に学び、中核的な農家グループが主導するサプライチェーンに自ら参加することができれば、政府の追加介入なしにプロジェクト成果が他の農家グループにもある程度普及していくと期待される。

プロジェクトに残された最大の課題として、販売経路の開拓とその維持が挙げられる。市場との長期的かつ強固な関係を実現するためには、安定供給、品質管理、費用便益分析の実施、市場ニーズの特定、交渉力強化、パラリーガル研修（法律文書や手続き、商談の基礎コース）等の基礎的なスキルを含めた農家グループのマーケティング能力強化を行うことが不可欠である。

#### (2) 実施プロセスに関すること

金融アクセス改善を目的とした成果1-4は、融資を受ける目標人数として設定された150名に対し、実際は50名にとどまったことから達成には至らなかった。成果1-4の達成が困難であった主な理由は、主にBTPNの経営判断の不測の変更によるものであるが、そのようなリスクを最小化するために、今後の活動においては以下のような点を考慮することが考えられる。まず、パートナーとなるFSPの選定プロセスにおいて、いくつかの改善点が考えられる。一般に、パートナーFSPを選定する際のポイントとして、①FSPがプロジェクトの目的を理解し、コミットメントを示していること、②FSPの組織的財務状況の安定性の2点が挙げられる。

前者については、理事会をはじめとする組織全体でのプロジェクトへのコミットメントを確認することが必要であるため、通常、プロジェクトとFSPとの間で覚書（Memorandum

of Understanding : MoU) を締結することが多い。MoU は理事会で検討・承認され、理事長が署名するのが理想的であるが、FSP を代表して CEO や事務局長が署名することも可能である。次に、プロジェクトでは、KUR を提供している FSP に限定せず、対象地域で活動しているすべての FSP を特定し、どの FSP がプロジェクトパートナーとして最も適しているかを検討することも可能であったと考えられる。そのうえで、上記の基準を用いて公正な比較を行い、選定することが今後のプロジェクトでは推奨される。

### 3-5 結論

本プロジェクトは、西ジャワ州の対象地域において、対象農家グループの園芸作物の生産能力の向上に大きく貢献した。プロジェクトは広範な地域をカバーし、規模や組織能力、農業技術レベルが異なる農家グループを対象としたが、それぞれの農家グループが抱える課題に対応するため、柔軟かつ効率的なアプローチをとった。2017 年から 2019 年までに実施された 6 回のトライアルプロジェクトでは、日本人専門家によって先進的な栽培技術が導入され、対象農家グループの収量及び品質の向上につながった。また、プロジェクト専門家チームによる緊密なモニタリングにより、農家グループはプロジェクトのローカルスタッフや日本人専門家と栽培技術について頻繁に相談することができ、その結果病害虫等のリスクを軽減することができた。プロジェクトの専門家チームと農家グループとの間に築かれた信頼関係により、農家グループは高い確率で新たに導入された栽培技術を継続的に実践している。

残された課題は、農家グループのマーケティング能力の強化である。多くの農家グループが高品質の園芸作物を生産するための技術と自信を獲得した一方で、市場からの需要に応じた作物の栽培や市場への安定的な販売に課題を抱えている。終了時評価では、費用便益分析、市場ニーズに合った栽培計画の策定、市場分析、交渉スキル等の販売能力強化の必要性が確認された。これらの課題に対しては、2021 年に開始を予定している本プロジェクトのフェーズ 2 の設計の際も考慮されている。

プロジェクトの持続可能性を担保するためには、インドネシア側の実施機関がプロジェクトで得られた優良事例の他の地域への普及に向けて積極的な役割を果たすことが期待される。また、プロジェクトで移転した栽培管理技術を、プロジェクトに参加しなかった他の農家グループにも普及させるため、中核農家グループによる技術普及の促進も期待される。

### 3-6 提言

上位目標の達成に向けた道筋をつくることも視野に入れ、プロジェクト終了までに実施すべき事項として、終了時評価では以下の提言を取りまとめた。

- (1) プロジェクトの対象農家グループをその特徴によって分類し、パターンと優良事例を特定する

プロジェクトの対象農家グループは、その規模、販売先、生産能力において多様であった。プロジェクト活動の達成要因や介入の効果を分析するために、プロジェクト終了時までに、プロジェクトの対象農家グループ、特に 2019 年から 2020 年のトライアルプロジェクトに参加した農家グループを、その規模、地理的な利点/欠点（市場への近接性、地形、標高等）、組織構造（協同組合、アソシエーション、農家グループ等）、栽培能力（農業技

術/投入物の適切な利用等) 総生産量と販売体制、対象市場(サプライヤー、スーパーマーケット、食品産業、伝統的な市場)によって分類することを提案する。これらの情報は、本プロジェクトから得られた優良事例や教訓を明らかにする際に有益な指針となり得る。

(2) 農家グループによる費用便益分析を支援する

農家グループが市場ニーズに応じた生産・販売戦略を策定するためには、正確な費用便益分析を行うための技術を身につけることが重要である。この観点から、プロジェクトの専門家チームに対してプロジェクト終了時まで、現在の生産水準に基づいた各作物の費用便益分析を実施するための技術支援を行うことを提案する。特に、トライアルプロジェクトの圃場面積(100m<sup>2</sup>)から生産規模を拡大していく場合において、費用便益分析の導入が必要であると考えられる。

(3) 農業局とともに上位目標の指標を見直し、対象農家グループを再設定する

上位目標は、プロジェクト終了3年後にインドネシア側実施機関によって達成されることが想定されている。前述のとおり、プロジェクト目標と上位目標の違いは、対象地域における受益農家の範囲のみである。しかし、上位目標の指標は対象となる農家グループの範囲を定義していないため、対象地域の農家グループ「全体」を対象としているように読める。したがって、インドネシア側実施機関とプロジェクト専門家チームは、必要に応じて、より明確な指標を再設定することを提案する。

(4) プロジェクトに参加しなかった農家グループへの優良事例の普及計画を策定する

園芸総局と地方政府の農業局が主導し、プロジェクトの実施を通じて明らかとなった優良事例を、プロジェクトに参加していない他の農家グループにも普及させていくことが期待される。農家グループのトライアルプロジェクトを支援するといった、プロジェクトのフォローアップ活動を継続的に実施することは、プロジェクトのインパクトを対象農家グループ以外に拡大させるために有効な手段と考えられる。終了時評価チームは、特に地方政府の農業局に対し、上位目標達成のための優良事例の普及計画案の策定(予算計画を含む)を検討することを提案する。

(5) 更なる効果の普及に向けての留意点

プロジェクトの実施を通じて、農家グループの生産能力とマーケティング技術を向上させるために重要となるポイントが明らかになった。農業省園芸総局と各県・市の農業局が今後農家グループに対する支援を実施する際には、以下の点に留意することを奨励する。

- ① 多くの農家は既に成功事例がない限り新しい技術を導入したがらない傾向にあるため、一部の農家グループが先行して導入し、成功した栽培技術を他の農家に紹介することで、新規農家のモチベーションを高めることが可能となる。
- ② 農家グループの栽培技術向上のためには、農業普及員や農業局職員による緊密なモニタリングが必要である。本プロジェクトの成功要因の1つは、フィールドスタッフによるモニタリングが、農家グループとプロジェクトチームとのコミュニケーション向上に貢献し、病害虫などのトラブルへの迅速な対応につながったことにある。農業普

及員の数が限られていることはすべての農業局共通の課題であるが、可能な限り普及員を動員する努力が必要である。

- ③ 農家グループへの技術支援は、農家グループごとに能力やニーズが異なるため、可能な限りカスタマイズして行うべきである。集団研修は効率的ではあるが、農家グループの多様なニーズに対応できない可能性がある。農家グループの能力を評価したうえで、可能な範囲で技術支援の内容を個別グループのニーズに合わせ調整することがインパクトの最大化において有効となる。提言（1）で述べた農家グループの分類は、このような評価に向けても有用な情報となると考えられる。
- ④ 民間セクターとの連携は、販路拡大のみならず栽培技術の向上や金融アクセス改善の側面からも検討すべきである。多くの農家が民間セクターとの取引条件の合意に課題を抱えていることから、農家グループのリーダーやメンバーに対し交渉術や会計などの財務面のスキルを強化するための支援が有効であると考えられる。
- ⑤ 農家グループは、継続的に生産物を供給するために、市場ニーズに基づいた作付けパターンや栽培計画を策定することが重要である。プロジェクトで実施した対象農家グループの栽培計画策定支援の活動経験は、園芸総局と各県・市の農業局が活動を行っていく際に有益な情報となる。

### 3-7 教訓

#### (1) 生産及び販売の両者に対応する包括的なアプローチの重要性

園芸作物は価格変動が大きく、市場ニーズが頻繁に変化するため、園芸農家は栽培技術だけでなく、経営管理や市場開拓に係る技術を向上させる必要がある。これにより、農家グループは市場ニーズに応じた生産及び販売体制を構築することが可能となる。また、より予測可能で安定した生産を行うためには、栽培計画を作成する能力も必要である。このような観点から、園芸農家を支援する際には、生産と販売の双方に対応する包括的なアプローチが必要である。

#### (2) 民間セクターとの Win-Win 関係の構築

プロジェクトでは特に日本の民間企業と緊密に連携し、対象農家グループに先進的な農業技術を紹介した。この連携を通じて、それらの資機材を提供した日本企業にとってもインドネシアの農業環境で日本の農業資機材を試行し、ビジネス機会を検討する機会となった。農家と民間企業が安定した関係を構築するためには、プロジェクトが相互利益をもたらし、農家と民間企業の双方にとって Win-Win の関係を構築することが前提となる。

#### (3) 対象作物を選定する際の市場需要分析の必要性

栽培対象となる作物を選定する際、特に市場にとって新たな作物を導入する場合には、市場ニーズに関する情報が極めて重要とある。プロジェクトでは、高所得者層や中所得者層の間で付加価値の高い野菜への需要が高まっていることから、インドネシア市場に日本野菜という新たな作物を導入した。日本野菜は農家グループに作物の高付加価値による差別化の可能性をもたらした一方で、消費者教育、購買者に対する認知度の向上、マーケティング戦略などの課題がみられたことから、このような特殊な作物の導入を成功させる

ためには市場分析とマーケティング戦略がカギとなる。

(4) 相手国実施機関の多様な部門との緊密な協働

プロジェクトでは園芸総局の多様な部局と緊密に連携して活動を実施した。例えば、日本野菜の種苗登録にあたってプロジェクトは園芸種子局と連携することで、効率的に登録を行うことができた。新しい作物を導入する計画がある場合、持続可能な生産のためには高品質の種子を入手することが不可欠であるため、当初より種子関連の部局と関わりをもつことが効果的である。プロジェクトでは、相手国実施機関内のさまざまな部局と連携することで、プロジェクトの有効性と効率性を高めることができた。

## Summary Results of the Terminal Evaluation

1. Outline of the Project		
Country: The Republic of Indonesia		Project Title: The Public-Private-Partnership Project for the Improvement of the Agriculture Product Marketing and Distribution System
Issue/Sector: Agricultural Development, Public Private Partnership		Cooperation Scheme: Technical Cooperation
Division in Charge: Economic Development Department		Total Cost (at the time of the Terminal Evaluation): JPY410 million
Period of Cooperation	February 2016 -March 2021	Partner Country's Implementing Organizations: DGH, DINAS
		Supporting Organizations in Japan: IMG Inc., Task Co., Ltd.
		Related Cooperation: None
<p>1-1 Background of the Project</p> <p>Modern retail and food service industries, such as hypermarkets, convenience stores, restaurants and fast food shops, are expanding rapidly in the urban areas in Indonesia where most of the middle-income groups reside. The use of modern shops is becoming common mainly among younger generation, those under thirty years old, who comprise more than 50% of the total population and the middle-income segment.</p> <p>Another factor that influenced the changes in modern market preference is the increasing of income. Personal disposable income in Indonesia has been increasing recently in line with the macro-economic growth. The share of middle and high-income groups (those with annual disposable income per household more than USD 5,000 and less than USD 35,000), who have strong consumption rates, increased from 5.8% of the population in 1990 to 57.7% in 2010 and is expected to reach 73.5% by 2020 . Due to these changes in the income structure and an increasing diversity of food preferences, the food market (both processed and fresh food) in Indonesia has been expanding rapidly. Such diversification includes a tendency to prefer healthy, environmental-friendly, safe and high quality food; an interest in new types of food as seen in a boom in western and Japanese food; and the use of fast food and processed food that shortens cooking times. The rapid increase in vegetable and fruit imports indicates the increasing number of consumers seeking high-quality vegetables and fruits. Food expenditures in Indonesia increased by 48% in the four years from 2005 to 2009. Should this trend continue, the size of the food market will reach IDR 1,925 trillion by 2020.</p> <p>However, the modernization of the agriculture distribution system and food market in Indonesia is not advancing as fast as in other major ASEAN countries. The share of modern retail of total food sales remains low and traditional retail such as public markets (pasar) and family-owned small shops and vendors still account for the majority of sales. The distribution problem for traditional markets is characterized by complexity and high costs, which are mostly attributable to the involvement of many middlemen. Lack of sanitation is also a problem with traditional wholesale and retail markets. Modern retailers who intend to continuously procure products of a certain level of quality and safety have to independently identify trusted business partners. Furthermore, underdeveloped cold chains and transport infrastructure make quality control of the fresh food difficult. As a result, retailers prefer to import</p>		

high-quality horticultural products from overseas despite the fact that domestic agriculture producers have the ability to produce such products.

Difficulties in accessing modern markets demotivate farmers from producing safe and high-quality horticultural products as they are not able to sell their products with the price that compensate for the extra production costs and labor. In this regards, establishing distribution channels between farmers and modern markets specifically for safe and high-quality horticultural products will lead to positive outcomes including the enhancement of farmers' incomes and motivations, stable supply of safe and high-quality horticultural products to the food industry, meeting the needs of high and middle-income consumers, and resulting in increased direct investments and overall business activities in the sector.

Against this backdrop, in August 2013 the Government of Indonesia requested the Government of Japan to implement a technical cooperation project to support the establishment of supply chains of safe and high-quality horticultural products. Based on the Record of Discussions signed between the Indonesian Ministry of Agriculture (MOA) and JICA on the 25th of September 2015, JICA contracted the implementation of the Project to joint venture of IMG Inc. and Task Co., Ltd.

This terminal evaluation was conducted to evaluate and confirm the achievement of project activities, output, and project purpose based on the Project Design Matrix, as well as to make suggestions towards the remaining period of the project implementation.

#### 1-2 Outline of the project

- Super Goal: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups in West Java Province.
- Overall Goal: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Java Province.
- Project Purpose: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province.
- Output
- Output 1-1: Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers.
- Output 1-2: Capacity to plan and carry out cultivation according to market needs is attained by the target farmers.
- Output 1-3: Target farmers' groups' marketing channels are developed.
- Output 1-4: Target farmers' groups' access to finance is improved.
- Output 2: Managerial capacity of government officials who promote modernized production & distribution systems is strengthened.
- Input
  - Japan side: Total cost of input: JPY410 million
    - Dispatch of experts: 12
    - Budget for operational cost: JPY96.9 million

<ul style="list-style-type: none"> <li>• Trainees in Japan: 41 (including 9 representatives of farmer groups)</li> <li>• Provision of equipment</li> <li>➤ Indonesia side <ul style="list-style-type: none"> <li>• Assigned counterpart personnel: 59</li> <li>• Budget for operational cost in Indonesia: JPY5.6million</li> <li>• Provision of project office</li> </ul> </li> </ul>			
2. Composition of the Terminal Evaluation Team			
Members	Name	Position	Organization
	Ms. Keiko MIZOE	Team Leader	Director, Agricultural and Rural Development Group 1, Economic Development Department, JICA
	Dr. Keishiro ITAGAKI	Food Value Chain	Counsellor, Nippon Foundation
	Dr. Akira KAMIDOHZONO	Commercial agriculture	Senior Advisor, Economic Development Department, JICA
	Ms. Mihoko SAITO	Cooperation Planning 1	Deputy Director, Agricultural and Rural Development Group 1, Economic Development Department, JICA
	Mr. Atsumu YAMAGUCHI	Cooperation Planning 2	Agricultural and Rural Development Group 1, Economic Development Department, JICA
	Ms. Wakako MATSUURA	Evaluation Analysis	ACCESS Advisory Japan
	Mr. Ahmad Widodo Heru		Division of Planning, Secretariat of Directorate, General of Horticulture, Ministry of Agriculture
	Ms. Novida Siti Jubaedah		Division of Planning Secretariat of Directorate General of Horticulture, Ministry of Agriculture
Evaluation period	August 31, 2020 to September 18, 2020	Evaluation scheme: Terminal evaluation	
3. Summary of the Terminal Evaluation Results			
3-1 Achievement of the project			
(1) Summary of Inputs			
<u>Japan side</u>			
1) Dispatch of Experts			
In total, twelve(12) Japanese experts have been dispatched in the following two (2) managerial positions and ten (10) areas of expertise in the Project.			
➤ Management positions (2): Team leader/ Sub-Team Leader			
➤ Areas of expertise (10): Marketing/Product Development/Farming Technology/Promotion of Farmers' Groups/Public Private partnership/Access to Finance/Post-harvest Management/Product Marketing and Distribution/Capacity Building/Impact Analysis			



Total inputs of the human resources of the experts as of 31 August 2020 amounted to 60.78 man-months (M/M)<sup>1</sup> since the beginning of the Project. The list of Japanese experts is as below.

Experts Assigned to the Project (2016, Start-up Phase)

Responsibilities	Name
Team Leader / Marketing / Product Development	MORI Shinichi
Sub-Team Leader / Marketing	NISHIMURA Tsutomu
Farming Technology	MORITA Tateo
Promotion of Farmers' Groups	MATSUMI Yasuko, KAJITA Mio
Promotion of Farmers' Groups / Public Private Partnership	SHIMIZU Toshihiro
Access to Finance	YONEYAMA Akiko
Post-harvest Management	TANAKA Shunsuke

Experts Assigned to the Project (2017-2020)

Responsibilities	Name
Team Leader / Product Marketing and Distribution / Capacity Building	NISHIMURA Tsutomu
Public Private Partnership	MORI Shinichi
Farming Technology / Post-harvest Management	MORITA Tateo
Farming Technology	YAMAZAKI Masaru
Promotion of Farmers' Groups / Public Private Partnership	SHIMIZU Toshihiro
Access to Finance	YONEYAMA Akiko
Impact Analysis / Product Marketing and Distribution	SUENAGA Jumpei
ICT	TAKEUCHI Tomonari
E-Commerce	KITANO Masato

2) Training in Japan

Trainings in Japan was held three times in 2016, 2017, and 2018. In total, 32 counterpart (C/P) personnel and 9 representatives of the target farmer groups were trained for two weeks in Japan on the modernized production, marketing, and distribution of high-quality agriculture products.

3) Equipment

Equipment necessary to enhance the function of the Sub-Terminal of Agribusiness (STA) in the first year and to improve the effectiveness of the trial projects were procured for STA and several farmer groups. Major pieces of equipment include fruit and vegetable washer, and brush roller root fruit washer/peeler. As of the Joint Terminal Evaluation, all equipment is being used.

4) Budget for Operational Cost for the Project Implementation

As of the Joint Terminal Evaluation, about 96.9 million yen has been spent for local cost including renovation of building and procurement of equipment, recruitment of local staff, and organization of

<sup>1</sup> 1 M/M is equal to 30 working days of one project personnel.

seminars. A total of 10 field staff were recruited in the course of the Project implementation, including one project coordinator, one secretary, two field coordinators, and six field staff.

#### Indonesia side

##### 1) Assignment of Counterpart Personnel

A total 59 personnel were assigned to the Project including from DG Horticulture, Secretariat of DG Horticulture, DG Fruits and Floriculture, DG Horticulture Protection, DG Horticulture Seedling, DG Processing and Marketing of Horticulture Product, DG Vegetables and Medicinal Plants, DINAS of West Java Province, Bogor District and City, Sukabumi District and City, Bandung District, West Bandung District, Cianjur District, and Garut District.

##### 2) Budget for Operational Cost for the Project Implementation

As of the Joint Terminal Evaluation, about 5.6 million yen (787 million IDR) has been spent for local cost including the expenses for JCC and travel cost for the counterpart personnel to go monitoring or attend meeting.

##### (1) Achievement of the output

#### Output 1-1: Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers.

For Output 1-1, the Project conducted two rounds of trial projects annually (one in the dry season and the other in the rainy season), during which time farmers learned and practiced improved cultivation techniques for the selected commodities introduced by the Project. The Project introduced improved cultivation techniques for selected fruits and vegetables to participating farmer groups, which contributed to increase quality and quantity of the target farmer groups yields. Furthermore, with a view to supporting farmers who intended to cultivate new marketable varieties, and considering modern markets' high demand for Japanese vegetables, the Project imported Japanese vegetables' seeds from Japan and registered four varieties of Japanese vegetables (mizuna, Momotaro tomato, nasu, and piman) in Indonesia. The Project also built partnership with a number of private companies, especially Japanese companies, including PT. Calbee Wings Food (CWF), UNITIKA LTD., Asahi Biocycle Co., Ltd., PT. Takiron Indonesia and Shimota Nougei Co., Ltd., introducing new and advanced agricultural techniques and inputs from Japan. Hence, the Project achieved the target set out for Output 1-1.

#### Output 1-2. Capacity to plan and carry out cultivation according to market needs is attained by the target

The Project introduced the planting calendar to improve the field management of the target farmer groups. The planting calendar indicates the detailed procedures for the cultivation (i.e. seed sowing, seedling sterilization, land preparation, pesticide application, fungicide application) and the timing for each process. This practice was new to most of the farmer groups and they introduced the planting calendar for the first time. The planting calendar contributed to the effective field management by the farmer groups and contributed to improve quality and quantity of the production.

Although the target stipulated in the indicator was met, there are also some challenges in fully achieving

the objectives set out in output 1-2. The indicator “1-2-1. *planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique*” may not necessarily reflect the level of capacities to plan and carry out cultivation according to market needs, as set out in Output 1-2. In order for farmers to be able to plan and carry out cultivation according to the market needs, it is essential for farmers to have capacities to fully understand the market demands and plan the harvest times and the expected production volumes accordingly. Therefore, it is indicated that the Project partially achieved the target set out for Output 1-2.

Output 1-3. Target farmers' groups' marketing channels are developed

The Project, together with the DGH, held four business forums inviting private companies (supermarket chains, food service industries, and major exporters and traders, etc.), farmer groups and financial institutions in order to promote dialogues and exchange of information on market channels. The activities to connect farmer groups to the market was intensified in the second half of the Project, as the Project focused on improving agricultural techniques in the first half of the Project.

While the indicators suggest that the market channels have been developed, many farmer groups still face challenges in creating long-term business relationships with the market. The main reasons for this are the difficulties in supplying quality vegetables in a steady manner. To address these challenges, it is important to further enhance farmer groups capacities in producing vegetables following the market demand. Marketing skills, including business negotiation and quality control, are also required to establish long-term business relationships. Hence, it was evaluated that the Project partially achieved the target set out for Output 1-3.

Output 1-4. Target farmers' groups' access to finance is improved.

To improve farmers' independence by facilitating the access to finance, the project targeted Kredit Usaha Rakyat (KUR), a small scale finance scheme provided by the Government, and facilitated the financial service providers and farmers groups to access KUR. The Project collaborated with Bank BTPN and supported farmer groups to have KUR from BTPN, and a total of 50 farmers received a total amount of IDR 853 million through two rounds of applications. However, BTPN could not move on to the third round due to the management decision to stop additional disbursement of KUR as part of its corporate restructuring process. As the disbursement was limited to 50 farmers only, the Project did not achieve the target set out for Output 1-4.

Output 2. Managerial capacity of government officials who promote modernized production & distribution systems is strengthened.

From 2016 to 2018, the Project implemented three trainings in Japan on modernized production, marketing, and distribution of high-quality agriculture products, including cooperative system of Japan Agriculture (JA), by inviting Indonesian government officials and representatives of the target farmer groups. A total of 32 government officials and nine representatives of selected farmer groups participated in the training in Japan for two weeks. Farmers who attended the trainings in Japan were strongly motivated and became active participants of the Project. They still remain as the Project's core

members.

Also, a total of 45 events related to agricultural distribution and marketing have been organized by the DGH and DINAS during the course of the Project period and 32 projects that can contribute to the modernization of production and distribution systems were proposed or implemented by DGH and DINAS. It was observed that some participants from the government officials also showed their higher motivation and stronger engagement in the Project activities after participating in the training in Japan.

While the Project contributed to increase capacities of the government officials, the Joint Terminal Evaluation Team assessed that Output 2 is partially achieved because managerial capacities in promoting modernized production and distribution systems require not only capacities to support farmers with agricultural techniques, but also capacities for disseminating market information or facilitating linkages between farmer groups and markets. Though officers of DGH, International Cooperation Bureau, General Secretariat of Ministry of Agriculture, and DINAS attended several key activities in project implementation, it is difficult to conclude that they have already attained these capacities and institutionalized the mechanism to develop their own activities.

#### (2) Achievement of Project Purpose

Project Purpose: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province.

The target indicators of the project purpose in PDM, “Improved production and management techniques are applied by 70% of the target farmers at their own field(s).” and “Distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups.” were sufficiently met. Nonetheless, it is still difficult to say that the project purpose will be fully achieved by the end of the Project. While a certain level of improvement in production techniques was observed, the marketing capacities of the target farmers still need to be strengthened to realize stable and continuous business relationships with modern markets and achieve the project purpose.

### 3-2 Summary of the Evaluation Results

#### 1) Relevance: High

Indonesia's Long-Term Development Plan (RPJPN 2005-2025) aims to establish a solid economic structure in which the agricultural sector will become the base of the economy to produce efficient and modern products. Based on the Long-Term Development Plan, the National Medium-Term Development Plans (RPJMN) of 2015-2019 and 2020-2024 were developed as the third and fourth medium-term plans during the Project period. RPJMN 2015-2019 specifically indicates the importance of developing agribusiness, strengthening village-level organizations for commodity production, and strengthening logistics. The Project's basic policies were aligned with RPJMN. Based on RPJMN 2015-2019, the Agriculture Strategic Policy 2015-2019, was formulated by the Ministry of Agriculture, included 5 main target areas:

- Maintenance of national food security
- Increase in competitiveness

- Maintain agro-resources and availability of agriculture facilities and infrastructure
- Increase agro-human resources and improve quality/capacity of resource persons
- Realize efficient, effective, and primary service-oriented bureaucracy

The Project mainly addressed to increase competitiveness of the farmer groups in target areas by introducing cultivation techniques and supporting production of quality vegetables. Hence, the Project is relevant to the priorities set out in the Agriculture Strategic Policy 2015-2019. Also, the current RPJMN 2020-2024 makes “strengthening of economic resilience for high quality growth” as the national priority. The Agriculture Strategic Policy 2020-2024 prioritizes “increased availability, access and quality of food consumption”. The main target areas are as follows:

- Improved consumption quality through safety, fortification, and bio-fortification of food
- Increased availability of agro-product food
- Increased productivity and welfare of agricultural human resources
- Increased productivity and continuity of agricultural human resources
- Improved management of national food system

Furthermore, in Japan's Country Assistance Policy (September 2017), one of the priority areas (medium goals) is to provide “support for safe and fair society through the balanced development”, which encourages improvement of quality of life by supporting not only major cities but also rural development. As the Project targets the establishment of agriculture product marketing and distribution systems by linking the farmers in West Java Province to the modern market in Jakarta and other large cities, it is relevant to the Japan’s Country Assistance Policy.

In terms of the relevance to the needs of the target regions and groups, many farmer groups in the target region face difficulties in producing agricultural products which meet the increased demands of the market. The food market, including fresh and processed foods, continues to expand along with the rapid growth in imports as consumers diversify their diets and change their food preferences due to raising income level. Consumers, especially those living in large cities such as Jakarta and Bandung, are more concerned about food safety and quality. The Project tried to address this gap by introducing cultivation techniques and developing marketing channels, which would contribute to the stable supply of safe and quality horticultural products to the growing markets. Thus, the relevance of the project is regarded as high.

## 2) Effectiveness: Relatively high

The Project achieved the targets of output 1-1, 1-2, 1-3 and 2. It was confirmed by the Terminal Evaluation Team that many farmers expressed their satisfaction on the improvement of production techniques, which resulted in higher yields and/or improved quality of the commodities. On the other hand, several points could be improved for the indicators stipulated in the PDM, specifically indicators for the project purpose, output 1-2, and output 2.

For the project purpose, the Terminal Evaluation Team observed that the logic on how the project purpose could lead to the overall goal was not clearly defined. The only difference between the project purpose and the overall goal is the scalability – increasing the number of beneficiary farmers in the target areas. The overall goal aims that the achievement of the project purpose goes beyond the “target”

farmer groups at the model sites, although the scope of the expansion is not clearly defined in the indicators. The achievement of the project purpose is defined by two indicators: “*improved production and management techniques are applied by 70% of the target farmers*” and “*distribution and marketing channels that allow agricultural products to be sold to modern market are developed at 70% of the target groups*”. It is difficult to say that, by achieving only these two indicators, the beneficiaries of the Project will expand beyond the target farmer groups in the model sites. The same question applies to the linkage between the overall goal and the super goal. Therefore, effectiveness of the project is regarded as relatively high.

### 3) Efficiency: High

The quality, quantity, and timing of inputs by both Japanese and Indonesian sides were appropriate to accomplish project activities. In particular, the Project implementation structure, which placed the field staff in three layers, contributed to high efficiency of project implementation to cover a large project area with limited resources. In terms of cost, DGH and DINAS allocated separated budget to conduct additional activities and programs to ensure sustainability of the Project. In this regard, the input from the Indonesian side is also considered as appropriate. Also, with regard to the “important assumptions” for the process connecting project activities to project outputs, emergence of COVID-19 since early 2020 was clearly an unexpected challenge. Still, the Project amended the R/D to extend the Project period and adjusted the activities accordingly, which resulted only in some operational delay but not in significantly negative impacts. Therefore, efficiency of the Project is regarded as high.

### 4) Impact: Moderate

Several cases of ripple effects were reported, in which non-target farmers learned from the target farmer groups or DINAS about the cultivation techniques transferred by the Project. With additional mechanism to disseminate the outputs of the Project, it could be expected that the number of the impacted farmers will increase. Also, while the outbreak of COVID-19 posed unprecedented challenges to farmers in Indonesia, some farmers could increase resilience by working with E-commerce companies, which rapidly expanded under the COVID-19 situation. The improved production capacity assisted by the Project enabled the target farmer groups to join the E-commerce businesses. Furthermore, the Project attracted media attention and it was reported in both Indonesian and Japanese media over the course of the implementation period, which contributed to increasing awareness of the cooperation relationship between Japan and Indonesia. Lastly, no negative impact on gender, environment, etc. were observed. Hence, impact of the Project is regarded as moderate,

### 5) Sustainability: Moderate

Sustainability of the Project is assessed by perspectives of 1) sustainability at policy level, 2) sustainability at institutional level, 3) sustainability at technical level, 4) financial sustainability. Overall, sustainability of the Project is moderate because of the following reasons:

#### Policy Sustainability

Policy sustainability of the Project is high:

As described previously, enhancing capacity of farmer groups and improving quality of horticultural products are in line with the policy priorities of the government of central, provincial, and district level. Therefore, the sustainability at policy level is regarded as high.

### Institutional Sustainability

Institutional sustainability of the Project is relatively high:

DGH has continuously shown a sense of ownership throughout the project implementation. Also, some DINAS such as Sukabumi or Bandung actively followed up on the Project, including initiating programs by allocating budget to provide continued support for farmers. However, not all DINAS has shown its responsiveness, especially where the original staff was replaced by new staff. With regards to the farmers' institutions, including farmer groups, associations, or cooperatives, additional capacity building is required to ensure project sustainability. It was found that managerial capacities are still limited in many farmer groups, except for large scale cooperatives. Although it was not directly addressed in the Project activities, it is ideal for the Project to support institutional capacity building of the farmer groups.

### Technical Sustainability

Technical sustainability of the Project is moderate:

Due to the limited numbers and availability of extension workers, technical transfer to extension workers was not fully achieved. Some farmers group, especially those with large scale will be able to continue the newly learned techniques in a sustainable manner. However, as mentioned above, there is a gap among the farmer groups. Relatively smaller scale groups may not be able to keep up the production techniques learned through the Project. To address the gap, it would be important to avoid possible disengagement of those smaller scale farmers by supporting the institutional capacity of the farmer groups which enables farmers to support each other within the groups. Also, technicality on marketing side still needs to be addressed. The target farmer groups still have some areas for improvement in marketing skills, including market analysis and business negotiations. To ensure the Project technical sustainability on both production and marketing sides, further capacity development of the target farmer groups is required.

### Financial Sustainability

Financial sustainability of the Project is moderate:

In line with the National Medium-Term Development Plan (RPJMN) 2020-2024 which states the supply chain project as one of its priority, the DGH and DINAS have allocated the budget for continuous implementation of project and project-related activities. It would contribute to the financial sustainability of the Project. With regards to financial sustainability among farmers, many farmer groups expressed their intention to continue their newly learned agricultural practices at their own cost after the Project ends. However, due to capacity differences among farmer groups, some farmers have enough resources to purchase sufficient inputs but others do not. Establishment of market linkages based on the financial self-sufficiency is essential for farmers to continue the Project deliverables. To figure out the actual financial situation, cost-benefit analysis considering all related costs needs to be done. Also, the challenge of late payment when selling the products to modern markets, which almost all the target farmer groups mentioned, need to be further addressed. As of the Joint Terminal Evaluation, the Project could not develop stable and continuous relationship with financial service providers (FSPs) on this matter.

3-3 Major factors that contributed to achieve the project purpose

(1) Factors related to planning

It was confirmed by the Terminal Evaluation Team that many farmers expressed their satisfaction on the improvement of production techniques, which resulted in higher yields and/or improved quality of the commodities. On the increased cultivation techniques (Output 1-1), it was observed that technical assistance provided by Japanese experts with high agricultural skills contributed to the significant improvement of the cultivation techniques of target farmer groups. Working closely with the private sector, especially from Japan, also enabled Indonesian farmers to have access to new and advanced agricultural inputs.

On farmer groups' capacity to plan and carry out cultivation according to market needs (Output 1-2), the Terminal Evaluation Team found that the implementation of planting calendars contributed to the improved field management of the farmer groups. Further support in using the planting plan by the end of the Project is expected to strengthen the planning capabilities of farmer groups to meet market demand.

On developing marketing channels (Output 1-3), the Project was effective in connecting farmer groups to modern markets in Jakarta, especially linking farmer groups with Japanese supermarkets to sell Japanese vegetables. The Terminal Evaluation Team observed that markets channels were diversified through the Project, shifting from predominantly traditional markets to modern markets, including E-commerce. The Project's support in facilitating business networking, including through business forums and negotiating several business meetings together with farmer groups, was also found effective to achieve output 1-3

On enhanced capacities of government officials (Output 2), it was pointed out that training in Japan strongly encouraged the participants to be proactively involved in the Project activities. The Project's support led to the numerous programs initiated by the Indonesian partners in both central and regional level.

## (2) Factors related to implementation

In order to conduct a regular monitoring of the field activities taking place in the large area of the project sites and respond to issues in an efficient manner, the Project team established the implementation structured which enabled the close monitoring of the farmer groups. One field staff was allocated in each District/City to monitor the field activities. Above field staff, two field coordinators were assigned to provide the technical support and monitor the progress of the activities. They also share information with DINAS and extension staff, as well as establish connection with local supply chain actors. To act as an overall project manager, the Project Office was established in Jakarta. The Project office held weekly meetings with DGH to exchange information and report the Project's progress. Trust with the farmer groups built through the close monitoring contributed to the achievement of the project output.

## 3-4 Major factors that hampered to achieve the project purpose

### (1) Factors related to planning

As described in the section of effectiveness, several points could be improved for the indicators stipulated in the PDM, specifically indicators for the project purpose, output 1-2, and output 2. Each indicator needs to be logically stipulated in PDM.



In order to achieve overall and super goals, additional mechanism would be required to disseminate the Project activities to other areas. It may include strengthening capacity of government officials especially at the regional level (DINAS). This point could be included as one of the indicators of the project purpose. It is expected that the Project's achievements will spread to other farmer groups to some extent without additional intervention by the government if the farmer groups could proactively learn from the "good models" developed by the Project and by entering into supply chains initiated by the leading/core farmer groups. However, this still requires certain mechanisms, especially at the district level, to achieve the overall and super goals within its timeframe.

Also, developing and maintaining marketing channels were mentioned as the biggest challenges which target farmer groups face at the time of the Terminal Evaluation. It is thus essential for the Project to continue addressing the marketing capacities of the farmer groups, including ensuring stable supply, quality management, and basic skills such as cost-benefit analysis, market identification, negotiating skills, and/or paralegal training (basic course on legal documents and procedures and business negotiations), to realize the solid and long-term relationship with the target markets.

## (2) Factors related to implementation

While the above-mentioned outputs made considerable achievements, the component of financial access, Output 1-4, was not achieved as only 50 target farmers used financial services facilitated by the Project, as opposed to the target of 150 members. While the difficulties in achieving the Output 1-4 was mainly due to the unforeseeable changes in the business operations of BTPN, the following could be considered for the future activities to minimize such risks:

First, some areas for improvement were observed in the selection process for partner financial service providers (FSPs). Generally speaking, there are two points to consider when selecting an FSP partner: 1) understanding and commitment by the FSP on the Project goal and purpose, and 2) financial stability of the FSP. Regarding the former issue, it is essential to confirm the commitment to the Project with the entire institution, starting with the board of directors. Signing of a Memorandum of Understanding (MoU) between the Project and partner FSP is a common procedure in many projects. The MoU should be reviewed and approved by the board, and ideally signed by the chairperson, although the CEO/executive director can also sign on behalf of the institution.

Second, the Project could map out all FSPs operating in the target areas, not limiting itself to the FSP providing KUR, before determining which FSPs are best suited to be the Project's partners. Then, the selection could be done with a fair comparison using the above-mentioned criteria. For the future project, the above points should be considered when selecting the financial service providers.

## 3-5 Conclusion

The Project has contributed significantly to improve the productive capacities of the target farmer groups in the model sites in West Java Province. The Project covered a large area with various farmer groups, diverse in their size, organizational capacities, and agricultural techniques. The Project took a flexible and efficient approach to address various capacity gaps presented by the farmer groups. During the six trial projects that were implemented, advanced agricultural techniques were introduced by the

Japanese experts which led to the increased yields and productivity of target farmer groups. Close monitoring by the Project expert team enabled farmer groups to have frequent consultation with the Project field staff and Japanese experts on the cultivation techniques, thus reducing the risks of poor harvest. The trust built between the Project expert team and the farmer groups led to the high acceptance rate for the newly introduced cultivation techniques in their own fields.

During interviews conducted for the Terminal Evaluation, without exception all farmer groups stated that the Project has helped them to increase their capacities in producing good quality vegetables. Many farmer groups also found new markets, especially modern markets in Jakarta, and diversified their market channels.

The remaining challenges of the Project include strengthening the marketing capacities of the farmer groups. While many farmer groups acquired skills and confidence in producing high quality fruits and vegetables, many of them still have difficulties in cultivating crops according to the demands from the market and in supplying to the market in a stable manner. During the terminal evaluation, the need to strengthen marketing skills, such as cost-benefit analysis, effective planning for cultivation, market analysis, and business negotiation were confirmed. These needs will be reflected in the designing of the Project's Phase 2, which has been requested by the Government of Indonesia and approved by the Government of Japan and planned to start in 2021.

To ensure the sustainability of the Project, it is expected that Indonesian partners, including DGH and DINAS in target sites, take a proactive role in disseminating good practices obtained through the Project. It is also expected that some leading farmer groups will take active role in disseminating the agricultural techniques acquired during the Project to other farmer groups, in order to strengthen the horticultural value chain in West Java Province.

### 3-6 Recommendations

Based on the findings of the Joint Terminal Evaluation, the Terminal Evaluation Team (hereinafter referred to as "the Team") would like to make the following recommendations to be implemented by the end of the Project with a view to ensuring the Project's sustainability and achieving the overall goal.

(1) Categorize the Project's target farmer groups by their characteristics and identify patterns and good practices

The target farmer groups of the Project were very diverse in their size, markets and productive capacities. To analyze the activities of the Project, the Team requests the Project experts team to categorize the Project's target farmer groups, especially those who participated in the trial projects in 2019-2020, by their size, geographical advantages/disadvantages (i.e. proximity to the market, topography, altitude), organizational structures (i.e. cooperatives, associations, farmer groups), cultivation capacities (i.e. appropriate use of agricultural techniques/inputs/skills), total production and sales structures, and target markets (i.e. selling their products to suppliers to supermarkets, food industries, traditional markets). This information will be a useful guidance to identify good practices and lessons learned from the Project.

(2) Support farmer groups in conducting cost-benefit analysis on agricultural inputs

It is important for farmer groups to acquire skill to conduct accurate cost-benefit analysis in order to make production and marketing strategies according to the market needs. In this regard, the Team suggests the Project expert team to support farmer groups in conducting cost-benefit analysis of each crops based on the current level of production. Cost-benefit analysis could be introduced especially when expanding the size of the production beyond the sites of trial projects (100 m<sup>2</sup>).

(3) Jointly with DINAS, review and propose the indicators for the overall goal and specify the target farmer groups

An overall goal is to be achieved by the Indonesian side after three years from the end of the Project. As explained previously, the only difference between the project purpose and the overall goal of the Project is the scalability – scope of the beneficiary farmers in the model sites. However, since the indicators of the overall goal do not define the scope of the target farmer groups, they could be read as to empower the “entire” farmer groups at the model sites. Therefore, the Team suggests that the Indonesian side and the Project expert team propose more clear indicators, if necessary.

(4) Establishing a plan to disseminate good practices to other farmer groups

It is expected that DGH and DINAS will take a leading role in disseminating good practices identified through the implementation of the Project to other farmer groups who did not participate in the Project. Continued implementation of the follow-up activities such as supporting farmer groups’ trial projects would be a valuable support to expand the impacts of the Project beyond the target farmer groups. The Team suggests, especially to DINAS, to consider creating a plan, with budget allocation, to disseminate good practices to achieve overall goal of the Project.

(5) Considering key points for further dissemination

Through the implementation of the Project, some important points were identified to increase the productive capacities and the marketing skills of farmer groups. The Team recommends DGH and DINAS to take into consideration the following points when implementing their own activities.

- 1) Successful cultivation techniques by some farmer groups should be showcased to other farmers to increase their motivation. Many farmers will only be convinced to try new techniques after confirming the results of such techniques.
- 2) Close monitoring of farmer groups by field staff/extension workers is required to increase their skills. One of the reasons for the success of the Project was the close monitoring conducted by the field staff, which contributed to the increased communication between the farmer groups and the Project team and resulted in quick responses to troubles such as pests and diseases. While limited number of extension workers is the common challenges in all DINAS, effort should be taken to mobilize the extension workers as much as possible.
- 3) Technical support to the farmer groups should be customized as much as possible since each farmer group has different capacity and needs for the assistance. Group trainings will be efficient but may not address diverse needs of farmer groups. In this regard, it would be useful to assess the capacity of the farmer groups and tailor the technical support to extent possible to maximize the impact. Categorization of the farmer groups mentioned in the recommendation (1) will be useful inputs for such assessment.
- 4) Partnership with private sector should be explored not only for the marketing component but also for the cultivation techniques and access to finance. It would be useful to support leaders and

selected members of relevant farmer groups to strengthen negotiation and financial skills such as accounting, since many farmers face difficulties in agreeing business terms with the private sector.

- 5) Cropping patterns and/or planting plans based on the market demands should be developed by farmers groups to supply products in continuous manner. The Project's activities in supporting target farmer groups to develop planting plans could provide useful inputs to DGH and DINAS to continue this activities in their own programs.

### 3-7 Lessons learnt

#### (1) Taking comprehensive approach to address both productive and marketing capacities

Since horticultural products face significant price fluctuation and frequent changes in market demands, horticultural farmers should improve their skills in business management and market development, in addition to the cultivation techniques. This would allow farmer groups to adjust their production and the sales based on the market demands. Necessary skills also include capacities in preparing well-planned planting patterns, which would enable farmers to have more predictable and stable production. In this regard, it is necessary to take comprehensive approach to address both productive and marketing capacities when supporting the horticultural farmers.

#### (2) Creating Win-win relationships with private sector

The Project worked closely with the private sector, especially from Japan, and introduced new and advanced agricultural techniques to the target farmer groups. Working with Japanese companies also provided opportunities for those companies to explore possibilities of doing business in Indonesia by trying their agricultural inputs/equipment in Indonesian context. Stable relationships could be built only when a project offers mutual benefits and create win-win situations between farmers and the private sector.

#### (3) Analyzing market demands when selecting the products

Information on the market demands is extremely important when selecting crops for cultivation, especially when crops are new to the target market. The Project introduced new products, Japanese vegetables, to Indonesian markets given the growing demand for the value-added vegetables by the emerging high- and middle-income population. While Japanese vegetables brought high potential to the farmer groups to differentiate their products, issues such as consumer education, socialization of buyers, and marketing strategies become key factors for the successful introduction of such special crops.

#### (4) Working closely with various departments in the counterparts

The Project worked closely with the various departments in DGH for the implementation of the activities. For example, the Project worked with the Directorate of Horticulture Seedling in DGH and the seeds for selected Japanese vegetables were smoothly registered. When a project has a plan to introduce new crops, it is effective to involve a seed-related department from the beginning since obtaining quality seeds is essential for the sustainable production. By working with the various partners within the main counterparts, the Project could increase effectiveness and efficiency of the Project.

# 第1章 終了時評価調査の概要

## 1-1 終了時評価の目的

「官民協力による農産物流通システム改善プロジェクト（通称、IJHOP4）」（以下、「本プロジェクト」と記す）は、2016年2月から2020年2月までの4年間で予定し開始された。その後、2019年9月に開催された第5回合同調整委員会（Joint Coordinating Committee : JCC）における合意に基づき、本プロジェクトの成果の最大化を図るため、プロジェクトの実施期間を2020年6月まで4カ月間延長した。さらにその後、2020年初頭より世界的な新型コロナウイルスの流行により、日本人専門家チームが帰国し遠隔によるプロジェクト実施を余儀なくされたため、プロジェクトの実施期間を更に9カ月間延長した。本プロジェクトは2021年3月に終了する予定となっている。

本合同終了時評価は、プロジェクトの進捗状況と成果を総合的に評価するとともに、プロジェクトの活動から得られた好事例や教訓をまとめ、インドネシア側実施機関や専門家チームとの議論を通じて、プロジェクトの残り期間の活動を確認することを目的としている。なお、新型コロナウイルス感染拡大によりインドネシアへの渡航が不可となったため、本調査はオンライン会議ツールを利用し、常時遠隔にて実施された。評価調査結果と提言は、2020年9月18日に開催された第6回JCCにおいて報告された。

## 1-2 調査団の構成と調査日程

### 1-2-1 調査団の構成

終了時合同評価調査団の構成は以下のとおり。

#### (1) 日本側調査団員

担当分野	氏名	所属
団長/総括	溝江 恵子	JICA 経済開発部 農業・農村開発第一グループ 課長
フードバリューチェーン 営農	板垣 啓四郎	日本財団 参与
	上堂 蘭 明	JICA 経済開発部 国際協力専門員
協力企画1	齋藤 美穂子	JICA 経済開発部 農業・農村開発第一グループ 主任調査役
協力企画2	山口 集	JICA 経済開発部 農業・農村開発第一グループ 職員
評価分析	松浦 わか子	一般社団法人アクセスアドバイザージャパン

#### (2) インドネシア側調査団員

Mr. Ahmad Widodo Heru	Division of Planning, Secretariat of Directorate General of Horticulture, Ministry of Agriculture
Ms. Novida Siti Jubaedah	Division of Planning, Secretariat of Directorate General of Horticulture, Ministry of Agriculture

### 1-2-2 調査日程

本終了時合同評価調査は2020年8月31日から9月18日までの日程で実施された。調査はすべてオンライン会議ツールを用いて遠隔にて実施された。評価調査のスケジュールは付属資料1.のとおり。

### 1-3 主要面談者リスト

終了時評価調査の主要面談者のリストは以下のとおり。調査団は、農業省園芸総局 (Directorate General of Horticulture : DGH)、対象地 (西ジャワ州の6県2市:チアンジュール県、ガルット県、ボゴール市・県、スカブミ市・県、バンドン県、西バンドン県) の各県・市農業局 (Agriculture Department : DINAS)、サプライヤー<sup>2</sup>、スーパーマーケット、金融機関、eコマース企業等の民間企業へのヒアリングを実施し、プロジェクトの成果及び達成度を総合的に評価した。

#### <農業省園芸総局>

氏名	役職	局名
Ir. Bambang Sugiharto, M.Eng.Sc.	Director	Directorate of Processing and Marketing of Horticulture Product
Ms. Andi Arnida Massusungan	Head of Sub-directorate for Marketing and Investment	Directorate of Processing and Marketing of Horticulture Product
Ms. Nurhayati	Head of Investment Section	Directorate of Processing and Marketing of Horticulture Product
Mr. Aprizal	Plant Seed Supervisor	Directorate of Horticulture Seedling
Ms. Olivia	Analyst for Agriculture Cultivation Potency	Directorate of Fruits and Floriculture
Ms. Mega (Proxy of Mr. Tommy Nugraha, Director)	Head of Area Development for Medicinal Plants Section	Directorate of Vegetables and Medicinal Plants
Mr. Rico Simanjuntak, S.P., M.P.	Head of Sub-Division of Cooperation, Plan Division	Secretariat of DG of Horticulture
Ms. Nasyitha Rolles Bathman	Staff	Secretariat of DG of Horticulture

#### <県・市農業局及び農家グループ>

氏名	農業局役職/農家グループ名
ボゴール市	
Mr. H. Dian Herdiawan	Division Head, Food Crops and Horticulture
Ms. Kartini	Staff
ボゴール県	
Ms. Ida Sriwidaningsih	Section Head, Horticulture Division
Mr. Saripudin	Extension staff
Mr. Mista	Pemuda Tani Naratas (トライアルプロジェクト: 2018-2019, 2019-2020)

<sup>2</sup> 本プロジェクトでは、近代市場に卸している仲介業者を「サプライヤー」、他の仲介業者や地元市場など、近代市場以外に卸している仲介業者を、「トレーダー」と呼ぶ。

氏名	農業局役職/農家グループ名
Mr. Amay	Bina Tani Sepakat (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Dede	Tunas Tani Pangrango (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Jamil	Teguh Tani (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Ade Gunawam	Bakti Mandiri Sukajadi (トライアルプロジェクト：2017-2018, 2019-2020)
スカブミ市	
Mr. Rifki Amrullah	Section Head, Food Crop, Horticulture, and Plantation Production Section
Ms. Fenti Rahayu	Junior Extension Staff for Agriculture
Mr. Kuswaya	Senior Extension Worker for Agriculture, Coordinator of Extension Worker
Mr. Hoer	Mucekil (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Dayat	Sugih Mukti (トライアルプロジェクト：2018-2019)
スカブミ県	
Mr. Deni Ruslan	Division Head, Horticulture Division
Mr. Mulyana	Bumi Mekar (トライアルプロジェクト：2017-2018, 2019-2020)
Mr. Nunu	Al-Mujahidin Association (トライアルプロジェクト：2018-2019, 2019-2020)
チアンジュール県	
Mr. Nurul Hikmat	Division Head, Horticulture Division
Ms. Nurdiyati	Division Head, Agribusiness and Extension Division
Ms. Tiktik Sartika	Extension staff
Mr. Deni	Staff of Horticulture Division
Mr. Suhendar	Mujagi (トライアルプロジェクト：2017-2018, 2019-2020)
Mr. Ayi	Utama (トライアルプロジェクト：2017-2018, 2019-2020)
Mr. Ujang Dayat	Padadjaya (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Yeyen	Saridona 2 (トライアルプロジェクト：2018-2019, 2019-2020)
ガルット県	
Mr. Rahmat Jatnika	Division Head, Horticulture Division
Ms. Tiara	Section Head, Post-Harvest and Processing Section
Mr. Teten	Cikandang Agro Association (トライアルプロジェクト：2017-2018, 2019-2020)
Mr. Hergandi	Hitda Mandiri (トライアルプロジェクト：2019-2020)
Mr. Amang	Mekar Tani (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Ucu	Barokah Karunia Tani (トライアルプロジェクト：2018-2019, 2019-2020)
バンドン県	
Mr. Jumhana	Division Head, Horticulture Division
Ms. Renny Yuniasari	Section Head, Processing and Marketing of Horticulture Produce
Mr. Benjamin Dwiputra	Extension staff
Mr. Arif	Al-Ittifaq Cooperative (トライアルプロジェクト：2017-2018, 2019-2020)
Ms. Riswati	Hataki (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Amang	Mekar Tani (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Gandhi	Hikmah Farm (トライアルプロジェクト：2018-2019, 2019-2020)

氏名	農業局役職/農家グループ名
西バンドン県	
Ms. Istini	Section Head, Horticulture Seedlings, Protection and Production Section
Mr. Suherman	Section Head, Processing and Marketing
Mr. Eka Subarkah	Staff, Horticulture Seedlings, Protection and Production Section
Mr. Widi Rikaswirahma	Staff, Facility and Infrastructure Section
Mr. Deny	FRT (トライアルプロジェクト：2018-2019, 2019-2020)
Mr. Wilarto	Gerbang Emas (トライアルプロジェクト：2017-2018, 2018-2019)
西ジャワ州	
Ms. Chakrawati	Section Head, Horticulture Post-Harvest Section
Mr. Sukma Pahlawan	Section Head, Marketing Section, Business Guidance Division

#### <民間企業>

企業名	種類	面談者氏名・役職
近代市場 (スーパーマーケット、サプライヤー、加工業者、e コマース)		
Papaya	Supermarket	Ms. Hoshino (Manager of Marketing), Ms. Sulis (Manager of Purchasing)
AEON	Supermarket	Mr. Feri (Manager of Purchasing)
Calbee Wings Food	Food Industry	Ms. Sano, Mr. Yulius (Manager of Supply Chain)
Sayurbox	E-commerce (horticulture products)	Mr. Vincent (Manager of Purchasing), Mr. Dennis
Sayuran Siap Saji	Supplier of cut-vegetable for restaurant chains	Mr. Deddy Hadinata (Manager of Purchasing), Mr. Wasil
金融サービス提供者、フィンテック		
CROWDE	Fintech	Ms. Dara (Lead of Business Development), Mr. Dika
Penny Growing	Investor	Mr. Ryan, Managing Director

#### 1-4 プロジェクトの背景

インドネシアにおけるスーパーマーケット等の近代的小売店、レストランやファーストフード等の外食産業の普及は、中間所得層の多くが居住する都市部を中心に急速に進んでおり、今後も中間所得層や人口の50%以上を占める30歳未満の若年層を中心に近代的店舗の利用が更に浸透していくと予想されている。また、近年の高度経済成長に伴い国民の平均可処分所得が上昇しており、消費意欲の旺盛な富裕・中間所得層（世帯年間可処分所得5,000米ドル以上3万5,000米ドル未満）の割合は1990年の5.8%から2010年には57.7%に大幅に増加し、2020年には73.5%にまで増加することが予想されている<sup>3</sup>。

国民の所得構造の変化に伴い、消費者の食の多様化や食品嗜好の変化（健康志向や環境配慮により安全で高品質な食品を求める傾向、洋食・日本食ブームにみられる新しい食品への関心、調

<sup>3</sup> Badan Pusat Statistik, Perkembangan Beberapa Indikator Utama Sosial-Ekonomi Indonesia.



理時間が短縮できる加工食品やファーストフードの利用等)が進み、輸入の急激な伸びとともに、生鮮食品・加工食品を含めた食品市場は拡大し続けている。野菜・果物の輸入も急激な伸びを示しており、高品質な野菜・果物を求める消費者が増加していることがわかる。インドネシアの食料費支出額は 2005 年から 2009 年までの 4 年間で 48%上昇しており、この傾向が続けば、2020 年の食料品市場規模は 1,925 兆ルピア（17.5 兆円）に達すると見込まれている<sup>4</sup>。

その一方で、インドネシアの農産物流通システムや食品市場の近代化は、他の ASEAN 主要国との比較においても低い水準にあるといえる。食品マーケット全体でみた場合の近代的小売店の売上シェアはまだ低く、「パサール」と呼ばれる公設市場や昔ながらの家族経営の個人商店、屋台等の伝統的小売が多くを占めている。伝統的市場への流通プロセスは、多数の仲介業者が介在することによって複雑かつ高コストとなり、また、不衛生な卸売・小売市場の施設環境等が問題になっている。そのため一定の品質と安全性を備えた産品を安定的に調達したい近代的小売業者は、信頼できる取引相手を自社で開拓せざるを得ない。さらに、輸送インフラやコールドチェーンの整備の遅れは、特に生鮮食品の鮮度・品質管理上の障害となり、国内で高品質の園芸作物を生産できる技術があるにもかかわらず、輸入品で代替されることが多い。

このような状況は生産者側にとっても問題で、手間とコストをかけて高品質で安全な農産物を栽培しても適切な価格で取引できる近代市場へのアクセスが困難であるため、生産意欲を削がれる結果となっている。近代市場（スーパーマーケット、コンビニエンスストア、外食産業、食品加工業等）と一定の生産技術を有する信頼性の高い農民組織との間で直接的な取引ネットワークを確立することができれば、富裕・中間層を中心とする消費者のニーズに応えつつ、小規模農家の所得と生産意欲の向上をもたらすだけでなく、外資食品関連企業にとっても高品質で安全な農産物供給元を安定して確保することができ、直接投資や企業進出の促進が期待される。

以上の背景から、2013 年 8 月、インドネシア国政府はわが国政府に対し、安全で高品質な農産物サプライチェーンの構築を目的とした技術協力を要請した。2015 年 5 月 25 日にインドネシア農業省と JICA によって署名された合意文書に基づき、JICA は有限会社アイエムジーと株式会社タスクアソシエーツの共同事業体に本技術プロジェクトの実施を委託した。

## 1-5 プロジェクトの概要

### (1) 協力期間

本プロジェクトの協力期間は、2016 年 2 月から 2021 年 3 月までの 5 年 1 カ月である。

### (2) 実施機関

プロジェクトの実施機関は下記のとおり。

- ・ 農業省園芸総局
- ・ 西ジャワ州、チアンジュール県、ガルット県、ボゴール市・県、スカブミ市・県、バンドン県、西バンドン県の農業局（DINAS）

### (3) 対象地域及びグループ

プロジェクトの対象地域及び対象グループは下記のとおり。

<sup>4</sup> Badan Pusat Statistik, Perkembangan Beberapa Indikator Utama Sosial-Ekonomi Indonesia.

- ・対象地域：ジャカルタ特別州及び西ジャワ州の6県2市（チアンジュール県、ガルット県、ボゴール市・県、スカブミ市・県、バンドン県、西バンドン県）
- ・対象グループ
  - ① 園芸作物の生産・販売に従事している対象地域の農家グループ
  - ② 農業省園芸総局及び対象地域の農業局職員

バンドン県及び西バンドン県は、当初プロジェクトの対象地域には含まれていなかったが、ベースライン調査の結果、園芸作物生産のポテンシャルが高く、また、両県の農家グループが抱える課題が他の対象地域と類似していることが判明した。そのため、2016年10月に開催された第2回JCCにおいて、バンドン県及び西バンドン県を本プロジェクトの対象地域に含めることが合意された。

#### (4) プロジェクトの目的

PDMは3度にわたって改訂されている。2017年12月の第3回JCCでは、以下の変更が合意された。すなわち、①プロジェクトの目標と活動を明確に規定するために、成果と活動の記述を変更する、②JICAプロジェクトの成果を普及させ、インドネシアにおいて園芸作物の近代的な生産流通システムを今後更に構築するうえでのマイルストーンとして「スーパーゴール」を設定する、③達成すべき目標をより現実的で測定可能なものとするため、「上位目標」とその対象地域をより明確にする、④プロジェクト目標と上位目標の指標を修正する。

本プロジェクトの目的は、最終版PDM ver.3で定義された以下の成果を発現し、プロジェクト目標を達成することを目的とする。PDM ver.3の詳細は付属資料2.のとおり。

- 1) スーパーゴール：西ジャワ州の農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。
- 2) 上位目標：西ジャワ州対象地域の農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。
- 3) プロジェクト目標：西ジャワ州対象地域の対象農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。

#### 4) 成果

成果 1-1：対象農家が高品質で安全な農産物の栽培・生産技術を習得する。

成果 1-2：対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる。

成果 1-3：対象農家グループが近代市場への販路を開拓する。

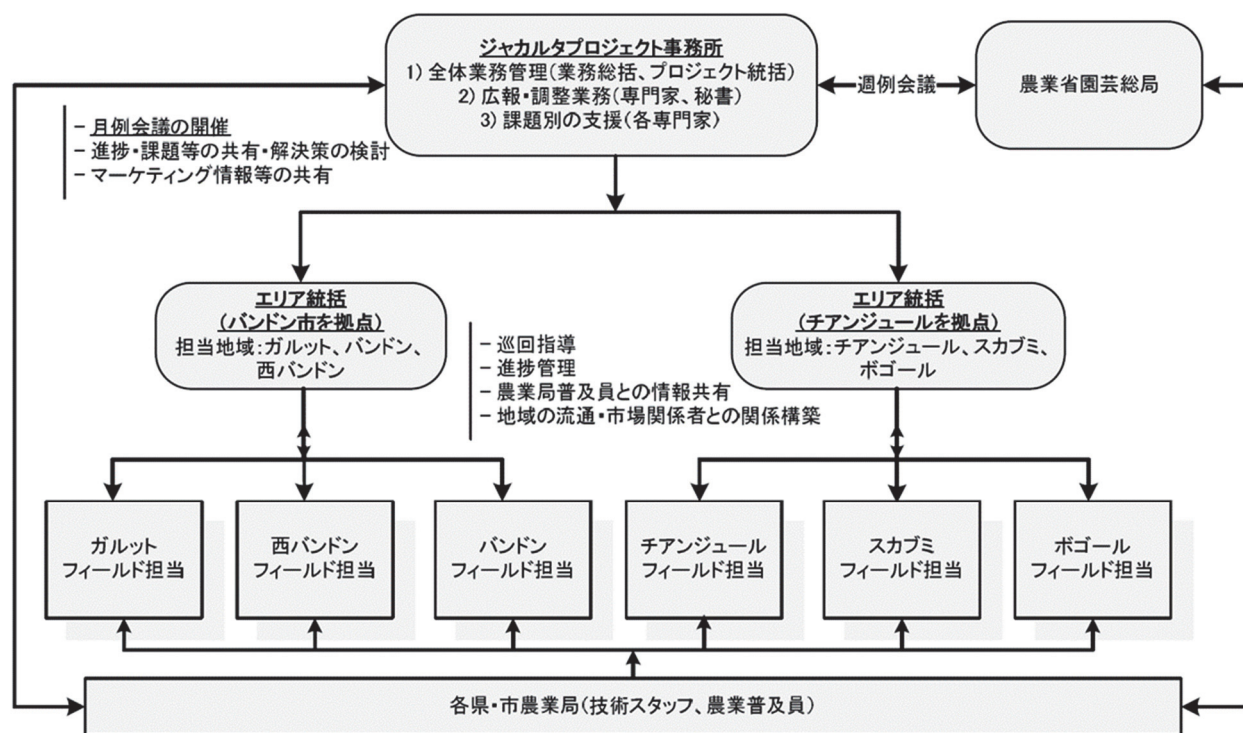
成果 1-4：対象農家グループの金融アクセスが改善される。

成果 2：園芸作物の生産流通システム近代化に関与する行政機関関係者の行政運営能力が向上する。

#### (5) プロジェクトの実施体制

本プロジェクトでは西ジャワ州の6県・2市という広範囲が対象地域であったことから、圃場における活動のモニタリングを密に行い、問題が起きた際に迅速に対応するため、図-3に示すプロジェクト実施体制が整えられた。実施体制では、各県・市にフィールド担当が1名ずつ配置されたほか、巡回指導を実施するため2名のエリア総括が配置された。フィー

ルド担当とエリア総括は各農業局及び農業普及員に情報共有を行い、各地域の流通・市場関係者との関係構築に努めた。さらに、プロジェクト業務全体を総括するため、ジャカルタにプロジェクト事務所が設置され、農業省園芸総局との定期的かつ頻繁な会議を通してプロジェクトの進捗状況や課題が共有され、解決策が検討された。また、頻繁な現地視察やモニタリングを通じて、プロジェクトチームが対象農家グループとの信頼関係を築いたことが、プロジェクトの効率的な実施及び成果の達成に大きく貢献した。



出所：JICA プロジェクトチーム

図－3 プロジェクトの実施体制

## 第2章 終了時評価の手法

本終了時評価調では、JICA の評価ガイドラインに基づき、①PDM で規定された指標に対する達成度のレビュー、②実施プロセスレビュー、及び③妥当性、有効性、効率性、インパクト、持続性の5項目による評価が実施された。左記5項目は、経済協力開発機構（OECD）の開発援助委員会（DAC）が策定したものである。各項目について表-1に示す。

表-1 DAC 評価5項目

妥当性	プロジェクトがステークホルダーのニーズに合致し、目的の達成に整合性があるかを問う視点
有効性	プロジェクトの成果・目標の達成度を問う視点
効率性	資金や時間といった投入に対する成果の関連性を問う視点
インパクト	プロジェクト実施によってもたらされた直接・間接的な正・負の効果・影響を問う視点（予期されなかったものも含む）
持続性	プロジェクトの成果が持続するかを問う視点

出所：OECD/DAC Network on Development Evaluation（2019）, Revised Evaluation Criteria Definitions and Principles for Use

終了時評価調査開始時に農業省園芸総局及び各県・市農業局にメールで質問票を配付し、回答を回収した。その後、回答結果をもとに、優先度の高い質問を中心に実際のインタビューをオンラインで実施した。

### 2-1 評価指標と評価設問

終了時評価に係る指標と評価のための設問を下記に示す。全体の評価グリッドは付属資料3のとおり。

#### 2-1-1 プロジェクトの達成度

プロジェクトの達成度は下記のとおり PDM に規定された指標によって測定された。

調査項目	指標
スーパーゴールの達成 西ジャワ州の農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する	2030年に高品質で安全な園芸作物を販売する西ジャワ州の農家グループ数
上位目標の達成 西ジャワ州対象地域の農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する	1. 2023年に高品質で安全な園芸作物を販売する西ジャワ州のモデルサイトの農家グループ数 2. プロジェクトによって紹介された生産管理技術を自身の圃場に導入したモデルサイトの農家数（トライアルプロジェクトに参加した農家を除く）
プロジェクト目標の達成 西ジャワ州対象地域の対象農家グループ	1. 対象農家の70%が自身の圃場に改善された栽培管理技術を採用する

調査項目	指 標
の農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する	2. 対象農家グループの70%が、農産物を近代市場に販売するための流通販売経路を構築する
アウトプット 1-1 対象農家が高品質で安全な農産物の栽培・生産技術を習得する	1-1-1. 対象農家グループの70%が園芸作物の生産に関する研修に参加する 1-1-2. 対象農家の80%が、プロジェクトが導入した改善された栽培技術を実践する 1-1-3. 対象農家の60%が秀品率を向上させる
アウトプット 1-2 対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる	1-2-1. トライアルプロジェクトを完了した対象農家の60%が栽培記録をつける
アウトプット 1-3 対象農家グループが近代市場への販路を開拓する	1-3-1. 対象農家グループの80%が近代市場とのマッチングイベントに参加する 1-3-2. 対象農家グループの50%が近代市場と商談を行う
アウトプット 1-4 対象農家グループの金融アクセスが改善される	1-4-1. 対象農家グループに所属する農家のうち300名が金融サービスについての説明会に参加する 1-4-2. 対象農家グループに所属する農家のうち150名が融資や預金等の金融サービスを活用する
アウトプット 2 園芸作物の生産流通システム近代化に関する行政機関関係者の行政運営能力が向上する	2-1. 農業省園芸総局及び県・市農業局が農産物流通・販売促進に関するイベントを24回開催する 2-2. 行政機関関係者30名が高品質な農産物の生産、流通、販売の近代化に係る研修に参加する 2-3. 園芸作物の生産・流通システムの近代化に資する10の政策（プロジェクトを含む）が計画または実施される

出所：PDM ver.3

## 2-1-2 プロジェクトの実施プロセス

プロジェクトの実施プロセスを確認するにあたって用いられた評価設問を表-2に示す。

表-2 実施プロセス評価における評価設問

大項目	小項目	判断基準
活動の実施	PDM に記載されたすべての活動が遅滞なく計画どおりに実施されたか	タイムラインを維持している
		遅延があった場合、状況説明とその理由
		プロジェクト従事者の労働量は日本側、インドネシア側ともに適切かつ持続可能である
		予算は当初の見積りに合っている
オーナーシップ	インドネシア側実施機関は強いオーナーシップをもってプロジェクトに従事していたか	インドネシア側実施機関が適切な予算をもって能力のあるプロジェクト担当者を配置している
		インドネシア側による投入量
		インドネシア側実施機関がプロジェクトの背景や目的、アプローチをどの程度理解しているか

大項目	小項目	判断基準
		主要なステークホルダーからの全体的な印象
関係機関との協働	JICA、園芸総局、各地方農業局、民間企業、産地農産物卸売市場、他関連機関との協働はプロジェクト実施において効果的であったか	ステークホルダー間のオープンなコミュニケーションチャンネルを確認できるもの
		関連ステークホルダーとの協働レベル
		主要なステークホルダーからの全体的な印象
技術移転	JICA からインドネシア側実施機関への技術移転の手法が適切であったか	移転された技術に対するインドネシア側実施機関の理解度
		インドネシア側実施機関が技術移転の手法は自身のニーズに対し適切であるとどの程度認識しているか
プロジェクトマネジメントシステム	全体のプロジェクトのモニタリングはどのように実施されたか。またその頻度	プロジェクトのモニタリングが実際に実施されたことを確認できるもの
	上記モニタリングはその手法と頻度において適切であったか	JICA はモニタリングの手法と頻度が適切であったとどの程度認識しているか
		インドネシア側実施機関はモニタリングの手法と頻度が適切であったとどの程度認識しているか
	質問回答者個人にとってのプロジェクトのモニタリングはどのように実施されたか。またその頻度	プロジェクトのモニタリングが実際に実施されたことを確認できるもの
	上記モニタリングはその手法と頻度において適切であったか	JICA はモニタリングの手法と頻度が適切であったとどの程度認識しているか
		インドネシア側実施機関はモニタリングの手法と頻度が適切であったとどの程度認識しているか
	モニタリングの結果質問回答者個人が行った活動の修正や改善はあったか	JICA とインドネシア側実施機関が行った活動の修正や改善の詳細
コミュニケーション	プロジェクト活動の実施にあたってインドネシア側実施機関内のコミュニケーションは効果的であったか	インドネシア側実施機関内のオープンなコミュニケーションチャンネルを確認できるもの
		インドネシア側実施機関はコミュニケーションが適切であったとどの程度認識しているか
		JICA はコミュニケーションが適切であったとどの程度認識しているか
	プロジェクト活動の実施にあたってインドネシア側担当者との JICA 間のコミュニケーションは効果的であったか	インドネシア側担当者と JICA 間のオープンなコミュニケーションチャンネルを確認できるもの
		インドネシア側実施機関はコミュニケーションが適切であったとどの程度認識しているか
		JICA はコミュニケーションが適切であったとどの程度認識しているか
プロジェクト活動の実施にあたってインドネシア側担当者対象農家グループ間のコミュニケーションは効果的であったか	インドネシア側担当者と農家グループ間のオープンなコミュニケーションチャンネルを確認できるもの	
	インドネシア側実施機関はコミュニケーションが適切であったとどの程度認識しているか	
	農家グループはコミュニケーションが適切であったとどの程度認識しているか	
前提条件	PDM に規定された前提条件は満たされているか (満たされなかつ	前提条件が満たされていた (満たされていない) ことを確認するもの

大項目	小項目	判断基準
	た場合、その影響はあるか)	インドネシア側実施機関は前提条件が満たされていることをどの程度認識しているか
		JICA は前提条件が満たされていることをどの程度認識しているか

出所：終了時評価調査団

### 2-1-3 評価5項目

プロジェクト評価に用いられた DAC 評価項目を表-3 に示す。

表-3 評価5項目による評価設問

大項目	小項目	判断基準
妥当性		
対象グループのニーズとの整合性	対象地域・社会のニーズに合致しているか	プロジェクトが対象地域・社会のニーズをどの程度反映しているか
		プロジェクト活動が対象地域で実施されたことが確認できるもの
		JICA がプロジェクトはニーズに合致しているとどの程度認識しているか
		インドネシア側実施機関がプロジェクトはニーズに合致しているとどの程度認識しているか
	対象農家グループのニーズに合致しているか	プロジェクトの詳細策定において対象農家がどの程度かかわっていたか
		プロジェクト活動がプロジェクトサイトの農家によって実施されたことを確認できるもの
対象農家がプロジェクトは彼らのニーズに合致しているとどの程度認識しているか		
対象農家がプロジェクトの活動と価値をどの程度認識しているか		
優先度	終了時評価時点でプロジェクトはインドネシア開発計画との整合性があるか	プロジェクトのインドネシア開発計画との整合性を確認できるもの
	プロジェクトは日本の ODA 政策及び JICA 国別計画（インドネシア）に対し整合性があるか	プロジェクトの日本の ODA 政策及び JICA 国別計画（インドネシア）との整合性を確認できるもの
プロジェクト計画の妥当性	プロジェクトのアプローチと対象地域はインドネシアの開発課題に戦略的かつ効果的に取り組むために適切であったか	プロジェクトアプローチと対象地域の選定手法
		JICA がプロジェクトアプローチと対象地域が適切であったとどの程度認識しているか
	対象グループの選定は適切であったか	インドネシア側実施機関がプロジェクトアプローチと対象地域が適切であったとどの程度認識しているか
		対象グループの選定手法
		対象グループのプロジェクト活動への関与のレベル
		対象グループが選定プロセスと結果が適切であったとどの程度認識しているか
プロジェクトは対象グループを越えて波及効果があったか	JICA が波及効果をどの程度認識しているか	
	インドネシア側実施機関が波及効果をどの程度認識しているか	

大項目	小項目	判断基準
		対象農家グループが波及効果をどの程度認識しているか
	PDM の上位目標、プロジェクト目標、成果、活動及び投入は適切かつ論理的に設計されているか	PDM が適切かつ論理的に設計されたことを確認できるもの
	上位目標、プロジェクト目標、成果の指標の設定は適切か	指標が適切に設定されたことを確認できるもの
	PDM は対象地域のニーズに対応するため適切なタイミングで、論理的な妥当性をもって変更されたか	PDM が適切に修正されたことを確認できるもの
		社会環境の変化のモニタリングと分析に使用された手法
		JICA とインドネシア側実施機関がプロジェクトの課題や失敗点を含め、変更点と過程を公表する意欲があったことを示すもの
有効性		
プロジェクト目標の達成度	プロジェクト終了までにプロジェクト目標は達成されたか	プロジェクトによって紹介された生産管理技術が対象農家の 70% に実際に導入されたことを示すもの 農産物を近代市場で販売する配送・マーケティングチャンネルが対象農家グループの 70% で開発されたことを示すもの
	プロジェクトの相乗効果をねらった JICA の他プロジェクトや他ドナーとの連携や協働があったか	JICA の他プロジェクトや他ドナーとの連携や協働の有無 連携や協働が相乗効果を生み出したことを示すもの
プロジェクト目標の達成にあたっての阻害及び貢献要因	プロジェクト成果や目標に影響し得る前提条件は満たされているか	前提条件が満たされている（いない）ことを示す文書
	プロジェクト目標の達成に貢献した、または阻害したその他の要因	プロジェクト目標の達成に貢献した、または阻害した要因の詳細
	プロジェクト成果はプロジェクト目標の達成に論理的に貢献したか	プロジェクト目標の達成の要因となったプロジェクト成果の達成度 プロジェクト成果がプロジェクト目標の達成に論理的につながったことを示すもの
プロジェクト成果の達成度	第 3 章「プロジェクトの実績と実施プロセス」に記載の「3-2 成果の達成度」に記載のとおり	第 3 章「プロジェクトの実績と実施プロセス」に記載の「3-2 成果の達成度」に記載のとおり
効率性		
投入の量、質、タイミングにおける適切さ	PDM に規定された成果を得るにあたり、日本側の投入（専門家、資機材、ローカルコスト、本邦研修）は量、質、費用、タイミングの面で適切であったか	日本側の投入が適切であったことを確認するもの
		JICA が日本側投入は適切であったとどの程度認識しているか
		インドネシア側実施機関が日本側投入は適切であったとどの程度認識しているか
	農家グループが日本側投入は適切であったとどの程度認識しているか	
PDM に規定された成果を得るにあたり、インドネシア側の投入（担当者、ローカルコスト、事務所の提供）は量、質、費用、タイ	インドネシア側の投入が適切であったことを確認するもの	
	JICA がインドネシア側投入は適切であったとどの程度認識しているか	



大項目	小項目	判断基準
	ミングの面で適切であったか	インドネシア側実施機関がインドネシア側投入は適切であったとどの程度認識しているか
		農家グループがインドネシア側投入は適切であったとどの程度認識しているか
	人材、資機材等の投入の提供にあたり予期しない問題は発生しなかったか。発生した場合、適切な方法とタイミングで解決されたか	投入の提供にあたって発生した予期しない問題を確認できるもの
		問題が発生した場合、どのように解決されたかを示す文書
	PDM に規定された成果をより効果的かつ効率的に得るために他に必要な投入があったか	その他投入の必要性における JICA の認識 その他投入の必要性におけるインドネシア側実施機関の認識
インパクト		
上位目標達成の見通し	第3章「プロジェクトの実績と実施プロセス」に記載の「3-4 上位目標達成の見通し」に記載のとおり	第3章「プロジェクトの実績と実施プロセス」に記載の「3-4 上位目標達成の見通し」に記載のとおり
	上位目標を達成するための何らかの活動努力がなされたか。あるいはその計画があるか	上位目標を達成するための活動努力（またはその計画）を確認する公的文書の有無
正・負の影響	ジェンダー、貧困削減、環境等の面において、プロジェクト導入によってもたらされた正または負のインパクトが発生したか	プロジェクト導入によってもたらされた正または負のインパクトリスト
持続性		
プロジェクトの持続性 の見通し	政策の方向性、制度整備及びコミットメントの観点において、プロジェクト目標と上位目標による影響はプロジェクト終了後も持続するか	JICA がプロジェクト目標と上位目標の影響を持続させるためのメカニズムをどの程度整備しているか
		インドネシア側実施機関がプロジェクト目標と上位目標の影響を持続させるためのメカニズムをどの程度整備しているか
		金融サービス提供者がプロジェクト目標と上位目標の影響を持続させるためのメカニズムをどの程度整備しているか
		近代市場がプロジェクト目標と上位目標の影響を持続させるためのメカニズムをどの程度整備しているか
		農家グループがプロジェクト目標と上位目標の影響を持続させるためのメカニズムをどの程度整備しているか
	プロジェクトは市場価格の高い変動制といった持続性に影響し得る外部要因への対策を整備しているか	プロジェクトが外部要因への対策を整備していることを確認できるもの
		JICA が外部要因への対策はどの程度適切に整備されていると認識しているか
		インドネシア側実施機関が外部要因への対策はどの程度適切に整備されていると認識しているか
		農家グループが外部要因への対策はどの程度適切に整備されていると認識しているか
人材（適切な人材の配置、配置人		主要な人材がプロジェクト終了後もプロジェクト活

大項目	小項目	判断基準
	材の知識や技術、マニュアルの有無、知見管理システム)の観点において、プロジェクトは持続可能か	動にどの程度関与するか
		主要な人材の知識及び技術レベル
	財源の観点において、プロジェクトは持続可能か	JICA がプロジェクト目標と上位目標の影響を継続させるためにどの程度予算を配分しているか
		インドネシア側実施機関がプロジェクト目標と上位目標の影響を継続させるためにどの程度予算を配分しているか
		農家グループがプロジェクト活動を継続するためにどの程度予算を配分しているか
	JICA によって提供された資機材はプロジェクト終了後も適切に維持管理されるか	資機材を適切な維持管理するためのインドネシア側実施機関の知識と技術レベル
		インドネシア側実施機関がプロジェクト終了後に資機材をどの程度活用する意図があるか
プロジェクトの持続性に影響し得るその他の要因があるか	プロジェクトの持続性に影響し得るその他要因の詳細	

出所：終了時評価調査団

## 2-2 データ収集の手法

上記の評価設問に関し、下記の手法にてデータ及び情報を収集した。

### 2-2-1 文献調査

本プロジェクトに関する二次データ・情報は、詳細計画策定調査報告書、モニタリングシート、日本人専門家によるプロジェクト業務完了報告書（案）、PDM、実施計画書、その他の関連文書（投入実績、JCC 議事録）から収集した。また、インドネシア政府の農業政策・戦略、農家組織や農業協同組合の構造、市場動向などのインドネシアの農業セクターに関する情報は、ウェブサイトやその他の二次情報源から収集した。

### 2-2-2 質問票及びインタビュー

一次データ・情報はプロジェクトの日本人専門家、農業省園芸総局、対象地域の各県・市農業局、農家グループとのインタビュー及び質問票を通じて収集された。また、評価調査団は、近代市場の民間企業や金融サービス提供者、フィンテック企業に対してもインタビューを実施した。

## 第3章 プロジェクトの実績と実施プロセス

### 3-1 投入実績

#### 3-1-1 日本側の投入

##### (1) 専門家の派遣

下記の2つの運営管理業務と10の専門分野に係る活動を行うため、合計12名の日本人専門家が派遣された。

- ・運営管理業務(2)：総括/副総括
- ・専門分野(10)：マーケティング/商品開発/園芸栽培技術/協同組合組織運営/官民連携促進/金融アクセス改善/収穫後処理/農産物流通/能力強化/インパクト調査

プロジェクト開始以降、2020年8月31日時点の専門家の投入実績合計は60.78人/月(MM)<sup>5</sup>であった。派遣された日本人専門家のリストは表-4、表-5のとおり。

表-4 本プロジェクトに従事した専門家(2016年、立ち上げ期)

担当業務	氏名
総括/農産物流通/マーケティング/商品開発	森 真一
副総括/農産物流通	西村 勉
園芸栽培技術	森田 健雄
協同組合組織運営	松見 靖子、梶田 未央
協同組合組織運営/官民連携促進	清水 俊博
金融アクセス改善	米山 明季子
収穫後処理/加工	田中 俊祐

表-5 本プロジェクトに従事した専門家(2017-2020年)

担当業務	氏名
総括/農産物流通/本邦研修	西村 勉
官民連携促進	森 真一
園芸栽培技術/収穫後処理/加工	森田 健雄
園芸栽培技術	山崎 勝
協同組合組織運営/官民連携促進	清水 俊博
金融アクセス改善	米山 明季子
インパクト調査/農産物流通	末永 純平
情報・デジタル技術活用促進	竹内 知成
電子商取引(EC)の活用状況調査	北野 正人

<sup>5</sup> 1人/月は業務従事者1名が30日間勤務(海外業務の場合)したと計算される。

## (2) 本邦研修

本邦研修は 2016 年、2017 年、2018 年の 3 度行われた。合計で 32 名のインドネシア側実施機関職員及び 9 名の対象農家グループの代表が 2 週間にわたり近代生産技術、マーケティング、高品質な農産物の流通システム等に関する研修に参加した。研修参加者のリストは付属資料 4.のとおり。

## (3) 資機材

プロジェクト開始初年度に対象県の産地農産物卸売市場 (Sub-Terminal of Agribusiness: STA) の機能強化、及びトライアルプロジェクトの有効性を向上させるために必要な資機材が STA と農家グループに供与された。主な供与機材としては、果物や野菜の洗浄機や皮むき器が含まれており、終了時評価調査時点では、すべての資機材が使用されていることが確認された。

## (4) 日本側ローカルコスト負担実績

終了時評価調査時点で、園芸作物の流通支援に係る建物の改装、資機材の調達や供与、フィールドスタッフ等ローカルスタッフの雇用に係る経費、車両費等現地移動に係る経費、トライアルプロジェクトに係る経費、各種セミナー開催関連経費等、プロジェクト実施に必要な資金のうち現地通貨にて支出されたローカルコストとして、約 9,700 万円が支払われた。詳細は付属資料 6.のとおり。本プロジェクトでは、フィールドスタッフとして、プロジェクト期間中に合計で 10 名が雇用され、うち 1 名がプロジェクトコーディネーター、1 名が秘書、2 名がエリア総括、6 名がフィールド担当となっている。

### 3-1-2 インドネシア側の投入

#### (1) 実施機関側プロジェクト担当者の配置

本プロジェクトの担当者として、合計 59 名の職員が、農業省園芸総局、総務局、果実花卉局、園芸保護局、園芸種子局、園芸加工流通局、野菜薬用作物局、及び西ジャワ州、ボゴール県・市、スカブミ県・市、バンドン県、西バンドン県、チアンジュール県、ガルット県農業局に配置された。詳細のプロジェクト担当者リストは付属資料 7.のとおり。

#### (2) インドネシア側投入予算実績

終了時評価調査時点で、プロジェクト運営に関する意思決定機関である JCC の開催に係る費用や、インドネシア側実施機関のプロジェクト担当者が会議に参加する際の旅費等を含む、約 560 万円 (7 億 8,700 万ルピア) がインドネシア側によりローカルコストとして支出された。詳細の予算実績リストは付属資料 8.のとおり。

### 3-2 成果の達成度

#### 3-2-1 成果 1-1

成果 1-1：対象農家が高品質で安全な農産物の栽培・生産技術を習得する。
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プロジェクトは成果 1-1 の目標を達成した。

成果 1-1 に係る活動として 2017 年から 2020 年にかけて、年 2 回 (乾期と雨期に 1 回ずつ) のトライアルプロジェクトを実施した。プロジェクトでは対象農家に対し特定作物の栽培技術指導

を行い、農家はその後自らの圃場で実践した。トライアルプロジェクトに使用する圃場は基本的に100m<sup>2</sup>とし、種子や肥料、農薬等の必要資材はプロジェクトが提供した。終了時評価調査時点で、計6期トライアルプロジェクトを実施し、参加農家数は以下のとおり延べ1,396名にのぼった<sup>6</sup>。

本プロジェクトで指導した栽培技術の例を表-6に示す。本プロジェクトでは栽培技術を可視化した作物ごとの技術マニュアルを作成し、農家グループが生産管理技術を新たに導入する際に活用された。さらに、対象地域の各県・市農業局の農業普及員からは、技術マニュアルはプロジェクトに参加しなかった農家に技術指導を行う際にも活用できるとの言及があった。

また、プロジェクトでは特定の品目（パプリカ等）に対する減農薬技術を導入し、食の安全性の向上と対象農家グループの圃場における環境負荷の削減を図った。

表-6 指導した栽培技術例

栽培技術	効果
苗畑管理（ほとんどの品目）	
苗を苗袋に鉢上げして苗床で長く育て、状態の良いもののみを圃場に定植する。	<ul style="list-style-type: none"> <li>・作物がより良い状態で均一に成長する。</li> <li>・栽培期間後半まで病気にかかりにくい。</li> </ul>
施肥（ほとんどの品目）	
堆肥と肥料の両方を使用する。また、追肥を根の成長点付近に行うことで、根の生育を促進する。	<ul style="list-style-type: none"> <li>・栽培期間後半でも必要な栄養を吸収でき、生長期間が延びる。</li> </ul>
雨除け（雨期栽培のトマト、ブロッコリー、レタス）	
現地で入手可能な材料を用いてプラスチックのトンネルを作り作物を雨から守ることで、ハウス施設がなくても雨期に高品質な野菜を栽培することができる。	<ul style="list-style-type: none"> <li>・雨が直接株や果実に降りかかることで発生する病気や品質の劣化を防ぐ。</li> <li>・高品質な野菜を雨期にも生産できる。</li> </ul>
ネット（インゲン、キュウリ）	
ネットを用いた誘引を行うことで、蔓が生長するためのスペースを有効活用できる	<ul style="list-style-type: none"> <li>・収量と品質が向上する。</li> <li>・作物の状態が良くなり、収穫期間が延びる。</li> </ul>

出所：JICA プロジェクトチーム

数回のトライアルプロジェクトへの参加後、一定数の農家が収穫量と品質を大幅に向上させることができた。この結果を受けて、プロジェクトの後半では、サプライヤー、スーパーマーケット、食品業界等のさまざまな市場関係者と協力し、特定の品目においてより強固な市場リネージュを確立することに焦点を当てた。プロジェクトでは、サプライヤーや農家グループとの数回の会議を経て、対象農家グループをジャカルタの近代的な市場を含む新しい市場へつなげることとなった。また、それぞれの市場の需要に合わせて農家グループごとに栽培・出荷計画を作成し、農家グループがより安定的に生産・供給できるよう支援した。

さらに、近代市場の日本野菜への高い需要を見込み、新たに市場性のある品目の栽培をめざす農家を支援することを目的として、日本野菜の種子を日本から輸入し、4品目（ミズナ、桃太郎トマト、ナス、ピーマン）をインドネシアにおいて登録した。この過程においては、農業省園芸

<sup>6</sup> トライアルプロジェクトは2020年にあと1回予定されており、25～30名の農家が参加を予定している。

種子局長からの推薦を受け、Tani Murni 社との協力を決定した。Tani Murni 社は、日本の種子会社であるタキイ種苗株式会社の現地代理店として長年経営されており、日本と韓国の野菜種子の輸入に十分な実績をもつインドネシアの種子販売・輸入業者である。また、本プロジェクトでは日本野菜の栽培技術支援を行い、一部の農家グループでは日本野菜の栽培を成功させることができた。これらの日本野菜は、ジャカルタの AEON や Papaya Fresh Gallery 等の日系スーパーマーケットで販売され、現地在住の日本人だけでなく、インドネシア人の顧客にも購入されている。

また、本プロジェクトでは、PT. Calbee-Wings Food (CWF)、ユニチカ株式会社、アサヒバイオサイクル株式会社、PT. TAKIRON INDONESIA、株式会社シモタ農芸など、日本企業を中心に多くの民間企業とのパートナーシップを築き、日本の高度な農業技術や投入資材の導入を支援した。特に CWF は、ガルット県及びバンドン県の複数の農家グループとの間で 5 件のトライアルプロジェクトと 1 件の契約栽培を実施し、終了時評価調査時点でも両者の取引関係は継続している。

各活動/指標の達成度は下記のとおり。

1-1-1：対象農家グループの 70%が園芸作物の生産に関する研修に参加する。

〈結果：達成（99%）〉

本プロジェクトではトライアルプロジェクトを 6 期にわたって実施し、ほぼすべての対象農家グループが研修に参加した。トライアルプロジェクトではまずフィールドデモンストレーションが行われ、プロジェクト専門家が播種方法、苗床の作り方、圃場整備と定植のための適切な施肥方法、苗の圃場への定植方法等を対象農家に指導した。その後もフィールドスタッフが常時各農家の圃場をモニタリングし、プロジェクト専門家も定期的に訪問して栽培指導を行った。農家グループの研修参加状況の詳細は表 7 のとおり。

表 7 研修に参加した対象農家グループ数

	2017		2018		2019		合 計
	乾期	雨期	乾期	雨期	乾期	雨期	
対象農家グループ数	30	30	31	31	34	27	183
出席した農家グループ数	30	30	31	30	33	27	181
割 合 (%)	100	100	100	97	97	100	99

出所：JICA プロジェクトチーム

1-1-2：対象農家の 80%が、プロジェクトが導入した改善された栽培技術を実践する。

〈結果：達成（89%）〉

2019 年雨期までに、トライアルプロジェクト参加農家の 89%が、プロジェクトの指導に従って栽培を行った。フィールドスタッフが各参加者の圃場での定期的なモニタリングを通して、ほとんどの農家が栽培管理技術を適切に実践したことを確認した。プロジェクトスタッフが適切なモニタリングを行い、また、プロジェクトと農家グループの良好な関係が構築されたことにより、プロジェクトの経過に伴いその割合は上昇した。

参加した農家は高い割合でプロジェクトへの高いオーナーシップを示し、プロジェクトが支援した栽培管理技術を導入した一方、一定数の農家グループ（11%）は導入への動機が弱く、あるいは他の仕事で多忙のため圃場で必要な時間がかけられないという理由で実践しなかった。

表－８ プロジェクトが導入した技術を実践した対象農家数

	2017		2018		2019		合 計
	乾期	雨期	乾期	雨期	乾期	雨期	
参加農家数	289	226	254	235	218	170	1,392
技術を実践した農家数	205	217	225	217	211	170	1,245
割 合 (%)	71	96	89	92	97	100	89

出所：JICA プロジェクトチーム

1-1-3：対象農家の60%が秀品率を向上させる。

〈結果：達成（61%）〉

2019年雨期までのトライアルプロジェクトにおいて、対象農家の60%以上が、プロジェクトが導入した技術によって、収穫物の品質を向上することができた。品質を向上できなかった農家の理由については、栽培管理の不徹底等農家自身に起因するものは少なく、長い干ばつや隣接する圃場での病気の発生といった環境的な要因によるものが多かった。またそのようなケースであっても、導入した技術によって被害の軽減が確認された。

表－９ 収穫物の品質が向上した対象農家数

	2017		2018		2019		合 計
	乾期	雨期	乾期	雨期	乾期	雨期	
参加農家数	202	201	220	235	218	170	1,246
品質が向上した農家数	95	142	142	156	131	91	757
割 合 (%)	47	71	65	66	60	54	61

出所：JICA プロジェクトチーム

### 3-2-2 成果 1-2

成果 1-2：対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる。

プロジェクトは成果 1-2 の目標を部分的に達成した。

本プロジェクトでは対象農家グループの栽培管理能力を向上させるため、栽培の詳細な過程（播種、定植、整地、農薬散布、殺虫剤散布等）とそれぞれ過程のタイミングを記録する「栽培カレンダー」を導入した。栽培カレンダーは多くの対象農家グループにとって新しい手法であったが、栽培カレンダーを導入した多くの農家グループにおいて、栽培管理及び生産量と品質が向上した。

各活動/指標の達成度は下記のとおり。

1-2-1：トライアルプロジェクトを完了した対象農家の60%が栽培記録をつける

〈結果：達成（87%）〉

トライアルプロジェクトを完了した農家の87%が、播種、定植、農薬散布等の圃場での活動記録をつけており、その割合はプロジェクトが経過するにつれ増加した。記録をつけることの栽培管理上の有用性が、多くの農家に理解されたといえる。また、終了時評価調査にて聞き取りを行った農家の多くがプロジェクト終了後も引き続き栽培記録をつけるとの表明があった。一方、い

くつかの農家グループでは栽培記録の技術不足やその重要性を理解しなかったことから継続して記録をつけることができなかった。

表－10 栽培記録をつけた対象農家数

	2017		2018		2019		合 計
	乾期	雨期	乾期	雨期	乾期	雨期	
トライアルプロジェクトを完了した農家数	205	217	225	217	211	170	1,245
栽培記録をつけた農家数	160	176	192	193	201	164	1,086
割合 (%)	78	81	85	89	95	96	87

出所：JICA プロジェクトチーム

他方、成果 1-2 の達成状況を測るために設定された「トライアルプロジェクトを完了した対象農家の 60%が栽培記録をつける」という指標は、成果 1-2 がめざす「対象農家が市場のニーズに合わせて栽培を計画・実行できるようになる」という状態を必ずしもとらえておらず、市場ニーズに応じた栽培を計画・実行するためには、栽培記録の徹底に加え、市場の需要を十分に把握し、それらに応じて収穫時期や生産量を計画するといった更なる能力強化が必要となる。栽培記録は効率的な圃場管理のための有用なツールではあるが、市場ニーズを分析する技術には直接結びつかない。この点において、2019 年から開始された農家が市場ニーズに基づき栽培計画を作成することを支援する活動は、成果 1-2 で期待された農家の能力向上に資するものと考えられる。プロジェクト前半は効率的な圃場管理のため栽培記録の導入支援の優先順位が高かったことは理解できる一方で、今後は栽培計画の導入により、農家グループの市場ニーズに応じた栽培計画を作成・実行するための能力が向上することが期待される。

### 3-2-3 成果 1-3

成果 1-3：対象農家グループが近代市場への販路を開拓する。

プロジェクトは成果 1-3 の目標を部分的に達成した。

本プロジェクトは農業省園芸総局とともに、民間企業（スーパーマーケットチェーン、外食産業、大手輸出・貿易業者等）、農家グループ、金融機関を招いてのビジネスフォーラムを 4 回開催し、販路開拓に向けた対話や情報交換の促進を支援した。プロジェクト前半では農産品の生産技術の向上に重点が置かれたが、プロジェクト後半では農家グループと市場をつなぐ活動が強化された。

各活動/指標の達成度は下記のとおり。

1-3-1：対象農家グループの 80%が近代市場とのマッチングイベントに参加する。

〈結果：達成（80%）〉

1-3-2：対象農家グループの 50%が近代市場と商談を行う。

〈結果：達成（55%）〉

合計で対象農家グループの 80%がビジネスフォーラムに参加し、55%が近代市場と商談を行った。



表－11 ビジネスフォーラムへの参加、近代市場との商談を行った対象農家グループ数

	参加農家 グループ	対象農家 グループ	割合 (%)	商談を行った 農家グループ 数	対象農家 グループ	割合 (%)
第1回(2017年4月)	20	30	67	-	-	N/A
第2回(2018年1月)	26	30	87	20	30	67
第3回(2018年8月)	27	31	87	15	31	48
第4回(2019年2月)	24	31	77	16	31	52
合計	97	122	80	51	92	55

出所：JICAプロジェクトチーム

ビジネスフォーラムでは、対象農家グループの代表者とマーケット側の参加者との間で、マーケット側の求める品目ごとの需要や規格等について積極的に意見交換や議論が行われるとともに、多くの個別商談が行われた。第1回のビジネスフォーラムでは、商談会は全体会議の形式で行われた。サプライヤーやスーパーマーケットの参加者からは、多くの農家グループは市場の求める量の野菜を継続的に生産できないことから、1年を通じた野菜の安定供給が課題として挙げられた。プロジェクトは、近代市場が必要とする量を調達できるようにするために、ビジネスフォーラムの機会を利用して、サプライヤーやスーパーマーケットと県をまたいだ複数の農家グループを結びつけるように働きかけることで、近代市場の購買担当者が複数の農家グループと商談ができるようにした。終了時評価調査までにプロジェクトは農家グループを PT. Greenlife Indonesia、PT. AEON Indonesia, Super Indo, Papaya Fresh Gallery 等につなげる支援を実施した。いくつかの事例を下記に示す。

#### (1) 黒田エンジンの販売促進活動

近代市場におけるシリンダータイプのエンジンへの高い需要から、プロジェクトでは対象農家グループに黒田エンジン（シリンダータイプの品種）の生産を推奨した。また、黒田エンジンの販売促進活動として PT. Greenlife Indonesia、PT. AEON Indonesia, Super Indo との商談を支援した。商談のなかで、PT. AEON Indonesia は、近代市場で一般的に出回っているブラスタギ品種のエンジンとは別に、高級志向の客層を引きつける特別な商品として、新たな品種のエンジンの販売を希望していたため、黒田エンジンに強い関心を示した。AEON は Al Ittifaq から黒田エンジンを調達することを決定し、2019年3月に取引が開始された。続いて販売促進イベントが開催され、西ジャワ州協同組合促進局、農業省園芸総局、AEON インドネシア代表、Al Ittifaq 代表、日本大使館及び JICA インドネシア事務所からの参加があった。

取引開始直後、黒田エンジンの販売状況は極めて良好であったものの、ブラスタギ品種との激しい競合により次第に売上が減少した。AEON での販売低迷を受けて、Al Ittifaq では、売先を確保するため、インドネシアの中間層向けの手廻りスーパーマーケットである Super Indo との黒田エンジンの取引を開始した。拡大する需要に対応するため、プロジェクトでは Al Ittifaq とともに、チアンジュール県の Mujagi、バンドン県の Hikmah Farm との間で黒田エンジンの生産・出荷に係る協力関係を築くための支援を行った。3つの農家グループが協働で栽培計画を作成し、計画に沿ってそれぞれが生産した黒田エンジンを Al Ittifaq に集荷し、

包装を行ったうえで Super Indo に出荷している。

## (2) 農家グループと e コマース企業との連携

本プロジェクトではチアンジュール県と西バンドン県にある 3 つのパートナー農家グループから野菜を調達し顧客に販売している e コマース会社 Sayurbox と協議を行った。品質基準を確認するため黒田ニンジン、桃太郎トマト、ナス、ミズナといった日本野菜のサンプルを同社に提出し、その後、すべての商品が同社の品質検査に合格したとの報告を受けた。プロジェクトと農家グループの代表者は、Sayurbox と日本野菜の出荷に係る詳細について協議した。新型コロナウイルス感染拡大の状況下で e コマースビジネスの需要が大きく伸びており、プロジェクトの活動において農家グループを e コマース企業とつなげることは潜在的に高い需要が見込まれる。

## (3) STA の活用

本プロジェクトでは、トライアルプロジェクトの実施を通してスカブミ STA、チアンジュール STA、ボゴール STA、ガルット STA の有効利用方法の検討を行った。一例として、スカブミ市農業局は、スカブミ STA 内の既存の建屋を近代市場向けの青果物の集出荷場として利用することを決めた。スカブミ市農業局との協議の後、2017 年 4 月にプロジェクトはスカブミ市農業局に対し、青果物を近代市場に出荷するため必要となる洗浄、計量、パッキング等の機材の供与を行った。2017 年 8 月、プロジェクトはスカブミ市農業局に STA の運営管理のオプションとして、①第三者への転貸、②現在の管理主体である管理委員会による運営、③ファーマーズマーケット協会による運営、の 3 つの案を提示した。スカブミ市農業局は、STA の青果物集荷場の管理を地元企業・トレーダー、経営者、または有能な農家グループに貸し出すことを決定した。2017 年 9 月、プロジェクトは、STA の青果物集荷場の賃貸契約の雛形をスカブミ市農業局に提案した。スカブミ市農業局とプロジェクトは、スカブミ STA の運営に関心をもち、十分な経験のある地元トレーダーを探索したが、適切な人材は見つかっていない。そのため、現在に至るまでスカブミ市農業局がスカブミ STA の運営を行っており、同施設において毎週日曜日にファーマーズマーケットを開催している。

また、プロジェクトとチアンジュール県農業局は、チアンジュール STA の活用方法として、トライアルプロジェクトで支援している黒田ニンジンの集出荷場として STA を利用することを検討していた。一方で STA は野菜残さの管理に関して深刻な問題を抱えており、STA の衛生環境は著しく悪化していた。チアンジュール県農業局は、STA の管理責任を STA 管理委員会から農業局の UPTD（地域技術実施ユニット）に移管することで、チアンジュール STA の組織改編と改善に取り組んだ。チアンジュール STA の改修工事が 2018 年から 2019 年初頭にかけて行われ、現在 STA は地元トレーダーや集荷業者のための集荷、選果、出荷場として利用されている。野菜残さの問題については、チアンジュール県農業局によって廃棄物の処分が行われ、それ以後、利用者がすべての廃棄物を持ち帰ることとなった。

上記のように成果 1-3 の指標はすべて達成されているが、一部の対象農家グループが新たな販路を開拓した一方で、多くの農家グループは高品質な野菜を安定的に供給することの難しさから、いまだ市場との長期的なビジネス関係を構築することが困難な状況にある。その主な理由は、高

品質の野菜を安定供給することの難しさである。一部の農家グループは、サプライヤー/スーパーマーケットとの取引条件の交渉に困難を感じており、また、特に日本野菜を生産している農家グループでは、ジャカルタの日系スーパー以外の市場を探ることができていない。これらの課題に対処するためには、市場の需要に応じた生産体制の構築、及び長期的なビジネス関係の構築に向けて、商談力や品質管理などを含むマーケティングスキルも必要となる。

上記のように販路開拓に向けては持続性の観点から課題が残ることから、成果 1-3 は部分的に達成されたと評価した。

#### 3-2-4 成果 1-4

成果 1-4：対象農家グループの金融アクセスが改善される。

プロジェクトは成果 1-4 の目標を達成しなかった。

農家の金融アクセスを改善し自立性を向上させるため、プロジェクトはインドネシア政府の補助による小規模融資スキームである Kredit Usaha Rakyat (KUR) を農家グループが借り入れるための支援を金融サービス提供者 (Financial Service Provider : FSP) と連携し行った。KUR は低金利で多くの農家にとって利用しやすい融資形態であるが、ここでは成功事例とともに改善点も確認された。

プロジェクトでは民間銀行のタブンガン・ペンシウナン・ナショナル銀行 (PT. Bank Tabungan Pensiunan Nasional Tbk : BTPN) と連携し 2 回の KUR 融資の申請支援を行い、この結果、合計 50 名の農家に対し計 8 億 5,300 万ルピアが貸し付けられた。当初、プロジェクトはサプライチェーンファイナンスの実施を模索していた。サプライヤーとの協議を経て、BTPN は、その潜在的な信用リスクのため、サプライチェーンファイナンスの提供を断念することとなった。その代わりに、プロジェクトと BTPN は、農業資材の購入のための資金需要の高い園芸作物農家に対する KUR 融資の検討を行った。プロジェクトは、すべてのプロジェクト対象地域を精査して、チアンジュール県が KUR 融資の需要が最も高いと結論づけ、3 つの農家グループ (Mujagi, Utama, Mandiri) が、第 1 回の融資の対象として選定された。

初回の KUR 融資は 2017 年 10 月にチアンジュール県の 24 名の農家に対し実施され、貸付額は 4 億 1,300 万ルピアであった。2 回目は対象地域を拡大し、チアンジュール県、スカブミ県、ボゴール県で KUR 融資が実施された。この対象 3 県にて 2017 年下旬から 2018 年月上旬にかけて第 2 回 KUR 融資の申請に係る詳細情報と申請資格要件の説明を行った。その後、プロジェクトでは融資の返済が困難となった場合、その農家が所属する農家グループの他の受益者が返済を肩代わりすることに同意する連帯保証書の申請書作成を含む、申請書類の作成を支援した。また、KUR 融資の受益者は「WOW」と呼ばれる BTPN のモバイルバンキングサービス (WOW の口座を通じて融資の返済をしなければならない) で口座を開設することが条件となっていることから、BTPN は、農家の口座開設の手続きを手伝うとともに、WOW のサービスを使った各種取引の実行方法について説明を行った。第 2 回 KUR 融資では、2018 年 9 月時点で 26 名の農家に 4 億 4,000 万ルピアの貸付が行われた。

その後、BTPN とプロジェクトは第 3 回融資の手続きを進めた。第 3 回目融資では、BTPN の KUR 融資業務を効率化させるために、申請に必要な農家データの収集の点でフィンテック企業との連携を模索した。2019 年 1 月までに、対象 6 県の農家 220 名が融資申請書を BTPN にしたが、BTPN は、組織再編プロセスの一環として KUR 融資の追加払い出しの停止を決定したため、融資

審査に進むことができなかった。プロジェクト開始時、プロジェクトチームは BTPN の KUR 融資の財務状況は良好であり、期待されるプロジェクト成果を得るに十分な組織力があることを確認していた。しかし、上記組織再編による経営判断の変更は予期しなかったものであり、BTPN との連携を断念することとなった。代替手段として、プロジェクトはネガラ・インドネシア銀行 (Bank Negara Indonesia : BNI) とコンタクトを取り、農家への KUR 融資提供を継続するための協議を重ねた。しかしながら、プロジェクトが提案した返済メカニズムが、BNI の支店にとって新しいものであったため、融資の即時実行には至らず、プロジェクト終了までの時間が限られていたため、プロジェクトは 3 回目の申請を中止することを決定した。

各活動/指標の達成度は下記のとおり。

1-4-1: 対象農家グループに所属する農家のうち 300 名が金融サービスについての説明会に参加する。

〈結果：達成 (528 名)〉

第 2 回及び第 3 回の KUR 説明会の出席者数の合計は、500 名以上に上った。第 1 回説明会は最初の試みであったため、プロジェクトが選定した農家のみを対象とした。

第 2 回融資に関しては、BTPN の職員が申請手続きや必要書類、返済期間や返済方法などについての詳細説明を行った。第 3 回融資では、BTPN に加え、フィンテック企業の Tani Fund と HARA から職員が派遣され、農家グループに対し金融スキームについての説明が行われた。また、WOW システムを利用した返済方法についても説明された。参加した農家の主な関心は返済期間や返済方法についてであり、「農家グループの 1 人が返済できなかった場合、連帯責任となるのか」といった質問が多く寄せられた。

表-12 KUR 説明会に出席した農家数

	第 2 回	第 3 回	合 計
参加農家数	223	305	528

出所：JICA プロジェクトチーム

1-4-2: 対象農家グループに所属する農家のうち 150 名が融資や預金等の金融サービスを活用する。

〈結果：未達成 (50 名)〉

本プロジェクトでは、民間金融機関と連携し、公的金融スキームである KUR 融資を通じて対象農家グループの金融アクセスの向上をめざした。BTPN との協議において、農家グループが返済しやすくなるよう、収穫の周期に合わせて返済期間を設定し、また、返済期間を 2 年と長期に設定した。また、返済の連帯保証を導入し、農家グループの 1 人が返済できなくなった場合には、グループ内の他の農家が分担して返済するスキームとした。

しかしながら、前述のとおり BTPN の予期しなかった経営判断の変更により第 3 回の融資は実施されず、融資を受けた農家数は 50 名にとどまり、目標達成とならなかった。

表－13 KUR 融資を受けた農家数

	第 1 回	第 2 回	合 計
融資を受けた農家数	24	26	50

出所：JICA プロジェクトチーム

### 3-2-5 成果 2

成果 2：園芸作物の生産流通システム近代化に関与する行政機関関係者の行政運営能力が向上する。

プロジェクトは成果 2 の目標を部分的に達成した。

生産流通システムの近代化を推進するための行政運営能力には、農業技術面のみならず、市場情報を発信し、農家グループと市場の連携促進に係る支援をするための能力も必要となる。農業省園芸総局及び国際協力局、対象地域の各県・市の農業局職員はプロジェクト活動に参加したものの、現状では園芸作物の生産流通システム近代化に向けた組織体制が十分構築されているとはいえないことから、成果 2 は部分的に達成されたと評価した。

各活動/指標の達成度は下記のとおり。

2-1：農業省園芸総局及び県・市農業局が農産物流通・販売促進に関するイベントを 24 回開催する。

〈結果：達成（45 イベント）〉

農業省園芸総局及び県・市農業局主導で農産物流通改善に関するイベントが 45 件開催され、インドネシア実施機関側関係者の関与が高まったことが示された。多くのイベントが、ファーマーズマーケット、フェスティバル、または展示会であり、毎週、毎月、もしくは不定期で開催され、農家の収穫物の販売を促進した。特にファーマーズマーケットは農家にとって販売先の新たな選択肢となり、新型コロナウイルス感染拡大下においてレストランやケータリングといった近代市場での需要が減少するなか、販売活動の多様化につながった。上記の 45 件のイベントは、すべてがプロジェクトの活動に直接関連していたわけではないものの、本プロジェクトと同様の目的ないしコンセプト（ビジネスフォーラム等）を有するものであった。

2-2：行政機関関係者 30 名が高品質な農産物の生産、流通、販売の近代化に係る研修に参加する。

〈結果：達成（32 名）〉

日本において、高品質な農産物の生産、流通、販売を学ぶための本邦研修が 2016 年から 2018 年にかけて 3 回実施され、計 32 名の行政官と 9 名の対象農家が日本での研修（2 週間）に参加した。

2016 年の第 1 回目の研修では農業省職員及び県・市農業局の幹部職員が参加し、2017 年の第 2 回目の研修では、主に農業省と県・市農業局の技術職員が参加した。また、2018 年の第 3 回目の研修では、対象農家グループの代表者と県・市農業局の技術職員を対象とした。研修の終盤では、参加者は研修での学びをもとにアクションプランを作成した。

当初、プロジェクト設計段階では、農家グループの代表者の参加は想定されていなかった。しかし、プロジェクトチームが農家グループの参加の必要性に気づいたことからプログラムを調整し、政府関係者の参加枠を減らし、その分を農家グループの参加分として割り当てることとなっ

た。本邦研修に参加したことで農家のプロジェクトに対するモチベーションが高まり、その後のプロジェクト活動に積極的に参加するようになった。本邦研修に参加した農家は、現在もプロジェクトの中核メンバーとして積極的に活動している。

また、前述のとおり、チアンジュール県農業局からの本邦研修参加者がその後チアンジュール STA の改修を先導したように、本邦研修に参加した数名の政府関係者のプロジェクトに対するモチベーションが高まり、プロジェクトの推進に貢献したことも確認された。

表－14 本邦研修の参加者数

	中央/地方政府				農 家	合 計
	農業省	西ジャワ州	県・市農業局	小計		
第1回（2016年）	6	1	4	11	0	11
第2回（2017年）	5	1	6	12	3	15
第3回（2018年）	2	1	6	9	6	15
合 計	13	3	16	32	9	41

出所：JICA プロジェクトチーム

2-3：園芸作物の生産・流通システムの近代化に資する 10 の政策（プロジェクトを含む）が計画または実施される。

〈結果：達成（33 プロジェクト）〉

農業省園芸総局及び県・市農業局が主導する生産・流通システムの近代化に貢献する 33 件のプログラムが計画または実施された。これらはすべて政策ではなくプログラムであり、本プロジェクトで得られた教訓に基づいて、農業省園芸総局や農業局が独自で実施したものである。プロジェクトは必要に応じて、農業省園芸総局や農業局に技術的な支援を行い、多くの農業局がフィールドスクール、圃場での実証栽培、栽培技術や防除についての研修を計画・実施した。これらのプログラムはすべて、サプライチェーンシステムの近代化を図り、新たな栽培管理技術を用いて効率化と生産性の向上を図ることを目的として導入されたものである。

特筆すべきものとして、スカブミ市農業局が実施したプログラムは、プロジェクトが 2017 年に実施したトライアルプロジェクトを引き継ぐ形で行われた。スカブミ市農業局は独自予算を用いて、2017 年のトライアルプロジェクトに参加した 3 つの農家グループのフォローアップ活動を実施した。農家グループは、プロジェクトが紹介した栽培と収穫の記録をつける栽培カレンダーを用い、200m<sup>2</sup> の圃場で独自のトライアルプロジェクト（キャベツとトウガラシ、トマト、インゲン）を実施した。この活動に必要な農業資材は、スカブミ市農業局から提供された。

また、バンドン県農業局は、2019 年から 2020 年にかけて、同じく独自予算を用いて、プロジェクトのトライアルプロジェクトに参加した 4 つの対象農家グループに黒田ニンジンの種子を提供することで、プロジェクトの活動をフォローアップした。その後、2 つの対象農家グループにポストハーベスト機材を提供し、これらの農家グループの近代市場への販売能力の強化に貢献した。

一方、農業省園芸総局は農業資機材の提供を通じて対象農家グループを支援した。2019 年乾期に対象農家グループの多くが干ばつの影響を受けたが、プロジェクトチームは週例会議を通じて園芸総局に状況を報告し、その後、園芸総局内で影響を受けた農家グループに必要な支援を実施

するための協議と調整が行われた。その結果、園芸総局の主導の下、プロジェクトチームは地方農業局が必要な資機材の供与を受けるための提案書の作成を支援し、提案書に基づきバンドン県、西バンドン県、スカブミ市の対象農家グループにウォーターポンプ等の資機材が供与された。

また、日本野菜の品種を含めた高品質な野菜の安定生産と供給を確保するためには、輸入品、国産品ともに、農家が高品質な種子にアクセスできるような政策が重要である。そのためには、輸入種子へのアクセスを可能にしつつ、政府の政策に合致する形で国内の育種産業の発展を支援することが重要である。

### 3-3 プロジェクト目標達成の見通し

プロジェクト目標：西ジャワ州対象地域の対象農家グループの農家所得の向上につながる高品質で安全な園芸作物の生産流通システム近代化が進展する。

プロジェクトはプロジェクト目標を部分的に達成した。

PDMにて規定されたプロジェクト目標の指標は既に達成されたものの、プロジェクト終了時点でプロジェクト目標が完全に達成されるためには課題が残る。「4-2 有効性」に記載のとおり、対象農家グループの生産技術においては一定の向上がみられたものの、近代市場との安定的かつ継続的な取引関係を確立し、プロジェクト目標を達成するためには対象農家のマーケティング能力を更に強化する必要がある。

各活動/指標の達成度は下記のとおり。

指標1：対象農家の70%が自身の圃場に改善された栽培管理技術を採用する。

〈結果：達成（77%）〉

プロジェクトは対象農家の栽培管理技術の向上に焦点を当てており、指標として、トライアルプロジェクトに参加する前後の対象農家の栽培管理技術の比較が行われた。

2019年のトライアルプロジェクトに参加した農家388名のうち77%に当たる300名が、プロジェクトで導入された技術を自身の圃場で実践した。適切な苗畑管理が苗の高い生存率と良好な生育につながることを理解し、同技術を実践した農家が多くみられた。

導入した栽培管理技術には、適切な苗床土の使用を含む苗畑管理、適切な栽培管理（効果的な整地、病虫害防除、果実の間引き、クリスタルグァバの枝の剪定等）、マメやキュウリのためのネット、トマトやブロッコリーのための雨期の雨除け等の新しい資機材の導入などがある。これらの技術は、農家にとって導入・実践が難しくなく、また生産量及び品質においても向上がみられたことから、対象農家が近代市場の品質水準を満たすことにつながった。

トライアルプロジェクト開始当初は、いくつかの農家では雨除け等新たに導入した技術を適用することによる生産コスト増加が懸念され、またクリスタルグァバの剪定方法のように農家にとって全く新しい技術の導入が躊躇されたことから、これまでの栽培方法を変えることが容易ではなかった。しかしながら本プロジェクトで導入された栽培管理技術によって、苗の生存率が向上し、後々の健全な生育につながるものが徐々に理解され、多くの農家が導入・実践することとなった。また、終了時評価調査では、プロジェクトの活動以外で農家自身によって実施された優良事例も確認された。

表-15 自身の圃場にプロジェクトで導入された技術を採用した対象農家数

	2019 乾期	2019 雨期	合 計
対象農家数	218	170	388
技術を自身の圃場に採用した農家数	166	134	300
割 合 (%)	76	79	77

出所：JICA プロジェクトチーム

指標 2：対象農家グループの 70%が、農産物を近代市場に販売するための流通販売経路を構築する。

〈結果：達成（74%）〉

本プロジェクトの主な目的の 1 つは近代市場へのアクセスを改善することで園芸作物のサプライチェーンを改善することである。トライアルプロジェクトの最初の 2 年間では、近代市場から求められる高い品質の作物を安定して供給できるよう、農家の栽培能力を向上させることに注力した。2019 年の乾期栽培から、プロジェクトでは、十分な能力を有した対象農家と近代市場のさまざまな関係者を実際に結びつけることに重点的に取り組んだ。近代市場へアクセスするためには、農家は農産物の量、質そして安定供給の継続性の面で市場が求める水準を満たす必要がある。多くの農家グループが最初の 2 年間で近代市場へのアクセスの前提条件である栽培管理技術の向上に取り組んだことから、2019 年のトライアルプロジェクトでは、参加農家グループの 70%以上が、近代市場に出荷することができた。いくつかの優良事例を下記に示す。

- Mujagi は、チアンジュール県の中核農家グループとして、地域内の他の農家グループから日本野菜（黒田ニンジン、桃太郎トマト）を収集し、ジャカルタの高級日系スーパー、Papaya Fresh Gallery に販売した。チアンジュール県のこれら 4 つの農家グループは Koperasi Maju Berkah Mandiri (KMBM) と呼ばれる協同組合を設立し、サプライヤーの PT.Sayuran Siap Saji に数種類の野菜を販売している。また、2019 年にトライアルプロジェクトに参加したガルット県のほとんどの農家グループとボゴール県のいくつかの農家グループも、PT.Sayuran Siap Saji に出荷を開始した。
- Al Ittifaq は、黒田ニンジンをジャカルタの AEON と Super Indo (スーパーマーケットチェーン) に販売している。Super Indo からの需要が高かったため、プロジェクトは Al Ittifaq に、トライアルプロジェクトを通じて黒田ニンジンの栽培経験を有するチアンジュール県、バンドン県、ガルット県の他の農家グループを紹介した。今後、これらの県の農家グループが計画的に黒田ニンジンを生産し、Al Ittifaq を通して Super Indo に販売される予定である。
- スカブミ県・市では、ジャカルタ市内のスーパーマーケットに出荷しているサプライヤーの HSI と協力し、2019 年雨期にはスカブミ県・市の全トライアルプロジェクト参加農家グループが、インゲンとトマトを HSI に出荷するに至った。



表-16 近代市場に販売した対象農家グループ数

	2019 乾期	2019 雨期	合計
対象農家グループ数	34	27	61
近代市場に販売した農家グループ数	22	23	45
割合 (%)	65	85	74

出所：JICA プロジェクトチーム

しかしながら、農家側に残された課題として、近代市場への継続的な供給が困難であること、作物のサイズがまだ統一されていないこと、いくつかの品目では不受理率がまだまだ高いことが挙げられる。さらに、近代市場特有の要件のため発送にかかる費用が高いこと、支払いまでの期間が2週間以上と多くの農家にとって長すぎる事が挙げられる。

そのため、農家グループは近代市場が求める要件を正しく理解し、長期的な取引関係を構築するためそれらの要件を満たすことが必要であると考えられる。

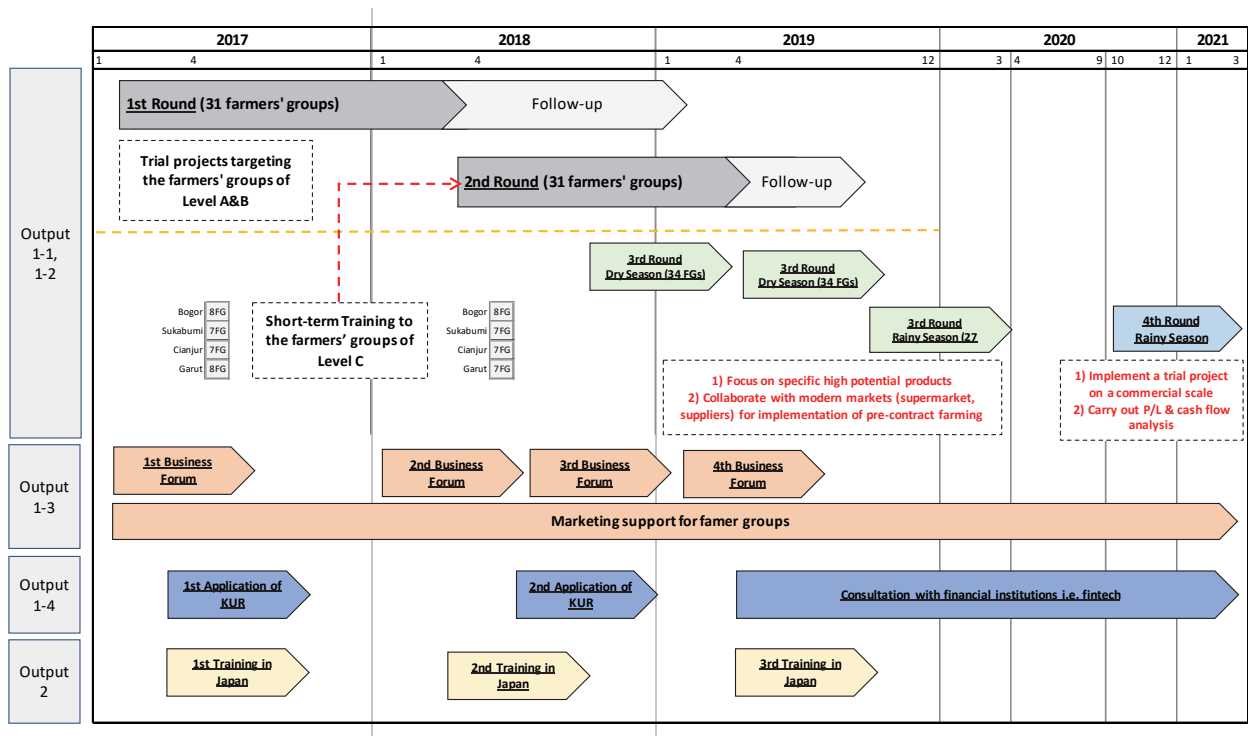
### 3-4 上位目標達成の見通し

上位目標の達成の見通しについては、次章「4-4 インパクト」に記載のとおり。

### 3-5 プロジェクト実施プロセスにおける特記事項

#### 3-5-1 プロジェクトの実施

プロジェクトの実施プロセスは図-4のとおり。



出所：JICA プロジェクトチーム

図-4 プロジェクトの実施プロセス

プロジェクト活動は人材、予算ともに適切な投入をもって実施された。日本側及びインドネシア側の投入量及び投入のタイミングも適切であった。

プロジェクトチームは、効率的なモニタリングシステムを構築することで、広範なプロジェクトサイトにまたがる多くの農家グループの適切なモニタリングを実施した。ローカルスタッフは地域ごとのフィールドスタッフ、3 地域をカバーするエリア統括、そしてジャカルタのプロジェクトコーディネーターと3つのレベルで配置された（p.7 図-3参照）。また、十分な技術と能力をもつプロジェクトスタッフによって頻繁にモニタリングが行われ、プロジェクトの効果的かつ効率的な実施に貢献した。

一方、新型コロナウイルスの世界的流行によって、2020年3月にJICAは海外で活動するすべての日本人の帰国を決定し、本プロジェクトの日本人専門家も現地活動の途中で日本に帰国することとなった。しかしながら専門家チームは、現地スタッフとの緊密な連携によって、2020年乾期に向けたトライアルプロジェクトを含む現地での活動を効率的に実施することができた。ここでも前述のモニタリングシステムが有効に機能したといえる。また、専門家チームは、オンライン会議ツールを活用し、園芸総局をはじめとするステークホルダーと継続的なコミュニケーションを図った。本プロジェクトは新型コロナウイルスというこれまでにない課題に直面した一方、専門家チームがプロジェクト目標を達成するため柔軟に活動を調整したという点において、プロジェクトの実施プロセスは非常に効率的であったといえる。

### 3-5-2 インドネシア側実施機関のオーナーシップ

農業省園芸総局は本プロジェクトの週例会議への継続的に参加し、プロジェクト実施におけるコミットメントは強く、プロジェクトに対し十分なオーナーシップをもっているといえる。週例会議は効率的なコミュニケーションにつながり、ステークホルダー間のオーナーシップ意識の向上に貢献した。また、いくつかの県・市の農業局では、プロジェクトと同様の活動を独自予算で実施するケースもみられた。ただし、すべての農業局がそのような対応を行ったわけではなく、特にプロジェクト担当者の異動や予算の制限があった農業局では、プロジェクトへの強いオーナーシップを確認することは困難であった。

### 3-5-3 プロジェクトステークホルダー間のコミュニケーション

プロジェクト専門家チーム、農業省園芸総局、各地方農業局間のコミュニケーションに特段の問題はみられなかった。プロジェクト実施期間中、毎週月曜日に開催された週例会議は140回を超え、プロジェクトの効果的かつ効率的な実施に貢献した。また、週例会議の内容は各農業局と共有され、各農業局もプロジェクトの進捗状況を把握することができた。また、日本人専門家フィールドスタッフとの間のコミュニケーションにも問題はなかった。

### 3-5-4 前提条件

PDMにて規定された前提条件のうち、「農産物市場が大きく変化しない」という条件が新型コロナウイルスの感染拡大により満たされない可能性があるが、これによるプロジェクト成果への影響は特段生じなかった。

## 第4章 評価結果

合同終了時評価調査団は下記のとおり DAC 評価 5 項目によってプロジェクトを評価した。最終的な結果を表-17 に示す。

表-17 合同評価調査結果

項目	高い	やや高い	中程度	やや低い	低い
妥当性	✓				
有効性		✓			
効率性	✓				
インパクト			✓		
持続性			✓		

出所：終了時評価調査団

### 4-1 妥当性

本プロジェクトの妥当性は高い。

#### (1) インドネシア開発政策/戦略における妥当性

インドネシア長期開発計画(RPJPN2005-2025)及び第3次(2015-2019)及び第4次(2020-2024)国家中期開発計画(RPJMN)では、それぞれ農業分野を基盤とした経済構造の確立、アグリビジネスの振興、農業生産強化に向けた村落レベルの組織化強化、流通改善の重要性について記載されており、プロジェクトとインドネシア政府の農業政策との整合性は高い。また、RPJMN2015-2019を基に農業省により「農業戦略政策 2015-2019」が策定されており、国家食糧安全保障の維持、競争力の強化、農水産資源の及び農業インフラの維持、農水産人材の増加と能力強化の構築等が重点分野として挙げられている。本プロジェクトは主に、栽培管理技術の導入と高品質な野菜の生産を支援することによる対象地域の農家グループの競争力強化に取り組んでおり、上記「農業戦略政策 2015-2019」において妥当である。

さらに、現在の「農業戦略政策 2020-2024」では「食料消費の可用性、アクセス、質の向上」が優先項目とされており、主な対象分野は下記のとおりとなっている。プロジェクトとの整合性は高い。

- ・食品の安全性、栄養成分強化による消費品質の向上
- ・農産物の入手可能性の向上
- ・農業人材の生産性と福祉の向上
- ・農業人材の能力及び継続性の向上
- ・国家食糧システム管理の向上

本プロジェクトは、農産物のマーケティングと流通システムの改善を目的としており、インドネシア政府の国家農業戦略との整合性は高い。特に、青果物を含む高付加価値農産物の開発は、農業省、西ジャワ州及び対象県・市農業局の優先政策事項に沿ったものであり、プロジェクト期間中に農業省と地方農業局にて実施された一連のプログラムにみられるように、インドネシア政府の農業戦略に合致したものである。

## (2) 日本の支援政策における妥当性

日本の対インドネシア国別開発協力方針（2017年9月）では、重点分野（中期目標）の1つとして、大都市のみならず農村部の発展を支援することで生活の質の向上を促す「バランスのとれた発展を通じた安全で公正な社会の実現に向けた支援」が掲げられている。本プロジェクトでは、西ジャワ州の農家をジャカルタなどの大都市の近代市場と結びつけることにより農産物の流通・販売体制を構築することを目標としていることから、日本の国別援助政策とも整合的といえる。

また、農林水産省が2014年6月に策定した「グローバル・フードバリューチェーン戦略」では、産学官連携による日本の強みを生かし、インドネシアをはじめとするパートナー国において、農業生産から製造・加工、流通、消費までのフードバリューチェーンの構築を支援している。本プロジェクトは、日本のグローバル・フードバリューチェーン戦略に沿った農業生産・流通システムの近代化に貢献している。

さらに、JICAの協力戦略に関して、国別事業実施方針において、従来のような「生産性向上」を中心とした支援ではなく、制度整備や流通網の整備など、幅広い利益が期待できる協力分野を優先的に支援すべきであるとされている。したがって、本プロジェクトはJICAの戦略的方向性にも整合的である。

## (3) 対象地域及び対象グループのニーズにおける妥当性

前述のとおり、消費者の所得水準の向上による食生活の多様化や嗜好の変化に伴い、生鮮食品や加工食品を含む食品市場は、輸入品の急増とともに拡大を続けている。また、特にジャカルタやバンドンなどの大都市に住む消費者を中心に、食の安全性や品質に対する関心が高まっている。

需要が拡大する一方で、対象地域の農家グループの多くは、市場ニーズに応じた農産物の安定的な生産・供給に課題を抱えている。本プロジェクトでは、栽培管理技術の導入や販路の開拓により、成長市場における安全で高品質な園芸作物の安定供給に貢献することを目的に実施されており、対象地地域及び対象グループのニーズに合致している。

## 4-2 有効性

本プロジェクトの有効性はやや高い。

### (1) 成果の達成度

第3章に記載のとおり、プロジェクトでは成果1-1は指標を達成、1-2、1-3、2は部分的に達成した。終了時評価では、多くの対象農家グループが農産品の生産量の増加及び品質向上を達成し、プロジェクトの生産管理技術支援に満足していることが確認できた。

栽培管理技術の向上（成果1-1）については、高い農業技術をもつ日本人専門家による技術支援が、対象農家グループの栽培技術の向上に寄与したことが確認された。また、特に日本の民間企業との緊密な連携により、農家は先進的な農業投入資材を利用する機会を得た。さらに、頻繁な現地視察やモニタリングを通じて、プロジェクトの専門家チームは対象農家グループとの信頼関係を築き、プロジェクトが導入した栽培管理技術の高い受け入れ率につながった。インドネシアの農家は一般的に新しい技術の導入には消極的であるが、成功した栽培管理技術を提示しながら、農家グループとの信頼関係を構築したことは、成果1-1の達

成に大きく貢献したといえる。

農家グループが市場ニーズに応じた栽培計画を策定し、実行する能力の強化（成果 1-2）については、栽培カレンダーの実施が農家グループの栽培管理の向上に貢献していることが確認された。プロジェクト終了までに栽培計画の活用を更に推進することで、市場ニーズに応じた栽培計画の策定・実施能力が強化されることが期待される。

販路開拓（成果 1-3）では、農家グループとジャカルタの近代市場、特に日系スーパーマーケットをつなげ、日本野菜の販売に取り組んだことが有効であった。終了時評価では、プロジェクトを通じ販売経路が多様化し、農家グループの販売先が伝統的な市場のみならず、eコマースを含む近代市場へと変化していることが確認できた。また、ビジネスフォーラムやサプライヤーとの商談等、ビジネスネットワーキングを促進するためのプロジェクトの支援も成果 1-3 の達成において効果的であった。一方で、対象農家グループが直面している最大の課題として、販売経路の開拓とその維持が挙げられる。市場との長期的かつ強固な関係を実現するためには、安定供給、品質管理、費用便益分析の実施、市場ニーズの特定、交渉力強化、パラリーガル研修（法律文書や手続き、商談の基礎コース）等の基礎的なスキルを含めた農家グループのマーケティング能力強化を行うことが不可欠である。

行政機関関係者の能力強化（成果 2）については、本邦研修への参加によりプロジェクトへのモチベーションが増加し、プロジェクト活動への積極的な参加が確認できた。また、プロジェクトの実施が、インドネシア側実施機関による中央・地域レベルにおいて園芸作物の流通システムを強化するための数々のプログラムの実施につながったことが確認された。

上記の成果は達成となったが、金融アクセス改善を目的とした成果 1-4 は、融資を受ける目標人数として設定された 150 名に対し、実際は 50 名にとどまったことから達成には至らなかった。成果 1-4 の達成が困難であった主な理由は、主に BTPN の経営判断の不測の変更によるものであるが、そのようなリスクを最小化するために、今後の活動においては以下のような点を考慮することが考えられる。まず、パートナーとなる FSP の選定プロセスにおいて、いくつかの改善点が考えられる。

一般に、パートナーFSP を選定する際のポイントとして、①FSP がプロジェクトの目的を理解し、コミットメントを示していること、②FSP の組織的財務状況の安定性の 2 点が挙げられる。前者については、理事会をはじめとする組織全体でのプロジェクトへのコミットメントを確認することが必要であるため、通常、プロジェクトと FSP との間で覚書（Memorandum of Understanding : MoU）を締結することが多い。MoU は理事会で検討・承認され、理事長が署名するのが理想的であるが、FSP を代表して CEO や事務局長が署名することも可能である。

次に、プロジェクトでは、KUR を提供している FSP に限定せず、対象地域で活動しているすべての FSP を特定し、どの FSP がプロジェクトパートナーとして最も適しているかを検討することも可能であったと考えられる。そのうえで、上記の基準を用いて公正な比較を行い、選定することが今後のプロジェクトでは推奨される。

## (2) プロジェクト指標の適切さ

第 3 章に記載のとおり、PDM で規定されている指標、具体的にはプロジェクト目標、成果 1-2、及び成果 2 の指標については、次のとおりの改善の余地があると考えられる。

まず、プロジェクト目標がどのように上位目標（プロジェクト終了後3年後に達成されるべき目標）につながるのか、そのロジックが明確に定義されていない。本プロジェクトにおけるプロジェクト目標と上位目標の違いは、対象地域の受益農家数を拡大することにあるが、上位目標の指標では拡大範囲が明確に定義されておらず、プロジェクト終了後に活動の効果により広い範囲に普及していくための道筋が示されていない。プロジェクト目標の達成度は、「対象農家の70%が自身の圃場に改善された栽培管理技術を採用する」、「対象農家グループの70%が、農産物を近代市場に販売するための流通販売経路を構築する」という2つの指標によって定義されているが、この2つの指標を達成することにより本プロジェクトの効果が対象地域以外の農家グループへ普及していくとはいえない。また、上位目標とスーパーゴールの関係性についても同様の改善点がみられる。

上位目標とスーパーゴールを達成するためには、活動をプロジェクトの対象農家・対象地域外に広めるための追加的なメカニズムが必要である。例えば、地域レベルでの行政官の能力強化等が挙げられるが、この点はプロジェクト目標の指標の1つに含めることができると考えられる。また、もし農家グループがプロジェクトから得られた優良事例から積極的に学び、中核的な農家グループが主導するサプライチェーンに自ら参加することができれば、政府の追加介入なしにプロジェクト成果が他の農家グループにもある程度普及していくと期待される。

また、プロジェクト目標の指標に関して、当初のPDMには「農家所得の増加」という指標が設定されていたが、①トライアルプロジェクトの圃場面積（100m<sup>2</sup>）が限られているため、本プロジェクトの介入のみにより対象農家の所得を増加させることは現実的ではないこと、②農家のなかには農業活動とは別に複数の収入源をもつ世帯もあり、農業所得の増加が必ずしも世帯総所得の増加につながる可能性のあること等の理由から、2回目のPDM改訂の過程で削除された。これらは妥当な理由であるものの、異常気象や病害虫に対する園芸作物の脆弱性を考慮しても、完全に削除するのではなく「新たに導入した生産管理技術による生産量または収量の増加」等、他の指標を用いることができたのではないかとと思われる。また、上記指標について、PDMの英語版では“farmers' income”（農家の収入）と表記されていたが、日本語版では「農家の所得」と表記されていたため、プロジェクト目標がそもそも収入を対象としていたのか、あるいは所得を対象としていたのか、更にいうと農業収入（所得）を対象としていたのか、あるいは世帯収入（所得）を対象としているのかが不透明であった。インドネシア側を含めたすべてのステークホルダーがプロジェクトの枠組みやプロジェクト目標において正確な共通理解をもつことができるよう、明確な用語の使用が必要である。

上記の事由により、プロジェクトの有効性はやや高いと判断する。

#### 4-3 効率性

本プロジェクトの効率性は高い。

##### (1) プロジェクトの実施体制

日本・インドネシア国側双方による投入の質、量、タイミングは、プロジェクト活動を遂行するうえで適切であった。特に、ローカルスタッフを3層に分けて配置したプロジェクト

実施体制によって、限られた時間と資金のなかで広範な地域をカバーし、効率良く活動を実施することが可能となった。また、日本人専門家による技術支援の質の高さは、対象農家からも満足のいくものであったと評価されている。インドネシア側のプロジェクト人材に関しても、農業省園芸総局の担当者の技術能力に問題はなく、むしろプロジェクトの実施期間を通してプロジェクトに対する深い理解をもって献身的に活動が実施されていた。また、4年間にわたり定期的かつ頻繁に開催されていた農業省園芸総局との会議も、プロジェクトの実施効率性の高さに貢献するものであった。

## (2) 投入コスト

投入コスト面に関して、日本側からの人的資源の投入は約 70 人/月であった。インドネシア側からの予算は、主に JCC の開催費用と農業局職員によるモニタリング（旅費）に充てられた。また、農業省園芸総局と各県・市の農業局は、プロジェクトの持続可能性を確保するための追加的な活動やプログラムを実施するための予算を別途確保した。例えば、スカブミ市農業局では、プロジェクトの成果物である栽培マニュアル等を活用して、本プロジェクトのトライアルプロジェクトと同様のプログラムを実施し、プロジェクト成果を対象外の農家に普及させた。この点において、インドネシア側からの投入も効果的であったと考えられる。

## (3) 新型コロナウイルス感染拡大の影響

プロジェクト活動をプロジェクト成果に結びつける際に必要なプロセスである「前提条件」について、2020 年初頭から感染拡大した新型コロナウイルスは明らかに予想外の問題であった。一方、プロジェクトでは、新型コロナウイルスによる影響をかんがみ、プロジェクト期間を延長し、それに応じて活動を調整したため、運営上の多少の遅延はあったものの、大きな負の影響は生じなかった。

## 4-4 インパクト

本プロジェクトのインパクトは中程度。

### (1) 正のインパクト

終了時評価調査において明らかになった正のインパクトを下記に示す。

#### 1) プロジェクト対象外の農家グループへの波及効果

終了時評価では、プロジェクトに参加しなかった農家が、対象農家グループや県・市の農業局から、プロジェクトを通じて移転された栽培管理技術を学んだという波及効果を数件確認した。農業局による追加支援を通じて、今後更に波及効果を楽しむ農家が増加することが期待される。同時に、「4-2 有効性」で述べたように、2023 年までに上位目標を達成するためには、プロジェクト成果を普及させるための仕組みが必要である。そのメカニズムは、農業局とのパートナーシップの下、地域レベルで構築する、あるいはプロジェクトに参加しなかった農家グループを巻き込む能力をもつ中核農家グループが主導し構築することが考えられる。プロジェクト成果の普及に向けては、プロジェクトに参加しなかった農家グループが成功事例を取り入れる際にモデルとなり得る優良事例をプロジェクトのなかで特定することも重要であると考えられる。

## 2) 農家グループのレジリエンスの向上

新型コロナウイルスの世界的な感染拡大はインドネシアの農家に前例のない困難をもたらした。終了時評価では、プロジェクトが対象農家グループのレジリエンスを高めることに貢献した事例を確認することができた。例えば、多くの対象農家グループがプロジェクトを通じて高品質な野菜を生産する能力を高めたことで、農産物のブランド化やeコマース企業との提携を開始するケースがみられるようになった。コロナ禍では、ウイルス感染拡大を抑止するため政府により実施された大規模社会制限により多くのスーパーマーケットやレストランが閉鎖されることとなったが、代わりにeコマース市場が急速に拡大している。プロジェクトが支援したいいくつかの対象農家グループでは、以前から農産物をオンラインで販売するために積極的にeコマース企業と協働していたこともあり、コロナ禍におけるeコマース市場の需要拡大に対応するため、他の農家グループと連携し野菜の共同出荷に向けた取り組みを行っている。このように、ほとんどの農家が近代市場の需要縮小に伴い深刻な影響を受けている一方で、いくつかの農家グループではeコマース事業を取り入れることで、販売量を増加させることができた。

## 3) 日本-インドネシア間パートナーシップに関する広報活動

本プロジェクトはメディアからの関心も高く実施期間中にインドネシア・日本国側双方のメディアに数多く取り上げられた。例えば、インドネシア側のメディアとして、ジャカルタポスト、CNNインドネシア、Kompas、Beritasatu TV、Sinar Tani、NNA Asia、じゃかるた新聞に取り上げられ、日本-インドネシア間パートナーシップに関する広報活動に貢献した。また、プロジェクトでは2020年3月にプレスツアーを開催し、日本とインドネシアから10のメディアが参加した。

さらに、プロジェクトはASEAN事務局と連携し、園芸作物のグッドプラクティスを普及するための活動も実施している。例えば、2018年2月にアイドルグループJKT48の元メンバーであるMelody氏が、日本-ASEANの協力45周年を記念した日-ASEAN食料・農業友好親善大使に任命されたことを受け、本プロジェクトでは2019年5月から9月にかけて、Melody氏のチアンジュール県のUtama、Mujagiグループの圃場訪問及び、黒田ニンジンと桃太郎トマトの栽培の播種から収穫までの活動に参加するための支援を行った。また、親善大使による農家へのインタビューを通じ、プロジェクトのなかで導入された栽培技術を紹介するビデオを撮影した。撮影した計7本のビデオは親善大使のYoutubeチャンネルに投稿され、2020年3月時点での再生回数は2万回以上となった。

さらに、プロジェクトと親善大使は、2019年10月25日にラオス国立大学にて、プロジェクトでの経験を踏まえ、園芸作物のサプライチェーンの構築をテーマに講義を行った。本講義は、「日-ASEAN食産業人材育成官民共同プロジェクト」の一環として、ASEAN事務局によって主催されたものである。

このように本プロジェクトは日本・インドネシアのみならず、日-ASEAN協力を広く一般に広報することにも貢献した。

## (2) 負のインパクト

ジェンダー、環境等への負のインパクトは確認されなかった。



## 4-5 持続性

プロジェクトの持続性は①政策面の持続性、②組織面の持続性、③技術面の持続性、④財務面の持続性の観点から評価される。全体として、プロジェクトの持続性は中程度と評価した。

### (1) 政策面の持続性

政策面の持続性は高い。前述のとおり、農家グループの栽培能力向上と園芸作物の品質改善は、中央・州・県レベルのいずれの政府においても優先的な政策事項であり、本プロジェクトの政策面の持続可能性は高いといえる。

### (2) 組織面の持続性

組織面の持続性は比較的高い。農業省園芸総局は、プロジェクト期間中、一貫して本プロジェクトに対してオーナーシップを示してきたほか、スカブミ市やバンドン県等、一部の県・市の農業局では独自に県・市の予算を配分し農家グループを継続的に支援するためのプログラムを開始する等、プロジェクトのフォローアップを積極的に行っている。一方、すべての農業局がそのような対応を行っているわけではなく、特に職員の異動により体制に変更が生じた農業局では、前述のような対応は行われていない。人事異動に伴うプロジェクト持続性の確保は、中央政府及び地方政府共通の課題であるため、組織面の持続性を向上させるための組織体制構築支援を行うことが重要である。

農家グループ、アソシエーション、協同組合等の農家組織に関しては、プロジェクトの効果を持続させていくために更なる能力強化が必要である。大規模な協同組合を除き、多くの農家グループでは組織の運営能力がまだまだ限定的であることが確認されているが、農家グループの能力強化によって将来的に融資や貯蓄等の金融サービスや、小規模農家への技術支援等が行われることが期待される。このため、本プロジェクトでは直接的に実施されなかったものの、農家グループの組織力強化を支援することは、組織面の持続性を担保するうえで重要である。

### (3) 技術面の持続性

技術面の持続性は中程度である。

#### 1) プロジェクト成果の普及

プロジェクトに参加可能な農業普及員の数に限定的であったため、プロジェクトでは対象農家への技術支援を行うにあたって独自にローカルスタッフを雇用し、配置した。農業普及員はスケジュールに合わせていくつかの主要なプロジェクト活動に参加した一方、通常の技術支援と定期モニタリングはローカルスタッフが担当したため、農業普及員への技術移転は限定的であった。一方、プロジェクトが作成した栽培管理マニュアルによって、プロジェクト終了後も農業普及員や他の農業局職員は農家グループにある程度の同様の技術支援を行うことができる。

#### 2) 生産

特に規模が大きい農家グループでは、プロジェクトから学んだ技術を持続的に活用していくことが可能である一方で、比較的規模の小さいグループはその技術力の低さからプロジェクトで学んだ生産管理技術を維持できない可能性がある。終了時評価調査におけるイ

インタビューでは、小規模農家グループのなかには、日本人専門家の指示に従えず、収量の増加に限界があったり、あるいは全く改善しなかったケースもあったということがわかった。こういったことから、小規模農家グループの組織能力を支援し、プロジェクトからの脱落を防ぐことが重要であるといえる。

### 3) マーケティング

第3章に記載のとおり、販売能力強化に向けて、引き続きマーケティング技術の改善に取り組む必要があるほか、対象農家グループの市場分析力やビジネス交渉能力といった技術の向上が必要である。

### (4) 財務面の持続性

財務面の持続性は中程度である。農産物のサプライチェーン構築を優先課題の1つとしたRPJMN2020-2024に基づき、農業省園芸総局と地方政府の農業局はプロジェクト関連活動の継続的な実施のための予算を確保しており、プロジェクト活動の財政的な持続可能性は高いと考えられる。

また、多くの農家グループが、プロジェクト終了後も自費でプロジェクトから学んだ栽培管理技術を継続する意向を表明している。しかしながら、農家グループのなかには投入資材を自費購入する資金力のない農家グループも存在するため、農家がプロジェクトの活動を継続するためには、資金的にも自立する必要がある。そのためには、農家グループが自身の財務状況を把握するためにプロジェクトが提供してきた農資材や、農家グループの労働コスト等、関連費用を考慮した費用便益分析を行う必要がある。

また、終了時評価調査のインタビューにてほぼすべての農家グループが言及していた、近代市場に農産物を販売する際に着金までに時間がかかりすぎるという課題についても、更なる対応が必要である。終了時評価調査の時点では、この点に取り組むことができるFSPとの安定的かつ継続的な関係を構築できていないことから、財務面の持続性は中程度と考えられる。

## 4-6 結論

本プロジェクトは、西ジャワ州の対象地域において、対象農家グループの園芸作物の生産能力の向上に大きく貢献した。プロジェクトは広範な地域をカバーし、規模や組織能力、農業技術レベルが異なる農家グループを対象としたが、それぞれの農家グループが抱える課題に対応するため、柔軟かつ効率的なアプローチをとった。

2017年から2019年までに実施された6回のトライアルプロジェクトでは、日本人専門家によって先進的な栽培技術が導入され、対象農家グループの収量及び品質の向上につながった。また、プロジェクト専門家チームによる緊密なモニタリングにより、農家グループはプロジェクトのローカルスタッフや日本人専門家と栽培技術について頻繁に相談することができ、その結果不作のリスクを軽減することができた。プロジェクトの専門家チームと農家グループとの間に築かれた信頼関係により、農家グループは高い確率で新たに導入された栽培技術を継続的に実践している。

残された課題は、農家グループのマーケティング能力の強化である。多くの農家グループが高品質の園芸作物を生産するための技術と自信を獲得した一方で、市場からの需要に応じた作物の栽培や市場への安定的な販売に課題を抱えている。終了時評価では、費用便益分析、市場ニーズ

に合った栽培計画の策定、市場分析、交渉スキル等の販売能力強化の必要性が確認された。これらの課題に対しては、2021年に開始を予定している本プロジェクトのフェーズ2の設計の際も考慮されている。

プロジェクトの持続可能性を担保するためには、インドネシア側の実施機関がプロジェクトで得られた優良事例の他の地域への普及に向けて積極的な役割を果たすことが期待される。また、プロジェクトで移転した栽培管理技術を、プロジェクトに参加しなかった他の農家グループにも普及させるため、中核農家グループによる技術普及の促進も期待される。

## 第5章 提言と教訓

### 5-1 提言

上位目標の達成に向けた道筋をつくることも視野に入れ、プロジェクト終了までに実施すべき事項として、終了時評価では以下の提言を取りまとめた。

- (1) プロジェクトの対象農家グループをその特徴によって分類し、パターンと優良事例を特定する

プロジェクトの対象農家グループは、その規模、販売先、生産能力において非常に多様であった。プロジェクト活動の達成要因や介入の効果を分析するために、プロジェクト終了までに、プロジェクトの対象農家グループ、特に2019年から2020年のトライアルプロジェクトに参加した農家グループを、その規模、地理的な利点/欠点（市場への近接性、地形、標高等）、組織構造（協同組合、アソシエーション、農家グループ等）、栽培能力（農業技術/投入物の適切な利用等）総生産量と販売体制、対象市場（サプライヤー、スーパーマーケット、食品産業、伝統的な市場）によって分類することを提案する。これらの情報は、本プロジェクトから得られた優良事例や教訓を明らかにする際に有益な指針となり得る。

- (2) 農家グループによる費用便益分析を支援する

農家グループが市場ニーズに応じた生産・販売戦略を策定するためには、正確な費用便益分析を行うための技術を身につけることが重要である。この観点から、プロジェクトの専門家チームに対してプロジェクト終了時まで、現在の生産水準に基づいた各作物の費用便益分析を実施するための技術支援を行うことを提案する。特に、トライアルプロジェクトの圃場面積（100m<sup>2</sup>）から生産規模を拡大していく場合において、費用便益分析の導入が必要であると考えられる。

- (3) 農業局とともに上位目標の指標を見直し、対象農家グループを再設定する

上位目標は、プロジェクト終了3年後にインドネシア側実施機関によって達成されることが想定されている。前述のとおり、プロジェクト目標と上位目標の違いは、対象地域における受益農家の範囲のみである。しかし、上位目標の指標は対象となる農家グループの範囲を定義していないため、対象地域の農家グループ「全体」を対象としているように読める。したがって、インドネシア側実施機関とプロジェクト専門家チームは、必要に応じて、より明確な指標を再設定することを提案する。

- (4) プロジェクトに参加しなかった農家グループへの優良事例の普及計画を策定する

園芸総局と地方政府の農業局が主導し、プロジェクトの実施を通じて明らかとなった優良事例を、プロジェクトに参加していない他の農家グループにも普及させていくことが期待される。農家グループのトライアルプロジェクトを支援するといった、プロジェクトのフォローアップ活動を継続的に実施することは、プロジェクトのインパクトを対象農家グループ以外に拡大させるために有効な手段と考えられる。終了時評価チームは、特に地方政府の農業局に対し、上位目標達成のための優良事例の普及計画案の策定（予算計画を含む）を検討す

ることを提案する。

(5) 更なる効果の普及に向けての留意点

プロジェクトの実施を通じて、農家グループの生産能力とマーケティング技術を向上させるために重要となるポイントが明らかになった。農業省園芸総局と各県・市の農業局が今後農家グループに対する支援を実施する際には、以下の点に留意することを奨励する。

- 1) 多くの農家は既に成功事例がない限り新しい技術を導入したがる傾向にあるため、一部の農家グループが先行して導入し、成功した栽培技術を他の農家に紹介することで、新規農家のモチベーションを高めることが可能となる。
- 2) 農家グループの栽培技術向上のためには、農業普及員や農業局職員による緊密なモニタリングが必要である。本プロジェクトの成功要因の1つは、フィールドスタッフによるモニタリングが、農家グループとプロジェクトチームとのコミュニケーション向上に貢献し、病害虫などのトラブルへの迅速な対応につながったことにある。農業普及員の数が限られていることはすべての農業局共通の課題であるが、可能な限り普及員を動員する努力が必要である。
- 3) 農家グループへの技術支援は、農家グループごとに能力やニーズが異なるため、可能な限りカスタマイズして行うべきである。集団研修は効率的ではあるが、農家グループの多様なニーズに対応できない可能性がある。農家グループの能力を評価したうえで、可能な範囲で技術支援の内容を個別グループのニーズに合わせ調整することがインパクトの最大化において有効となる。提言(1)で述べた農家グループの分類は、このような評価に向けても有用な情報となると考えられる。
- 4) 民間セクターとの連携は、販路拡大のみならず栽培技術の向上や金融アクセス改善の側面からも検討すべきである。多くの農家が民間セクターとの取引条件の合意に課題を抱えていることから、農家グループのリーダーやメンバーに対し交渉術や会計などの財務面のスキルを強化するための支援が有効であると考えられる。
- 5) 農家グループは、継続的に生産物を供給するために、市場ニーズに基づいた作付けパターンや栽培計画を策定することが重要である。プロジェクトで実施した対象農家グループの栽培計画策定支援の活動経験は、園芸総局と各県・市の農業局が活動を行っていく際に有益な情報となる。

## 5-2 教訓

(1) 生産及び販売の両者に対応する包括的なアプローチの重要性

園芸作物は価格変動が大きく、市場ニーズが頻繁に変化するため、園芸農家は栽培技術だけでなく、経営管理や市場開拓に係る技術を向上させる必要がある。これにより、農家グループは市場ニーズに応じた生産及び販売体制を構築することが可能となる。また、より予測可能で安定した生産を行うためには、計画的な栽培計画を作成する能力も必要である。このような観点から、園芸農家を支援する際には、生産と販売の双方に対応する包括的なアプローチが必要である。

## (2) 民間セクターとの Win-Win 関係の構築

プロジェクトでは特に日本の民間企業と緊密に連携し、対象農家グループに先進的な農業技術を紹介した。この連携を通じて、それらの資機材を提供した日本企業にとってもインドネシアの農業環境で日本の農業資機材を試行し、ビジネス機会を検討する機会となった。農家と民間企業が安定した関係を構築するためには、プロジェクトが相互利益をもたらし、農家と民間企業の双方にとって Win-Win の関係を構築することが前提となる。

## (3) 対象作物を選定する際の市場需要分析の必要性

栽培対象となる作物を選定する際、特に市場にとって新たな作物を導入する場合には、市場ニーズに関する情報が極めて重要とある。プロジェクトでは、高所得者層や中所得者層の間で付加価値の高い野菜への需要が高まっていることから、インドネシア市場に日本野菜という新たな作物を導入した。日本野菜は農家グループに作物の高付加価値による差別化の可能性をもたらした一方で、消費者教育、購買者に対する認知度の向上、マーケティング戦略などの課題がみられたことから、このような特殊な作物の導入を成功させるためには市場分析とマーケティング戦略がカギとなる。

## (4) 相手国実施機関の多様な部門との緊密な協働

プロジェクトでは園芸総局の多様な部局と緊密に連携して活動を実施した。例えば、日本野菜の種苗登録にあたってプロジェクトは園芸種子局と連携することで、効率的に登録を行うことができた。新しい作物を導入する計画がある場合、持続可能な生産のためには高品質の種子を入手することが不可欠であるため、当初より種子関連の部局とかかわりをもつことが効果的である。プロジェクトでは、相手国実施機関内のさまざまな部局と連携することで、プロジェクトの有効性と効率性を高めることができた。

## 付 属 資 料

1. 終了時合同評価調査スケジュール
2. プロジェクト・デザイン・マトリックス第3版
3. 評価グリッド
4. 本邦研修参加者リスト
5. 資機材リスト
6. 日本側ローカルコスト負担実績
7. カウンターパート担当者リスト
8. インドネシア側投入予算実績
9. 終了時評価報告書（英文）





# 1. 終了時合同評価調査スケジュール

## 1. 終了時合同評価 調査スケジュール

日付		時間 (インドネシア時間)	スケジュール
8月31日	月	8:00-9:30	Preparatory meeting with Indonesian Join Evaluation Team
		10:00-12:00	Meeting with MOA DG Horticulture
9月1日	火	8:00-9:30	Meeting with Bogor District/City DINAS officers
		9:30-11:00	Meeting with Bogor District/City Farmer Groups
		14:00-15:30	Meeting with Sukabumi District/City DINAS officers
		15:30-17:00	Meeting with Sukabumi District/City Farmer Groups
9月2日	水	8:00-9:30	Meeting with Cinajur District/City DINAS officers
		9:30-11:00	Meeting with Cianjur District/City Farmer Groups
		N/A	Interview with the Project Expert team
		14:00-15:30	Meeting with Bandung District Farmer Groups
9月3日	木	15:30-17:00	Meeting with Bandung District DINAS
		8:00-9:30	Meeting with West Bandung District DINAS officers
		9:30-11:00	Meeting with West Bandung District Farmer Groups
		14:00-15:30	Meeting with Garut District Farmer Groups
9月4日	金	15:30-17:00	Meeting with Garut District DINAS officers
		9:00-10:30	Meeting with West Java Province DINAS
		-	Meeting among Japanese evaluation team (initial evaluation results) 1
		-	Meeting with ICNET (on Phase 2)
9月5日	土	-	Meeting among Japanese evaluation team (initial evaluation results) 2
		-	
		-	
9月6日	日	-	
		-	
		-	
9月7日	月	-	Meeting among Japanese evaluation team (initial evaluation results) 3
		8:30-9:30	Meeting with Papaya Fresh Gallaly (Supermarket)
		10:00-11:00	Meeting with Calbee Wings Food (Food industry)
		11:30-12:30	Meeting with Sayurbox (E-commerce)
9月8日	火	7:30-8:30	Meeting with Penny Growing (investor)
		9:00-10:00	Meeting with AEON (Supermarket)
		11:00-12:00	Meeting with Sayuran Siap Saji (supplier for food industry)
		14:00-15:00	Meeting with CROWDE (fintech)
9月9日	水	10:00-12:00	Meeting with Indonesian Centre for Agricultural Training (on Phase II)
9月10日	木	N/A	Meeting among Japanese evaluation team (on Phase II)
		PM	Drafting report for the terminal evaluation
9月11日	金	8:30-10:00	Meeting with MOA DG Horticulture / Indonesian Centre for Agricultural Training (on Phase II)
9月12日	土		
9月13日	日		
9月14日	月	N/A	Drafting report for the terminal evaluation
		14:00-15:30	Meeting among Joint Evaluation team on the results of the evaluation
9月15日	火	N/A	Drafting report for the terminal evaluation
9月16日	水	AM	Internal consultation within MOA / Drafting reports by Japanese team
		PM	Internal consultation within MOA / Drafting reports by Japanese team
9月17日	火	9:00 - 10:30	Meeting with ADB (on Phase II)
		13:30-15:00	Meeting with Lembang Training Centre (on Phase II)
9月18日	金	<b>8:30 - 10:30</b>	<b>6th Joint Coordinating Committee (JCC)</b>

\* プロジェクトフェーズ2の詳細計画策定調査のためのミーティングも同時期に実施した。

## 2. プロジェクト・デザイン・マトリックス第3版

### 2. プロジェクト・デザイン・マトリックス第3版

事業名：官民協力による農産物流通システム改善プロジェクト

実施機関：農業省園芸総局、西ジャワ州、チアンジュール県、ガルット県、ボゴール県・市、スカブミ県・市、バンドン県、西バンドン県農業局

対象グループ：モデルサイトの農家グループ

プロジェクト期間：4年3か月

プロジェクトサイト：ジャカルタ特別州、西ジャワ州(チアンジュール県、ガルット県、ボゴール県・市、スカブミ県・市、バンドン県、西バンドン県)

モデルサイト：チアンジュール県、ガルット県、ボゴール県・市、スカブミ県・市、バンドン県、西バンドン県

プロジェクト要約	指標	指標データ入手手段	外部条件
<b>スーパーゴール</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups in West Jawa Province	The number of the farmers' groups who sell safe & high-quality agriculture products in West Java in 2030	Government statistics	The Government implements polices to disseminate outputs of the project to the entire area of West Java Province
<b>上位目標</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Jawa Province	1. The number of the farmers' groups who sell safe & high-quality agriculture products at the model sites in West Java in 2023 2. The number of farmers at the model sites (excluding the members of the trial project of the target farmers' groups at the model sites) who apply at their own farms in 2023 improved production and management techniques introduced by the Project	1) Government statistics 2) Sample survey	
<b>プロジェクト目標</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Jawa Province.	1. Improved production and management techniques are applied by 70% of the target farmers at their own field(s) 2. Distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups	1) Project monitoring sheets and interviews with target farmers 2) End-line survey 1) Interviews with non-target farmers in the group 2) End-line survey	The agricultural policy does not change drastically.
<b>アウトプット</b> 1-1. Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers	1-1-1. Trainings on agricultural production are attended by 70% of the target farmers' groups 1-1-2. Improved cultivation techniques promoted by the project are followed through by 80% of the target farmers 1-1-3. Good product rate is increased for 60% of the target farmers	1) List of training attendees 2) Project monitoring sheet 3) Harvest record	Massive natural disasters (such as drought and flood) do not occur.
1-2. Capacity to plan and carry out cultivation according to market needs is attained by the target farmers	1-2-1. Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique	1) Planting calendar	Market on agricultural products does not drastically change.
1-3. Target farmers' groups' marketing channels are developed	1-3-1. Events to promote linkages between modern markets and farmers are participated by 80% of the target farmers' groups 1-3-2. Business negotiation with modern markets is made by 50% of the target farmers' groups	1) List of event participants 2) List of business negotiations	Market on agricultural products does not drastically change.
1-4. Target farmers' groups' access to finance is improved	1-4-1. Briefing on financial services is attended by 300 members of target farmers' groups 1-4-2. Financial services such as loans and savings are used by 150 members of the target farmers' groups	1) List of financial service briefing participants 2) List of financial service users	Financial market and banking system does not drastically change
2-1. Managerial capacity of government officials who promote modernized production & distribution systems is strengthened	2-1. 24 events related to agricultural distribution and marketing are organized by government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS) 2-2. Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officials 2-3. 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented.	1) List of events 2) Policy papers, List of government support projects or activities 3) List of training participants	Drastic transfer of human resources that leads to a loss of accumulated knowledge does not occur.

活動	投入		前提条件
	日本側	インドネシア側	
<p>1-1-1. Identify farmers' groups with high potential for producing safe and high-quality products.</p> <p>1-1-2. Taking into account the capacity of the identified farmers' groups, develop trial projects.</p> <p>1-1-3. Carry out training to the target farmers' groups on improved production methods through 2 trial projects/year.</p>	<p>1 Dispatch of Experts - Chief Advisor / Marketing &amp; Distribution - Other experts as necessary (e.g. Cultivation Technologies / Extension, Financing Scheme, Training Management /Coordinator)</p> <p>2. Training in Japan</p> <p>3. Provision of equipment : As necessary.</p>	<p>1 Allocation of Counterpart Personnel (Project Director, project coordinator, project manager, operational manager, district level counter points, and other government officials)</p> <p>2 Space and building for Project Office</p>	
<p>1-2-1. Investigate modern markets such as supermarkets and restaurants, and their suppliers, to analyze market needs.</p> <p>1-2-2. Based on the market needs, help the target farmers' groups develop cultivation plans.</p> <p>1-2-3. Carry out training to the target farmers' groups on production management based on the cultivation plans through 2 trial projects/year.</p>	<p>4. Budget for operational cost for the Project implementation.</p>	<p>3 Budget for operational cost for the Project implementation (electricity, water, internet access and travel allowance for Indonesian counterparts)</p> <p>4 Supply or replacement of equipment and any other materials other than the equipment provided by JICA</p>	
<p>1-3-1. Encourage target farmers' groups to join the farmer and modern market networking events.</p> <p>1-3-2. Support marketing activities which allow target farmers' groups to build linkages with modern markets at 2 trial projects/year.</p> <p>1-3-3. Support establishing market channels using STA.</p>			
<p>1-4-1. Investigate target farmers' groups' financial needs and existing financial services in the market.</p> <p>1-4-2. Share information on financial services with target farmers' groups.</p> <p>1-4-3. Support farmers in need of financing to use financial services.</p>			
<p>2-1-1. Regularly share project status and progress with government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS)</p> <p>2-1-2. Gather international and local best practices on production and distribution of high-quality agricultural products which will contribute to the modernization of production and distribution systems.</p> <p>2-1-3. Conduct training on modernized production, marketing, and distribution of high-quality agricultural products for government officials.</p> <p>2-1-4. Support the development of policies/action plans/ projects that contribute to the modernization of production and distribution of agricultural products.</p>			

### 3. 評価グリッド

#### 3. インドネシア共和国官民協力による農産物流通システム改善プロジェクト 評価グリッド

大項目	小項目	判断基準	必要情報/データ	情報源	情報収集手段
<b>1) 実施プロセス</b>					
Implementation of activities	All of the activities listed in the PDM have been implemented as planned without delay.	Timeline is being maintained	- PO - Record of actual timeline of activities	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Description of the situation and reasons for the delay, if any	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Workloads for JICA experts and Indonesia counterpart are manageable and sustainable	- Results of hearing with stakeholders	- JICA experts - DGoH, DINAS	- Interview - Questionnaires
		Budget is in line with original estimation	- Original and actual budget information	- Project report - Financial report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Ownership	The Indonesia side has been engaged in the project with a strong sense of ownership.	The Indonesian government appointed liaison persons with capacity and resources to support the project.	- Description of liaison persons	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Volumes of the inputs provision by Indonesian side	- Record of inputs provision	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		The Indonesia counterpart understands the project background, purpose, approaches, etc.	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Overall impression from main stakeholders	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Collaboration and communication with relevant institutions	Collaboration and communication among JICA Experts, DGoH, DINAS, STA, private companies, and other relevant institutions have been effective for project implementation.	Evidence of open communication channels among stakeholders	- Description of communication channels	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Level of collaboration with relevant stakeholders	- Record of collaboration	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Overall impression from main stakeholders	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Technology Transfer	The methods of technology transfer from JICA Experts to the Indonesia counterparts are appropriate.	Extent to which the Indonesia counterpart is cognisant of the technology transferred in the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Project management system	How and how often has project monitoring (the Project as a whole) been undertaken? (e.g. A monthly meeting was held to check the progress of the activities)	Evidence that the project monitoring was undertaken	- Record of monitoring	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA expert perceive the methods to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
	The above-described monitoring was appropriate in terms of its method and frequency.	Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Evidence that the project monitoring was undertaken	- Record of monitoring	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	The above-described monitoring was appropriate in terms of its method and frequency.	Extent to which JICA expert perceive the methods to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
Revisions of activities you made as a result of project monitoring if there are such cases.	Description of revisions of activities JICA expert and/or Indonesia counterpart made	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Interview - Questionnaires	
Communication	The communication among the Indonesia counterparts has been effective in implementing project activities.	Evidence of open communication channels among the Indonesia counterpart	- Description of communication channels	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA experts perceive their communication to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
	The communication between the counterpart personnel and JICA Experts has been effective in implementing project activities.	Evidence of open communication channels between the Indonesia counterpart and JICA experts	- Description of communication channels	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA experts perceive the communication to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
Preconditions	The precondition "The agricultural policy does not change drastically", "Massive natural disasters (such as drought and flood) do not occur", "Market on agricultural products does not drastically change", "Market on agricultural products does not drastically change", "Financial market and banking system does not drastically change", "Drastic transfer of human resources that leads to a loss of accumulated knowledge does not occur" were fulfilled. (If unfulfilled, what were the effects to the project?)	Evidence that show the (un)fulfilment of the precondition	- Record of the (un)fulfilment	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which the Indonesia counterpart perceive the fulfilment of the preconditions	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA experts perceive the fulfilment of the preconditions	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires

2) 妥当性

Relevance to the needs of the target groups	Did the Project respond to the needs of the target regions/societies?	Extent to which the project reflected the needs of the target region/societies	- Information of needs assessment	- Report of D/D	- Documents review
		Evidence of the project activities being applied at the project sites	- Record of the project activities	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
		Extent to which JICA perceive the project to be relevant to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceive the project to be relevant to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires
	Did the Project respond to the needs of the target farmers group?	Extent to which target farmers has been consulted / involved in designing the activities within the project	- Results of hearing with stakeholders - Record of consultation	- Target farmers - Report of D/D	- Documents review - Interview - Questionnaires
		Evidence of the project activities being applied by the farmers at the project sites	- Results of hearing with stakeholders - Record of activities	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
		Extent to which the target farmers perceive the project to be responsive to their needs	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires
		Evidence that the target farmers are cognisant of the project activities and its values	- Results of hearing with stakeholders	- Project report - Target farmers	- Documents review - Interview - Questionnaires
Priority	At the time of the Terminal Evaluation, is the Project still consistent with the Indonesia's Development Plans?	Evidence that the project is consistent with the Indonesia's development plan	- Indonesia's development plan	- Indonesia's development plan	- Documents review
	Is the Project consistent with the Japanese ODA Policy and JICA's Country Planning for Indonesia?	Evidence that the project is consistent with the Japanese ODA policy and JICA's country planning for Indonesia	- Japanese ODA Policy and JICA's Country Planning for Indonesia	- Japanese ODA Policy and JICA's Country Planning for Indonesia	- Documents review
Relevance to the project plan	Were the selected Project approach and target regions appropriate in order to strategically and effectively address the Indonesia's development issues?	Methods used for selecting project approach and target regions	- Record of D/D	- Report of D/D	- Documents review
		Extent to which JICA perceives the project approach and target regions relevant to their needs	- Perception of JICA experts	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceives the project approach and target regions relevant to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires
	Was the target group selection appropriate?	Methods used for selecting target group	- Record of selecting target group - Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
		Level of involvement of the target group in project activities	- Results of hearing with stakeholders - Record of activities	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
		Extent to which the target group perceive the selection processes and results to be appropriate to their needs	- Perception of target group	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
	Did the Project have ripple effects beyond the target group?	Extent to which JICA perceives ripple effects beyond the target group	- Perception of JICA experts	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceives ripple effects beyond the target group	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires
		Extent to which target farmers perceives ripple effects beyond the target group	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires
	Were overall goal, project purpose, output, activities and inputs on PDM appropriately and logically related and determined?	Evidence that PDM was appropriately and logically formulated	- PDM	- PDM	- Documents review - Interview - Questionnaires
	Were Objective Viable Indicators of overall goal, project purpose and output appropriate? (including the aspects of "too high" or "too low")	Evidence that OVIs were appropriately determined	- PDM	- PDM	- Documents review - Interview - Questionnaires
	Was the PDM revised in an appropriate timing with logical relevance in responding to the needs of the target area?	Evidence that PDM was appropriately revised	- Results of hearing with stakeholders - Revised PDM	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Methods used for monitoring and analysis against environmental changes	- Record of monitoring and analysis - Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Evidence of JICA and DGoH's willingness to vocalise challenges and failures, and changes in measures taken towards those doing so	- Results of hearing with stakeholders	- JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires

3) 有効性					
Level of achievement of the project purpose	The Project has achieved its project purpose, "Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province." by the end of the project period.	Evidence that improved production and management techniques are applied by 70% of the target farmers at their own field(s)	- A set of data to measure the achievement	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Evidence that distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups	- A set of data to measure the achievement	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Was there coordination with other projects/assistances provided by JICA or collaboration with other donors' projects so as to create synergy?	Existence of coordination or collaboration with other JICA or other donor's projects	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Hindering and contributing factors to achieving the project purpose	The important assumptions which would influence the production of the outputs and achievement of the project purpose have been fulfilled so far.	Documents which show the (un)fulfillment of the important assumptions	- Record of (un)fulfillment	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Any factors which promoted or hindered the achievement of the project purpose, if any.	Description of any factors which promoted or hindered the achievement of the project purpose	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Was successful delivery of Project Outputs sufficient to achieve Project Purpose? Was the logic "successful delivery of Project Outputs will lead to achievement of Project Purpose" valid?	Level of achievement of project outputs which causes successful delivery of project purposes	- Information on linkage between output and project purpose	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Level of achievement of the project output	The Project has achieved its output 1-1, "Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers" by the end of the project period.	1-1-1. Trainings on agricultural production are attended by 70% of the target farmers' groups	- A set of data to measure the achievement	1) List of training attendees 2) Project monitoring sheet 3) Harvest record	- Documents review - Interview - Questionnaires
		1-1-2. Improved cultivation techniques promoted by the project are followed through by 80% of the target farmers			- Documents review - Interview - Questionnaires
		1-1-3. Good product rate is increased for 60% of the target farmers			- Documents review - Interview - Questionnaires
	The Project has achieved its output 1-2, "Capacity to plan and carry out cultivation according to market needs is attained by the target farmers" by the end of the project period.	1-2-1. Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique	- A set of data to measure the achievement	1) Planting calendar	- Documents review - Interview - Questionnaires
		The Project has achieved its output 1-3, "Target farmers' groups' marketing channels are developed" by the end of the project period.	1-3-1. Events to promote linkages between modern markets and farmers are participated by 80% of the target farmers' groups	- A set of data to measure the achievement	1) List of event participants
	1-3-2. Business negotiation with modern market is made by 50% of the target farmers' groups		- A set of data to measure the achievement	2) List of business negotiations	- Documents review - Interview - Questionnaires
	The Project has achieved its output 1-4, "Target farmers' groups' access to finance is improved" by the end of the project period.	1-4-1. Briefing on financial services is attended by 300 members of the target farmers' groups	- A set of data to measure the achievement	1) List of financial service briefing participants	- Documents review - Interview - Questionnaires
		1-4-2. Financial services such as loans and savings are used by 150 members of the target farmers' groups	- A set of data to measure the achievement	2) List of financial service users	- Documents review - Interview - Questionnaires
	The Project has achieved its output 2, "Managerial capacity of government officials who promote modernized production & distribution system is strengthened" by the end of the project period.	2-1. 24 events related to agricultural distribution and marketing are organized by government officials from the DGoH and DINAS	- A set of data to measure the achievement	1) List of events	- Documents review - Interview - Questionnaires
		2-2. Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officers		2) Policy papers, list of government support projects or activities	- Documents review - Interview - Questionnaires
		2-3. 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented		3) List of training participants	- Documents review - Interview - Questionnaires
	4) 効率性				
Adequacy of inputs: its quantity, quality and timing	The inputs by the Japanese side, i.e. dispatch of the JICA Experts, provision of machinery and equipment, operational expenses covered by JICA, training in Japan are appropriate in terms of quality, quantity, cost and timing for producing the outputs specified in the PDM.	Evidence that the inputs by the Japanese side were appropriate	- Planned and actual inputs	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA perceives the inputs by the Japanese side adequate to their needs	- Perception of JICA experts	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which the Indonesia counterpart perceives the inputs by the Japanese side adequate to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires
		Extent to which farmers group perceives the inputs by the Japanese side adequate to their needs	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires
	The inputs by the Indonesia side, i.e. assignment of the counterpart staff, operational expenses and provision of office spaces, etc. are appropriate in terms of quality, quantity, cost and timing for producing the outputs specified in the PDM.	Evidence that the inputs by the Indonesia side were appropriate	- Planned and actual inputs	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA perceives the inputs by the Japanese side adequate to their needs	- Perception of JICA experts	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which the Indonesia counterpart perceives the inputs by the Japanese side adequate to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires
		Extent to which farmers group perceives the inputs by the Japanese side adequate to their needs	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires
	There were no unexpected problems in providing inputs of human resources, machinery and equipment and other facilities. If any, the problems were solved in an appropriate manner and timing.	Evidence if there were any unexpected problems in providing inputs	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Documents which explain how the problems were solved if any	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Are there any other inputs and activities which need to be introduced in order to produce the outputs specified in the PDM in a more effective and efficient manner?	Perception of JICA experts in the needs of any other inputs and activities		- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Perception of Indonesia counterpart in the needs of any other inputs and activities		- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires

5) インパクト					
Prospect of achievement the overall goal	The overall goal, "Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Java Province" will be achieved 3 years after the Project is completed.	1. The number of the farmers' groups who sell safe & high-quality agriculture products at the model sites in West Java in 2023	- Level of institutionalization of mechanism to make the overall goal achieved 3 year after the project is completed	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		2. The number of farmers at the model sites (excluding the members of the trial project of the target farmers' groups at the model sites) who apply at their own farms in 2023 improved production and management techniques introduced by the Project		- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Are there efforts being made so as to achieve the Overall Goal? Alternatively, are there plans for such efforts to be made?	Existence of formal documents which commits the efforts being made so as to achieve the overall goal	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
Positive and negative effects	Has there been any positive and/or negative impact caused by the implementation of the Project in terms of gender, poverty reduction, and the environment, etc.?	List of any positive and/or negative impact caused by the implementation of the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires

6) 持続性					
Prospect of project sustainability	From the viewpoint of policy direction as well as institutional setup and commitment, the effects of the project purpose and overall goal will be sustainable after the completion of the Project	Extent to which JICA institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which financial service providers institutionalize the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - Financial service providers	- Documents review - Interview - Questionnaires
		Extent to which modern market institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - Suppliers & Retailers	- Documents review - Interview - Questionnaires
		Extent to which farmers group institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - Target farmers	- Documents review - Interview - Questionnaires
	The Project will be sustainable from the view point of human resources (including appropriate assignments of personnel, adequate knowledge and skills of the staff, availability of operation manuals and information/ knowledge management systems).	Extent to which key personnel will be involved in the project activities after the end of the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Level of formal and informal skills and knowledge of the key personnel	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	The project will be sustainable from the view point of financial resources.	Extent to which JICA is identifying budget lines to sustain the effect of the project purpose and overall goal	- Results of hearing with stakeholders	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart is identifying budget lines to sustain the effect of the project purpose and overall goal	- Results of hearing with stakeholders	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which the farmers groups are allocating budget to continue the project activities	- Results of hearing with stakeholders	- Project report - Target farmers	- Documents review - Interview - Questionnaires
	The equipment and machinery provided by JICA will be properly maintained and managed after the end of the Project.	Level of formal and informal skills and knowledge of Indonesia counterpart to properly maintain and manage the equipment	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart intend to make use of the equipment after the end of the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Any issues which may influence sustainability of the Project activities.	Description of any issues which may influence sustainability of the project activities by JICA expert and Indonesia counterpart		- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires

## 4. 本邦研修参加者リスト

### 4. 本邦研修参加者リスト

	氏名	期間	研修分野/コース	研修内容	研修期間	研修参加時の役職	現在の役職	離職年月
1	Mr. Ahmad Widodo Heru	28 November - 9 December 2016	the Knowledge Co-Creation Program on Modernization of Production and Distribution System of Safe and High-Quality Horticulture Products	Observe and learn about advanced production and distribution system of safe and high-quality horticulture products in Japan	JICA Tokyo Center	Deputy Director of Directorate of Fruits and Floriculture, DGoH	Head of Plan Division, Secretariat of DGoH	March 2017
2	Mr. Guruh Gempita Dawoed	Ditto	Ditto	Ditto	Ditto	Head of Finance and Equipment Section, Secretariat of DGoH	Pension	August 2017
3	Ms. Anastasia Promosiana	Ditto	Ditto	Ditto	Ditto	Senior Policy Advisor, DGoH	Pension	January 2017
4	Ms. Yuliasuti Purwaningsih	Ditto	Ditto	Ditto	Ditto	Head of Sub-Directorate Marketing and Investment, Directorate of Processing and Marketing, DGoH	Head of Section of Climate Change Mitigation, Sub-Directorate of Climate Change Impact and Natural Disaster, Directorate of Horticulture Protection, DGoH	06 June 2018
5	Ms. Mutiara Sari	Ditto	Ditto	Ditto	Ditto	Head of Shallot and Tuber Vegetable Area Development Section, Directorate of Vegetables and Medicinal Plants, DGoH	same as left	n/a
6	Ms. Prilliani Setiyaningsih	Ditto	Ditto	Ditto	Ditto	Contact Point of International Cooperation Bureau, MoA	same as left	n/a
7	Mr. Sukma Pahlawan Tanra	Ditto	Ditto	Ditto	Ditto	Head of Marketing Section, Business Guidance Division, Provincial Agricultural Office of West Java	same as left	n/a
8	Mr. Azrin Syamsudin	Ditto	Ditto	Ditto	Ditto	Head of Agricultural Office, Bogor City	Expert Staff for Bogor City Government	01 January 2020
9	Mr. U. Supriatna Hasan	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Division, Agricultural Office of Cianjur District	Head of Empowerment and Institutional Division, Maritime, Fisheries and Livestock Office of Cianjur District	November 2019
10	Ms. Kardina Karsoedi	Ditto	Ditto	Ditto	Ditto	Head of Food Security, Agriculture and Fisheries Office, Sukabumi City	same as left	n/a
11	Ms. Rasmanah Sri Rahayu	Ditto	Ditto	Ditto	Ditto	Head of Processing and Marketing of Horticulture Product Section, Agricultural Office of Garut District	Pension	2018
12	Ms. Novida Siti Jubaedah	3-9 September 2017	Ditto	Ditto	Ditto	Head of Sub-Division of Cooperation, Secretariat of DGoH	same as left	n/a
13	Mr. Langgeng Muhono	6-16 September 2017	Ditto	Ditto	Ditto	Head of Sub-Directorate of Seed Quality Control, Directorate of Horticulture Seedling, DGoH	Head of Seed Production Section, Sub-Directorate of Seed Production and Institution, Directorate of Horticulture Seedling, DGoH	March 2019
14	Mr. Irgan Sugandi	Ditto	Ditto	Ditto	Ditto	Staff of Sub-Directorate of Marketing & Investment, Directorate of Processing and Marketing, DGoH	Head of Sub-Division of Equipment, Secretariat of DGoH	March 2019
15	Ms. Fajar Anggraeni	Ditto	Ditto	Ditto	Ditto	Staff of Shallot and Tuber Vegetable Area Development Section, Sub-Directorate of Shallot and Tuber Vegetable, Directorate of Vegetables and Medicinal Plants, DGoH	same as left	n/a
16	Ms. Dina Rosita	Ditto	Ditto	Ditto	Ditto	Staff of Sub-Directorate of Citrus, Shrubs and Trees, Directorate of Fruits and Floriculture, DGoH	same as left	n/a
17	Mr. Herniningsih	3-16 September 2017	Ditto	Ditto	Ditto	Head of Ornamental and Medicinal Plants Section, Provincial Agricultural Office of West Java Province	same as left	n/a
18	Ms. Siti Nurianty	Ditto	Ditto	Ditto	Ditto	Head of Food Crops, Horticultures, and Plantations Office, Bogor District	same as left	n/a
19	Mr. Kuswaya	Ditto	Ditto	Ditto	Ditto	Coordinator of Agricultural Extension Office, Sukabumi City	same as left	n/a



20	Mr. Mamad Nano	Ditto	Ditto	Ditto	Ditto	Head of Agricultural Office, Cianjur District	same as left	n/a
21	Mr. Rieza Fauzani	Ditto	Ditto	Ditto	Ditto	Head of Fruits and Ornamental Plants Section, Agricultural Office of Garut District	Head of Seasonal Plants and Spices Section, Plantations Division, Agricultural Office, Garut District	January 2019
22	Ms. Renny Yuniasari	Ditto	Ditto	Ditto	Ditto	Head of Facility and Protection of Horticulture Plants Section, Agricultural Office of Bandung District	Head of Processing and Marketing of Horticulture Products Section, Agricultural Office, Bandung District	November 2017
23	Ms. Patmawati	Ditto	Ditto	Ditto	Ditto	Head of Seedling, Production and Protection of Horticultural Plants Section, Agricultural Office of West Bandung District	Passed away	16 December 2019
24	Mr. Suhendar	Ditto	Ditto	Ditto	Ditto	Leader of Mujagi Farmer Group, Cianjur District	same as left	n/a
25	Mr. Teten Rustendi	Ditto	Ditto	Ditto	Ditto	Leader of Cikandang Agro Farmer Group, Garut District	same as left	n/a
26	Mr. Wilarto	Ditto	Ditto	Ditto	Ditto	Leader of Gerbang Emans Farmer Group, West Bandung District	same as left	n/a
27	Ms. Irma Siregar	21 October - 2 November 2018	Ditto	Ditto	Ditto	Head of Section of Fruits and Floriculture Pest and Disease Controlling Facilities, Directorate of Horticulture Protection, DGoH	same as left	n/a
28	Mr. Aprizal	Ditto	Ditto	Ditto	Ditto	Plants Seeds Supervisor, Seed Certification Section, Sub-Directorate of Seed Quality Control, Directorate of Horticulture Seedling, DGoH	same as left	n/a
29	Ms. Chakrawati	Ditto	Ditto	Ditto	Ditto	Head of Post-Harvest of Horticulture Plants Section, Provincial Agricultural Office of West Java	same as left	n/a
30	Mr. Robert	Ditto	Ditto	Ditto	Ditto	Head of Division of Food Crop and Horticulture, Agricultural Office of Bogor City	Pension	01 January 2019
31	Mr. Deni Ruslan	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Production Section, Agricultural Office of Sukabumi District	same as left	n/a
32	Mr. Iwan Setiawan Asep	Ditto	Ditto	Ditto	Ditto	Head of Division of Agribusiness and Extension, Agricultural Office of Cianjur District	Secretary, Agricultural Office of Cianjur District	19 November 2019
33	Mr. Deni Herdiana	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Division, Agricultural Office of Garut District	Head of Resources Division, , Agricultural Office of Garut District	22 February 2019
34	Mr. Jumhana	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Division, Agricultural Office of Bandung District	same as left	n/a
35	Mr. Wiwin Darwin	Ditto	Ditto	Ditto	Ditto	Coordinator of Extension Worker, Agricultural Extension Office Lembang, Agricultural Office of West Bandung District	same as left	n/a
36	Mr. Dede Supria	Ditto	Ditto	Ditto	Ditto	Leader of Tunas Tani Pangrango Farmers Group, Bogor District	same as left	n/a
37	Mr. Amin Hermawan	Ditto	Ditto	Ditto	Ditto	Leader of Pandan Arum Farmers Group, Sukabumi District	same as left	n/a
38	Mr. Acep Sofyan Hadi	Ditto	Ditto	Ditto	Ditto	Leader of Saluyu Farmers Group, Cianjur District	same as left	n/a
39	Mr. Ucu Sumiarsa	Ditto	Ditto	Ditto	Ditto	Leader of Barokah Karunia Tani Farmers Group, Garut District	same as left	n/a
40	Ms. Riswati Wahyuni	Ditto	Ditto	Ditto	Ditto	Leader of Hataki Farmers Group, Bandung District	same as left	n/a
41	Mr. Muhamad Taufik	Ditto	Ditto	Ditto	Ditto	Leader of Sinar Mukti Farmers Group, West Bandung District	same as left	n/a

5. 資機材リスト

No.	使用目的	到着日	資機材名	製品番号	製造者	価格(IDR)	設置場所	調達場所
1	To enhancing function of STA in Sukabumi	05 April 2017	Wrapping Machine (2 Unit)	HW-450	PT. WIJAYAMAS TEKNINDO	2,200,000	Sukabumi STA	Indonesia
2	To enhancing function of STA in Sukabumi	05 April 2017	Digital Weight Scale (2 Unit)	KK-SW1	PT. Kenko Elektrik Indonesia	3,500,000	Ditto	Indonesia
3	To enhancing function of STA in Sukabumi	10 April 2017	Analog Weight Scale (1Unit)	TERA 06-581	Krisbow	2,659,000	Ditto	Indonesia
4	To enhancing function of STA in Sukabumi	05 April 2017	Water Tank (1 Unit)	TB 110	Penguin	2,200,000	Ditto	Indonesia
5	To enhancing function of STA in Sukabumi	05 April 2017	Plastic Container (30 Unit)	2210L	Green Leaf	6,000,000	Ditto	Indonesia
6	To enhancing function of STA in Sukabumi	05 April 2017	Chairs (6 Unit)	n/a	Green Leaf	540,000	Ditto	Indonesia
7	To enhancing function of STA in Sukabumi	05 April 2017	Stainless Sink	SS304	Jaya Stainless	4,850,000	Ditto	Indonesia
8	To enhancing function of STA in Sukabumi	05 April 2017	Stainless Table (2 Unit)	SS 201 HL	CV. BENUA TEHNIK	7,500,000	Ditto	Indonesia
9	To wash root fruits (especially carrot) for improving quality of products	03 September 2018	Fruit & Vegetable Washer, Brush Roller Root Fruit Washer/Peeler	QX-608	Getra	68,200,000	Taman Teknologi Pertanian (TPP), Garut District	Indonesia
10	To sort washed carrot for improving quality of products	03 September 2018	Small Container (50 Unit)	2212L	Greenleaf	5,500,000	Ditto	Indonesia
11	To sort washed carrot for improving quality of products	03 September 2018	Large Container (30 Unit)	2210L	Greenleaf	6,600,000	Ditto	Indonesia
12	To wash root fruits (especially carrot) for improving quality of products	22 February 2019	Fruit & Vegetable Washer, Brush Roller Root Fruit Washer/Peeler	QX-608	Getra	70,400,000	Pondok Pesantren Al-Ittifaq, Bandung District	Indonesia
13	To wash root fruits (especially carrot) for improving quality of products	28 November 2019	Fruit & Vegetable Washer, Brush Roller Root Fruit Washer/Peeler	QX-608	Getra	71,500,000	Tani Multi Tani Jaya Giri Association (Mujagi), Cianjur District	Indonesia
<b>Summary</b>						<b>251,649,000</b>		

6. 日本側ローカルコスト負担実績

6. 日本側ローカルコスト負担実績

No.	年月	通貨	2016年1-12月	2017年1-12月	2018年1-12月	2019年1-12月	2020年1-12月	合計
1	ローカルコスト（建物修繕費、現地備 人費、車両関連費、トライアルプロ ジェクト経費を含む）	IDR	1,164,343,000	2,569,482,000	2,147,165,000	2,446,841,000	-	8,327,831,000
		JPY	-	14,414,000	7,812,000	9,381,000	-	31,607,000
		USD	-	-	-	-	-	-
2	機材調達費	IDR	-	29,449,000	80,300,000	70,400,000	71,500,000	251,649,000
		JPY	-	-	-	-	-	-
		USD	-	-	-	-	-	-
4	合計	IDR	1,164,343,000	2,598,931,000	2,227,465,000	2,517,241,000	71,500,000	8,579,480,000
		JPY	-	14,414,000	7,812,000	9,381,000	-	31,607,000
		USD	-	-	-	-	-	-

7. カウンターパート担当者リスト

No.	所属	氏名	役職	専門分野	担当期間	担当専門家	開始日	終了日
1	Directorate General of Horticulture	Dr. Ir. Pihasto Setyanto, M.Sc.	General Director	Management	July 2019 - Present	Nishimura, Mori, Shimizu, Suenaga	April 2017	Present
2	Secretariat of DG of Horticulture	Ir. Rr. Liliek Srie Ujani, M.Sc.	Executive Secretary	Management	March 2018 - June 2020	Nishimura, Mori, Shimizu, Suenaga	1981	June 2020
3	Secretariat of DG of Horticulture	Dr. Ir. Retno Sri Hartati Mujandani, M.Si.	Executive Secretary	Management	June 2020 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2020	Present
4	Secretariat of DG of Horticulture	Ahmad Wibodo Henu	Head of Plan Division	Activity Planning	March 2017 - Present	Nishimura, Matsumi, Kajita, Shimizu, Mori, Yoneyama, Suenaga	March 1981	Present
5	Secretariat of DG of Horticulture	Novida Siti Jubaidah, STP, M.A., M.SE	Head of Sub-Division of Cooperation, Plan Division	Cooperation	23 January 2017 - Present	Nishimura, Mori, Matsumi, Kajita, Shimizu, Yoneyama, Suenaga	December 2003	Present
6	Secretariat of DG of Horticulture	Rico Smanjurnak, S.P., M.P.	Head of Sub-Division of Cooperation, Plan Division	Cooperation	18 August 2020 - Present	Nishimura, Mori, Matsumi, Kajita, Shimizu, Yoneyama, Suenaga	June 2018	Present
7	Secretariat of DG of Horticulture	Nasyitha Robes	Staff, Sub-Division of Cooperation, Plan Division	Cooperation	2016 - Present	Nishimura, Mori, Matsumi, Kajita, Shimizu, Yoneyama, Suenaga	May 2010	Present
8	Secretariat of DG of Horticulture	Sinda	Staff, Sub-Division of Cooperation, Plan Division	Cooperation	2016 - Present	Nishimura, Mori, Matsumi, Kajita, Shimizu, Yoneyama, Suenaga	2009	Present
9	Directorate of Processing and Marketing of Horticulture Product	Ir. Yasdi Taufik, MM	Director	Management	2016 - Present	Nishimura, Mori, Shimizu, Suenaga	March 2015	Present
10	Directorate of Processing and Marketing of Horticulture Product	Ir. Bambang Sighanto, M.Eng.Sc.	Director	Management	June 2020 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2020	Present
11	Directorate of Vegetables and Medicinal Plants	Ir. Tommy Nugraha, MM.	Director	Management	June 2020 - Present (2016 - May 2020: Deputy Director for Standardization and Quality of Horticulture Products)	Nishimura, Mori, Shimizu, Suenaga	1983	Present
12	Directorate of Processing and Marketing of Horticulture Product	Ir. Andi Arinda Masussungan, M.Sc.	Deputy Director for Marketing and Investment of Horticulture Products	Marketing, Investment	13 March 2019 - Present	Nishimura, Mori, Shimizu, Yoneyama, Suenaga	January 2016	Present
13	Directorate of Processing and Marketing of Horticulture Product	Yulastuti Purwaningsih	Head of Sub-Directorate of Marketing and Investment	Marketing, Investment	2016 - 6 June 2018	Nishimura, Mori, Shimizu, Yoneyama, Suenaga	January 2016	Present
14	Directorate of Processing and Marketing of Horticulture Product	Nurhayati	Head of Investment Section, Sub-Directorate of Marketing and Investment	Investment	5 June 2018 - Present	Nishimura, Mori, Shimizu, Yoneyama, Suenaga	1995	Present
15	Directorate of Horticulture Seedling	Pri Hendri Budiarli	Head of Seed Certification Section, Sub-Directorate of Seed Quality Control	Quality control and certification for seed	13 March 2019 - Present	Nishimura, Mori	December 2003	Present
16	Directorate of Horticulture Seedling	Aprizal	Plants Seeds Supervisor, Seed Certification Section, Sub-Directorate of Seed Quality Control	Quality control and certification for seed	1 September 2016 - Present	Nishimura, Mori	September 2016	Present
17	Directorate of Horticulture Seedling	Yudi	General Functional, Seed Certification Section, Sub-Directorate of Seed Quality Control	Quality control and certification for seed	2019 - Present	Nishimura, Mori	April 2011	Present
18	Directorate of Horticulture Protection	Irma Siegar	Head of Section of Fruits and Floriculture Pest and Disease Controlling Facilities, Sub-Directorate of Fruits and Floriculture Pest and Disease Controlling	Plant pests and disease control	2016 - Present	Morita, Yamazaki	1996	Present
19	Directorate of Vegetables and Medicinal Plants	Muliara Sari	Head of Shalot and Tuber Vegetable Area Development Section, Sub-Directorate of Shalot and Tuber Vegetables	Production area formation	2016 - 2018	Nishimura, Mori, Shimizu, Morita, Tanaka	January 2005	Present
20	Directorate of Vegetables and Medicinal Plants	Fajar Anggraini	Technical Staff, Shalot and Tuber Vegetable Area Development Section, Sub-Directorate of Shalot and Tuber Vegetables	Production area formation	2016 - Present	Nishimura, Mori, Shimizu, Morita, Tanaka, Yamazaki	2003	Present
21	Directorate of Vegetables and Medicinal Plants	Wivi Sultwi	Head of Section of Technology Application for Medicinal Plants and Empowerment, Sub-Directorate of Medicinal Plants	Cultivation technology (medicinal plants)	2016 - Present	Morita, Tanaka, Yamazaki	1995	Present
22	Directorate of Vegetables and Medicinal Plants	Asma	Staff for Potential Data Provider	Data analysis	2016 - Present	Shimizu, Yoneyama, Suenaga	January 2005	Present
23	Directorate of Fruits and Floriculture	Dina Rosita	Staff, Sub-Directorate of Citrus, Shrub and Trees	Cultivation technology (perennial fruits)	2016 - Present	Morita, Tanaka, Yamazaki	April 2006	Present
24	Directorate of Fruits and Floriculture	Olivia Aisan	Analyst for Agriculture Cultivation Potency	Data analysis	2016 - Present	Shimizu, Yoneyama, Suenaga	2000	Present
25	Provincial Agricultural Office of West Java	Henry Jatnika	Head of Office	Management	29 December 2016 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2016	Present
26	Provincial Agricultural Office of West Java	Lilis Iriingsih	Head of Horticulture Division	Management	July 2019 - Present	Nishimura, Mori, Shimizu, Suenaga	July 2019	Present
27	Provincial Agricultural Office of West Java	Henningsh	Head of Fruits and Ornamental Plants Section	Cultivation technology (fruits and floriculture)	20 February 2018 - Present	Morita, Tanaka, Yamazaki	2011	Present
28	Provincial Agricultural Office of West Java	Chakrawati	Head of Post-Harvest of Horticulture Plants Section	Post-harvest	20 February 2018 - Present	Morita, Yamazaki	April 1990	Present
29	Food Security and Agricultural Office, Bogor City	Robert	Head of Business Development of Food Crops and Horticulture Products Management Division	Business development	2016 - December 2019	Nishimura, Shimizu, Mori, Yoneyama, Suenaga	1994	December 2019



## 8. インドネシア側投入予算実績

### 8. インドネシア側投入予算実績

No.	日時	投入項目	場所	価格 (IDR)
1	21 April 2016	1st JCC	Bogor	149,000,000.00
2	25 October 2016	2nd JCC	Bogor	242,200,000.00
3	12 December 2017	3rd JCC	Bogor	148,800,000.00
4	13 December 2018	4th JCC	Bogor	147,044,000.00
5	12 September 2019	5th JCC	Bogor	100,000,000.00

**JOINT TERMINAL EVALUATION REPORT ON  
THE PUBLIC-PRIVATE-PARTNERSHIP PROJECT FOR THE  
IMPROVEMENT OF THE AGRICULTURE PRODUCT MARKETING  
AND DISTRIBUTION SYSTEM**

September 2020



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Ms. Keiko Mizoe  
Team Leader of Japanese Side

Indonesia-Japan Joint Terminal Evaluation  
Team  
Director, Team 1, Economic Development  
Department  
Japan International Cooperation Agency



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Mr. Ahmad Widodo Heru  
Team Leader of Indonesian Side

Indonesia-Japan Joint Terminal Evaluation  
Team  
Sub-Division of Cooperation, Secretariat of  
Directorate General of Horticulture  
Ministry of Agriculture

**JOINT TERMINAL EVALUATION REPORT ON  
THE PUBLIC-PRIVATE-PARTNERSHIP PROJECT FOR THE  
IMPROVEMENT OF THE AGRICULTURE PRODUCT MARKETING  
AND DISTRIBUTION SYSTEM**

September 2020



# Map of the Project Sites

Figure 1. Province of West Java

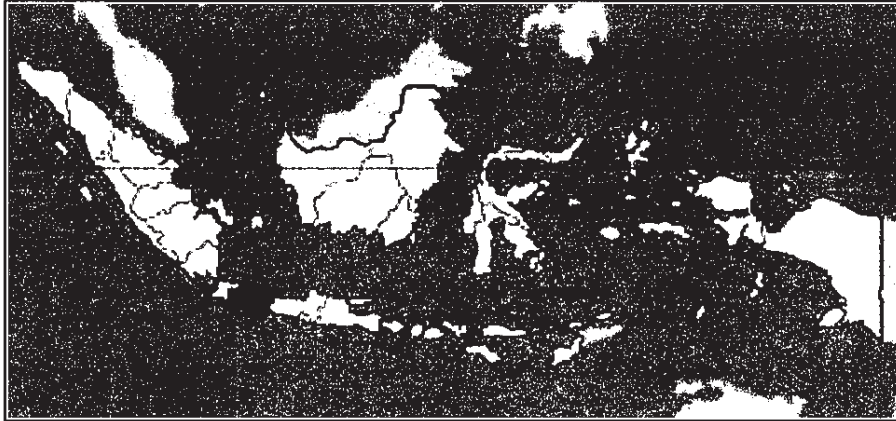
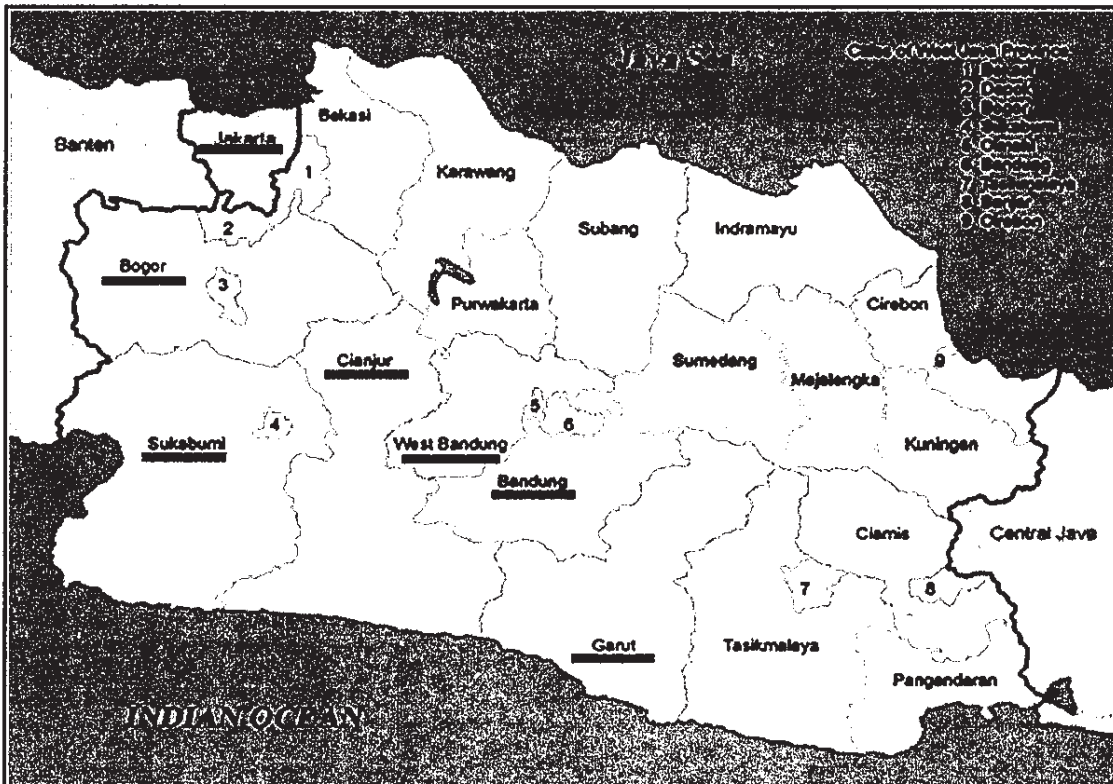


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## Abbreviations and Acronyms

ASEAN	Association of South-East Asian Nations
BNI	Bank Negara Indonesia
BTPN	PT. Bank Tabungan Pensiunan Nasional Tbk
CWF	PT. Calbee Wings Food
DGH	Directorate General of Horticulture
DINAS	Agriculture Department
FG	Farmers' Group
FSP	Financial Service Provider
HSI	PT. Hasil Sayur Indonesia
IDR	Indonesian Rupiah
JCC	Joint Coordinating Committee
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
KMBM	Koperasi Maju Berkah Mandiri
KUR	Kredit Ushaha Rakyat
M/M	Man Months
MOA	Ministry of Agriculture
MOU	Memorandum of Understanding
PDM	Project Design Matrix
PT	Perseroan Terbatas
R/D	Record of Discussions
RPJMN	Rencana Pembangunan Jangka Menengah Nasional
STA	Sub Terminal of Agribusinesses

## 1. Introduction

### 1.1 Purpose of the Joint Terminal Evaluation

The Public-Private-Partnership Project for the Improvement of the Agriculture Product Marketing and Distribution System (IJHOP4) (hereinafter referred to as “the Project”) was launched in February 2016 for an initial period of four years up to February 2020. The Project was then extended for four months up to June 2020 based on an agreement at the fifth Joint Coordinating Committee (JCC) meeting held in September 2019 in order to maximize the expected outputs of the Project. Subsequently, the Project was further extended for eight months due to the global outbreak of COVID-19 which forced Japanese experts team to return to Japan and manage the Project remotely. The Project will be officially terminated in March 2021<sup>1</sup>.

The Joint Terminal Evaluation aimed to comprehensively review the progress and achievements of the Project as well as to summarize good practices and lessons-learned from the Project activities. It also aimed to confirm the activities for the remaining period of the Project through the discussions with the Indonesian implementing agencies and the Project’s experts team. Due to the difficulties in travelling to Indonesia under COVID-19 situation, the Joint Terminal Evaluation was conducted remotely using the online meeting tools. Results of the evaluation and recommendations were reported at the sixth JCC held on 18 September 2020 to the members of JCC.

### 1.2 Members of the Joint Terminal Evaluation Team and Schedule for the Evaluation

#### 1.2.1 Members of the Joint Terminal Evaluation Team

The Joint Terminal Evaluation Team were consisted by the following members from Japan and Indonesia.

Japan		
Ms. Keiko MIZOE	Team Leader	Director, Agricultural and Rural Development Group 1, Economic Development Department, JICA
Dr. Keishiro ITAGAKI	Food Value Chain	Counsellor, Nippon Foundation
Dr. Akira KAMIDOHZONO	Commercial agriculture	Senior Advisor, Economic Development Department, JICA
Ms. Mihoko SAITO	Cooperation Planning 1	Deputy Director, Agricultural and Rural Development Group 1, Economic Development Department, JICA
Mr. Atsumu YAMAGUCHI	Cooperation Planning 2	Agricultural and Rural Development Group 1, Economic Development Department, JICA
Ms. Wakako MATSUURA	Evaluation	ACCESS Advisory Japan

<sup>1</sup> The contract with the Japanese consultant team will be until May 2021.

Indonesia	
Mr. Ahmad Widodo Heru	Division of Planning, Secretariat of Directorate General of Horticulture, Ministry of Agriculture
Ms. Novida Siti Jubaedah	Division of Planning Secretariat of Directorate General of Horticulture, Ministry of Agriculture

### 1.2.2 Schedule for Evaluation

The Joint Terminal Evaluation was conducted from 31 August to 18 September 2020. All meetings were conducted remotely using the online meeting tools. The schedule of the evaluation is attached in ANNEX I.

### 1.3 List of interviewees

The list of interviewees is listed as follow. The Joint Terminal Evaluation team conducted interviews with the Directorate General of Horticulture (DGH) of the Ministry of Agriculture, Agriculture Departments (DINAS) of target sites (six districts and two cities in West Java Province: Cianjur District, Garut District, Bogor City/District, Sukabumi City/District, Bandung District, and West Bandung District), as well as the private companies including suppliers, supermarkets, financial institutions and E-commerce companies, to comprehensively review the results and achievements of the Project.

<Directorate General of Horticulture, Ministry of Agriculture>

Name	Position	Directorate
Ir. Bambang Sugiharto, M.Eng.Sc.	Director	Directorate of Processing and Marketing of Horticulture Product
Ms. Andi Arnida Massusunan	Head of Sub-directorate for Marketing and Investment	Directorate of Processing and Marketing of Horticulture Product
Ms. Nurhayati	Head of Investment Section	Directorate of Processing and Marketing of Horticulture Product
Mr. Aprizal	Plant Seed Supervisor	Directorate of Horticulture Seedling
Ms. Olivia	Analyst for Agriculture Cultivation Potency	Directorate of Fruits and Floriculture
Ms. Mega (Proxy of Mr. Tommy Nugraha, Director)	Head of Area Development for Medicinal Plants Section	Directorate of Vegetables and Medicinal Plants
Mr. Rico Simanjuntak, S.P., M.P.	Head of Sub-Division of Cooperation, Plan Division	Secretariat of DG of Horticulture
Ms. Nasyitha Rolles Bathman	Staff	Secretariat of DG of Horticulture

<DINAS and Farmer groups>

Name of DINAS Staff / Farmer	Title of DINAS Staff / Name of Farmer Group
<b>Bogor City</b>	
Mr. H. Dian Herdiawan	Division Head, Food Crops and Horticulture
Ms. Kartini	Staff
<b>Bogor District</b>	
Ms. Ida Sriwidaningsih	Section Head, Horticulture Division
Mr. Saripudin	Extension staff
Mr. Mista	Pemuda Tani Naratas (Trial Project: 2018~2019, 2019~2020)
Mr. Amay	Bina Tani Sepakat (Trial Project: 2018~2019, 2019~2020)
Mr. Dede	Tunas Tani Pangrango (Trial Project: 2018~2019, 2019~2020)
Mr. Jamil	Teguh Tani (Trial Project: 2018~2019, 2019~2020)
Mr. Ade Gunawam	Bakti Mandiri Sukajadi Trial Project: 2017~2018, 2019~2020)
<b>Sukabumi City</b>	
Mr. Rifki Amrullah	Section Head, Food Crop, Horticulture, and Plantation Production Section
Ms. Fenti Rahayu	Junior Extension Staff for Agriculture
Mr. Kuswaya	Senior Extension Worker for Agriculture, Coordinator of Extension Worker
Mr. Hoer	Mucekil (Trial Project: 2018~2019, 2019~2020)
Mr. Dayat	Sugih Mukti (Trial Project: 2018~2019)
<b>Sukabumi District</b>	
Mr. Deni Ruslan	Division Head, Horticulture Division
Mr. Mulyana	Bumi Mekar (Trial Project: 2017~2018, 2019~2020)
Mr. Nunu	Al-Mujahidin Association (Trial Project: 2018~2019, 2019~2020)
<b>Cianjur District</b>	
Mr. Nurul Hikmat	Division Head, Horticulture Division
Ms. Nurdiyati	Division Head, Agribusiness and Extension Division
Ms. Tiktik Sartika	Extension staff
Mr. Deni	Staff of Horticulture Division
Mr. Suhendar	Mujagi (Trial Project: 2017~2018, 2019~2020)
Mr. Ayi	Utama (Trial Project: 2017~2018, 2019~2020)
Mr. Ujang Dayat	Padadjaya (Trial Project: 2018~2019, 2019~2020)
Mr. Yeyen	Saridona 2 (Trial Project: 2018~2019, 2019~2020)
<b>Garut District</b>	
Mr. Rahmat Jatnika	Division Head, Horticulture Division
Ms. Tiara	Section Head, Post-Harvest and Processing Section
Mr. Teten	Cikandang Agro Association (Trial Project: 2017~2018, 2019~2020)
Mr. Hergandi	Hitda Mandiri (Trial Project: 2019~2020)
Mr. Amang	Mekar Tani (Trial Project: 2018~2019, 2019~2020)
Mr. Ucu	Barokah Karunia Tani (Trial Project: 2018~2019, 2019~2020)
<b>Bandung District</b>	
Mr. Jumhana	Division Head, Horticulture Division
Ms. Renny Yuniasari	Section Head, Processing and Marketing of Horticulture Produce
Mr. Benjamin Dwiputra	Extension staff
Mr. Arif	Al-Ittifaq Cooperative (Trial Project: 2017~2018, 2019~2020)
Ms. Riswati	Hataki (Trial Project: 2018~2019, 2019~2020)
Mr. Amang	Mekar Tani (Trial Project: 2018~2019, 2019~2020)
Mr. Gandhi	Hikmah Farm (Trial Project: 2018~2019, 2019~2020)



<b>West Bandung District</b>	
Ms. Istini	Section Head, Horticulture Seedlings, Protection and Production Section
Mr. Suherman	Section Head, Processing and Marketing
Mr. Eka Subarkah	Staff, Horticulture Seedlings, Protection and Production Section
Mr. Widi Rikaswirahma	Staff, Facility and Infrastructure Section
Mr. Deny	FRT (Trial Project: 2018~2019, 2019~2020)
Mr. Wilarto	Gerbang Emas (Trial Project: 2017~2018, 2018~2019).
<b>West Java Province</b>	
Ms. Chakrawati	Section Head, Horticulture Post-Harvest Section
Mr. Sukma Pahlawan	Section Head, Marketing Section, Business Guidance Division

### < Private Companies >

<b>Name of Company</b>	<b>Business Type</b>	<b>Name and Title of the interviewee</b>
<b>Modern Market (Supermarket, Supplier, Food Industry, E-commerce)</b>		
Papaya	Supermarket	Ms. Hoshino (Manager of Marketing), Ms. Sulis (Manager of Purchasing)
AEON	Supermarket	Mr. Feri (Manager of Purchasing)
Calbee Wings Food	Food Industry	Ms. Sano, Mr. Yulius (Manager of Supply Chain)
Sayurbox	E-commerce (horticulture products)	Mr. Vincent (Manager of Purchasing), Mr. Dennis
Sayuran Siap Saji	Supplier of cut-vegetable for restaurant chains	Mr. Deddy Hadinata (Manager of Purchasing), Mr. Wasil
<b>Financial Service Providers, Fintech</b>		
CROWDE	Fintech	Ms. Dara (Lead of Business Development), Mr. Dika
Penny Growing	Investor	Mr. Ryan, Managing Director

## 1.4 Background of the Project

Modern retail and food service industries, such as hypermarkets, convenience stores, restaurants and fast food shops, are expanding rapidly in the urban areas in Indonesia where most of the middle-income groups reside. The use of modern shops is becoming common mainly among younger generation, those under thirty years old, who comprise more than 50% of the total population and the middle-income segment.

Another factor that influenced the changes in modern market preference is the increasing of income. Personal disposable income in Indonesia has been increasing recently in line with the macro-economic growth. The share of middle and high-income groups (those with annual disposable income per household more than USD 5,000 and less than USD 35,000), who have strong consumption rates, increased from 5.8% of the population in 1990 to 57.7% in 2010 and is expected to reach 73.5% by 2020<sup>2</sup>. Due to these changes in the income structure and an increasing diversity of food preferences, the food market (both processed and fresh food) in Indonesia has been expanding

<sup>2</sup> Badan Pusat Statistik, Perkembangan Beberapa Indikator Utama Sosial-Ekonomi Indonesia.



rapidly. Such diversification includes a tendency to prefer healthy, environmental-friendly, safe and high quality food; an interest in new types of food as seen in a boom in western and Japanese food; and the use of fast food and processed food that shortens cooking times. The rapid increase in vegetable and fruit imports indicates the increasing number of consumers seeking high-quality vegetables and fruits. Food expenditures in Indonesia increased by 48% in the four years from 2005 to 2009. Should this trend continue, the size of the food market will reach IDR 1,925 trillion by 2020<sup>3</sup>.

However, the modernization of the agriculture distribution system and food market in Indonesia is not advancing as fast as in other major ASEAN countries. The share of modern retail of total food sales remains low and traditional retail such as public markets (*pasar*) and family-owned small shops and vendors still account for the majority of sales. The distribution problem for traditional markets is characterized by complexity and high costs, which are mostly attributable to the involvement of many middlemen<sup>4</sup>. Lack of sanitation is also a problem with traditional wholesale and retail markets. Modern retailers who intend to continuously procure products of a certain level of quality and safety have to independently identify trusted business partners. Furthermore, underdeveloped cold chains and transport infrastructure make quality control of the fresh food difficult. As a result, retailers prefer to import high-quality horticultural products from overseas despite the fact that domestic agriculture producers have the ability to produce such products.

Difficulties in accessing modern markets demotivate farmers from producing safe and high-quality horticultural products as they are not able to sell their products with the price that compensate for the extra production costs and labor. In this regards, establishing distribution channels between farmers and modern markets specifically for safe and high-quality horticultural products will lead to positive outcomes including the enhancement of farmers' incomes and motivations, stable supply of safe and high-quality horticultural products to the food industry, meeting the needs of high and middle-income consumers, and resulting in increased direct investments and overall business activities in the sector.

Against this backdrop, in August 2013 the Government of Indonesia requested the Government of Japan to implement a technical cooperation project to support the establishment of supply chains of safe and high-quality horticultural products. Based on the Record of Discussions signed between the Indonesian Ministry of Agriculture (MOA)

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<sup>3</sup> Ditto.

<sup>4</sup> The Project defines "suppliers" as middlemen who supply to modern markets, and "traders" as middlemen who supply to other middlemen or local markets but not to modern markets.



and JICA on the 25th of September 2015, JICA contracted the implementation of the Project to joint venture of IMG Inc. and Task Co., Ltd.

## **1.5 Outline of the Project**

### **1.5.1 Duration of the Cooperation**

The duration of the cooperation is from February 2016 to March 2021, for 5 years and 1 month.

### **1.5.2 Implementing Agencies**

The implementing agencies of the Project are as follows.

- Directorate General of Horticulture (DGH), Ministry of Agriculture
- Agriculture Department (DINAS) of West Java Province, Cianjur District, Garut District, Bogor City/District, Sukabumi City/District, Bandung District, and West Bandung District.

### **1.5.3 Target Areas and Target Group of the Project**

The target areas and target groups of the Project are as follows.

- Target areas: Special Capital Region of Jakarta and six districts and two cities in West Java Province: Cianjur District, Garut District, Bogor City/District, Sukabumi City/District, Bandung District, and West Bandung District.
- Target group:
  - 1) Farmer groups involved in the horticultural agriculture at the target areas
  - 2) Government officials in DGH and DINAS of target areas

Bandung and West Bandung Districts, both of which have high potential for horticultural production, had not originally been part of the Project's target districts. With the baseline survey indicating that the challenges of farmers' groups in both districts were similar to those of other four districts, it was agreed in the second Joint Coordination Committee (JCC) held in October 2016 that Bandung and West Bandung Districts would be included in the Project's target districts.

### **1.5.4 Objective of the Project**

The Project Design Matrix (PDM) was modified three times over the course of the Project period. The major amendments to PDM were approved at the third JCC meeting in December 2017, which included the following changes: i) Outputs and Activities were not changed, but re-arranged or rephrased in order to clearly present project targets and activities in the PDM; ii) a "Super Goal" was set as a milestone for the future development of a modernized horticulture production and distribution system in Indonesia by applying and disseminating the JICA Project's outcomes; iii) the "Overall

Goal" and its target areas were made more specific (narrowed down) in order to be more realistic and measurable; and iv) indicators for the Project Purpose and the Overall Goal were modified.

The objective of the Project was to achieve the following goals, purpose and outputs defined in the final version (version 3) of the PDM. The details of the PDM ver. 3 is attached in ANNEX II.

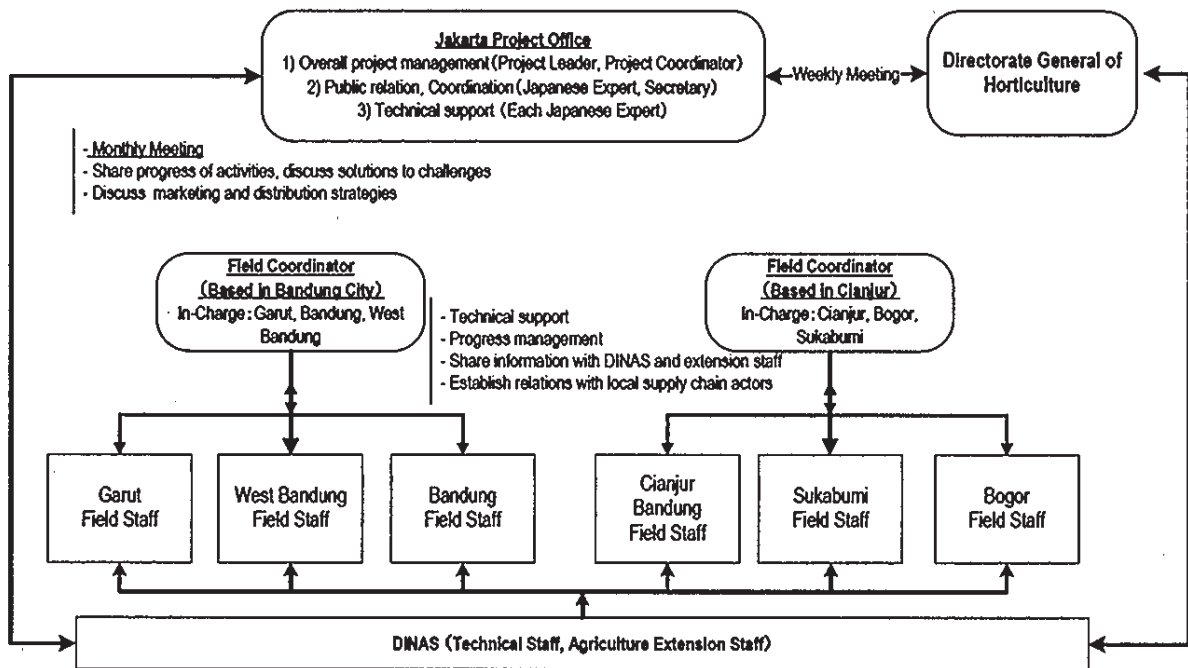
- Super Goal: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups in West Java Province.
- Overall Goal: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Java Province.
- Project Purpose: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province.
- Output
  - Output 1-1: Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers.
  - Output 1-2: Capacity to plan and carry out cultivation according to market needs is attained by the target farmers.
  - Output 1-3: Target farmers' groups' marketing channels are developed.
  - Output 1-4: Target farmers' groups' access to finance is improved.
  - Output 2: Managerial capacity of government officials who promote modernized production & distribution systems is strengthened.

#### 1.5.5 Implementation Structure

In order to conduct a regular monitoring of the field activities taking place in the large area of the project sites and respond to issues in an efficient manner, the Project team established the implementation structured as set out in Figure 3. One field staff was allocated in each District/City to monitor the field activities. Above field staff, two field coordinators were assigned to provide the technical support and monitor the progress of the activities. They also share information with DINAS and extension staff, as well as establish connection with local supply chain actors. To act as an overall project manager, the Project Office was established in Jakarta. The Project office held weekly meetings with DGH to exchange information and report the Project's progress.



**Figure 3. Project Implementation Structure**



Source: JICA experts team

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## 2. Methodology of Evaluation

The Joint Terminal Evaluation was carried out in accordance with the JICA's Evaluation Guidelines. The evaluation was made through i) review of the achievements vis-à-vis the indicators stipulated in the PDM, ii) review of the implementation process, and iii) evaluation by the five criteria, i.e. relevance, effectiveness, efficiency, impact and sustainability. The criteria were established by the Development Assistance Committee (DAC) of the Organization for Economic Co-operation and Development (OECD). The brief explanation of each criteria is described in the Table 1 below.

**Table 1. Five DAC Evaluation Criteria**

<b>Relevance</b>	Examines the consistency of the project to the needs and the attainment of objectives.
<b>Effectiveness</b>	Measures the extent to which the project attains its objectives
<b>Efficiency</b>	Measures the outputs in relation to the inputs (in terms of funds/time)
<b>Impact</b>	Examines positive and negative changes, direct and indirect effects (both expected and unexpected).
<b>Sustainability</b>	Whether the benefits of the project are likely to continue.

Source: OECD/DAC Network on Development Evaluation (2019), Revised Evaluation Criteria Definitions and Principles for Use

At the beginning of the Joint Terminal Evaluation, a list of questionnaires was distributed to DGH and DINAS via email and the answers were collected. Then, actual interviews were conducted online based on the results of the questionnaires, which focused on the high priority questions.

### 2.1 Indicators and Questions for Evaluation

The indicators and questions used for the evaluation are described below. The entire evaluation grid is attached as ANNEX III.

#### 2.1.1 Achievement of the Project

Achievement of the Project was measured by the indicators as described in the PDM.

<b>Survey Items</b>	<b>Objectively Verifiable Indicators</b>
<b>Achievement of Super Goal</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups in West Jawa Province	The number of the farmers' groups who sell safe & high-quality agriculture products in West Java in 2030

<p><b>Achievement of Overall Goal</b> Modernized production &amp; distribution systems of safe &amp; high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Jawa Province</p>	<p>1. The number of the farmers' groups who sell safe &amp; high-quality agriculture products at the model sites in West Jawa in 2023 2. The number of farmers at the model sites (excluding the members of the trial project of the target farmers' groups at the model sites) who apply at their own farms in 2023 improved production and management techniques introduced by the Project</p>
<p><b>Achievement of Project Purpose</b> Modernized production &amp; distribution systems of safe &amp; high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Jawa Province.</p>	<p>1. Improved production and management techniques are applied by 70% of the target farmers at their own field(s) 2. Distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups</p>
<p><b>Achievement of Output 1-1</b> Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers</p>	<p>1-1-1. Trainings on agricultural production are attended by 70% of the target farmers' groups 1-1-2. Improved cultivation techniques promoted by the Project are followed through by 80% of the target farmers 1-1-3. Good product rate is increased for 60% of the target farmers</p>
<p><b>Achievement of Output 1-2</b> Capacity to plan and carry out cultivation according to market needs is attained by the target farmers</p>	<p>1-2-1. Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique</p>
<p><b>Achievement of Output 1-3</b> Target farmers' groups' marketing channels are developed</p>	<p>1-3-1. Events to promote linkages between modern markets and farmers are participated by 80% of the target farmers' groups 1-3-2. Business negotiation with modern markets is made by 50% of the target farmers' groups</p>
<p><b>Achievement of Output 1-4</b> Target farmers' groups' access to finance is improved</p>	<p>1-4-1. Briefing on financial services is attended by 300 members of target farmers' groups 1-4-2. Financial services such as loans and savings are used by 150 members of the target farmers' groups</p>
<p><b>Achievement of Output 2</b> Managerial capacity of government officials who promote modernized production &amp; distribution systems is strengthened</p>	<p>2-1. 24 events related to agricultural distribution and marketing are organized by government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS) 2-2. Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officials 2-3. 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented.</p>

Source: PDM ver.3

### 2.1.2 Implementation Process

Implementation process of the Project was reviewed using the following criteria and questions.



**Table 2. Indicators and Questions for Evaluating Implementation Process**

<b>Major criteria</b>	<b>Sub-questions</b>	<b>Specific criterion</b>
Implementation of activities	All of the activities listed in the PDM have been implemented as planned without delay.	Timeline is being maintained
		Description of the situation and reasons for the delay, if any
		Workloads for JICA experts and Indonesia counterpart are manageable and sustainable
		Budget is in line with original estimation
Ownership	The Indonesia side has been engaged in the Project with a strong sense of ownership.	The Indonesian government appointed liaison persons with capacity and resources to support the Project.
		Volumes of the inputs provision by Indonesian side
		The Indonesia counterpart understands the Project background, purpose, approaches, etc.
		Overall impression from main stakeholders
Collaboration and communication with relevant institutions	Collaboration and communication among JICA Experts, DGH, DINAS, STA, private companies, and other relevant institutions have been effective for project implementation.	Evidence of open communication channels among stakeholders
		Level of collaboration with relevant stakeholders
		Overall impression from main stakeholders
Technology Transfer	The methods of technology transfer from JICA Experts to the Indonesia counterparts are appropriate.	Extent to which the Indonesia counterpart is cognisant of the technology transferred in the Project
		Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs
Project management system	How and how often has project monitoring (the Project as a whole) been undertaken? (e.g. A monthly meeting was held to check the progress of the activities)	Evidence that the Project monitoring was undertaken
		Extent to which JICA expert perceive the methods to be appropriate to their needs
	The above-described monitoring was appropriate in terms of its method and frequency.	Extent to which Indonesia counterpart perceive the methods to be appropriate to



		their needs
	How and how often has project monitoring specific to your duty and responsibility been undertaken? (e.g. A monthly meeting was held to check the progress of the activities)	Evidence that the Project monitoring was undertaken
	The above-described monitoring was appropriate in terms of its method and frequency.	Extent to which JICA expert perceive the methods to be appropriate to their needs
		Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs
	Revisions of activities you made as a result of project monitoring if there are such cases.	Description of revisions of activities JICA expert and/or Indonesia counterpart made
Communication	The communication among the Indonesia counterparts has been effective in implementing project activities.	Evidence of open communication channels among the Indonesia counterpart
		Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs
		Extent to which JICA experts perceive their communication to be appropriate to their needs
	The communication between the counterpart personnel and JICA Experts has been effective in implementing project activities.	Evidence of open communication channels between the Indonesia counterpart and JICA experts
		Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs
		Extent to which JICA experts perceive the communication to be appropriate to their needs
	The communication between the counterpart personnel and the target farmer groups has been effective in implementing project activities.	Evidence of open communication channels between the Indonesia counterpart and target farmer groups
		Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs
		Extent to which the target farmer groups perceive the

		communication to be appropriate to their needs
Preconditions	The precondition "The agricultural policy does not change drastically", "Massive natural disasters (such as drought and flood) do not occur", "Market on agricultural products does not drastically change", "Market on agricultural products does not drastically change", "Financial market and banking system does not drastically change", "Drastic transfer of human resources that leads to a loss of accumulated knowledge does not occur" were fulfilled. (If unfulfilled, what were the effects to the Project?)	Evidence that show the (un)fulfilment of the precondition
		Extent to which the Indonesia counterpart perceive the fulfilment of the preconditions
		Extent to which JICA experts perceive the fulfilment of the preconditions

Source: Terminal Evaluation Team

### 2.1.3 Evaluation by five criteria

Evaluation of the Project using the five DAC evaluation criteria was conducted using the following questions.

**Table 3. Indicators and Questions for Evaluation by Five Criteria**

Major criteria	Sub-questions	Specific criterion
<b>Relevance</b>		
Relevance to the needs of the target groups	Did the Project respond to the needs of the target regions/societies?	Extent to which the Project reflected the needs of the target region/societies
		Evidence of the Project activities being applied at the Project sites
		Extent to which JICA perceive the Project to be relevant to their needs
		Extent to which Indonesia counterpart perceive the Project to be relevant to their needs
	Did the Project respond to the needs of the target farmers group?	Extent to which target farmers has been consulted / involved in designing the activities within the Project
		Evidence of the Project activities being applied by the farmers at the



		Project sites
		Extent to which the target farmers perceive the Project to be responsive to their needs
		Evidence that the target farmers are cognisant of the Project activities and its values
Priority	At the time of the Joint Terminal Evaluation, is the Project still consistent with the Indonesia's Development Plans?	Evidence that the Project is consistent with the Indonesia's development plan
	Is the Project consistent with the Japanese ODA Policy and JICA's Country Planning for Indonesia?	Evidence that the Project is consistent with the Japanese ODA policy and JICA's country planning for Indonesia
Relevance to the Project plan	Were the selected Project approach and target regions appropriate in order to strategically and effectively address the Indonesia's development issues?	Methods used for selecting project approach and target regions
		Extent to which JICA perceives the Project approach and target regions relevant to their needs
		Extent to which Indonesia counterpart perceives the Project approach and target regions relevant to their needs
	Was the target group selection appropriate?	Methods used for selecting target group
		Level of involvement of the target group in project activities
		Extent to which the target group perceive the selection processes and results to be appropriate to their needs
	Did the Project have ripple effects beyond the target group?	Extent to which JICA perceives ripple effects beyond the target group
		Extent to which Indonesia counterpart perceives ripple effects beyond the target group
		Extent to which target farmers perceives ripple effects beyond the target group
	Were overall goal, project purpose, output, activities and inputs on PDM appropriately and logically related and determined?	Evidence that PDM was appropriately and logically formulated

	Were Objective Viable Indicators of overall goal, project purpose and output appropriate? (including the aspects of “too high” or “too low”)	Evidence that OVIs were appropriately determined
	Was the PDM revised in an appropriate timing with logical relevance in responding to the needs of the target area?	Evidence that PDM was appropriately revised
		Methods used for monitoring and analysis against environmental changes
		Evidence of JICA and DGoH’s willingness to vocalise challenges and failures, and changes in measures taken towards those doing so
<b>Effectiveness</b>		
Level of achievement of the Project purpose	The Project has achieved its project purpose, “Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers’ incomes are developed for the target farmers’ groups at the model sites in West Java Province.” by the end of the Project period.	Evidence that improved production and management techniques are applied by 70% of the target farmers at their own field(s)
		Evidence that distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers’ groups
	Was there coordination with other projects/assistances provided by JICA or collaboration with other donors’ projects so as to create synergy?	Existence of coordination or collaboration with other JICA or other donor’s projects
		Evidence that those coordination or collaboration created synergy
Hindering and contributing factors to achieving the Project purpose	The important assumptions which would influence the production of the outputs and achievement of the Project purpose have been fulfilled so far.	Documents which show the (un)fulfilment of the important assumptions
	Any factors which promoted or hindered the achievement of the Project purpose, if any.	Description of any factors which promoted or hindered the achievement of the Project purpose
	Was successful delivery of Project Outputs sufficient to achieve Project Purpose? Was the logic “successful delivery of Project Outputs will lead to achievement of Project	Level of achievement of project outputs which causes successful delivery of project purposes
Evidence that the logic “successful delivery of project outputs will lead to achievement of project purpose”		



	Purpose" valid?	was valid
Level of achievement of the Project output	Same as <b>Achievement of Output</b> described in (1) Achievement of the Project	Same as indicators of <b>Achievement of Output</b> described in (1) Achievement of the Project
<b>Efficiency</b>		
Adequacy of inputs: its quantity, quality and timing	The inputs by the Japanese side, i.e. dispatch of the JICA Experts, provision of machinery and equipment, operational expenses covered by JICA, training in Japan are appropriate in terms of quality, quantity, cost and timing for producing the outputs specified in the PDM.	Evidence that the inputs by the Japanese side were appropriate
		Extent to which JICA perceives the inputs by the Japanese side adequate to their needs
		Extent to which the Indonesia counterpart perceives the inputs by the Japanese side adequate to their needs
		Extent to which farmers group perceives the inputs by the Japanese side adequate to their needs
	The inputs by the Indonesia side, i.e. assignment of the counterpart staff, operational expenses and provision of office spaces, etc. are appropriate in terms of quality, quantity, cost and timing for producing the outputs specified in the PDM.	Evidence that the inputs by the Indonesia side were appropriate
		Extent to which JICA perceives the inputs by the Japanese side adequate to their needs
		Extent to which the Indonesia counterpart perceives the inputs by the Japanese side adequate to their needs
		Extent to which farmers group perceives the inputs by the Japanese side adequate to their needs
	There were no unexpected problems in providing inputs of human resources, machinery and equipment and other facilities. If any, the problems were solved in an appropriate manner and timing.	Evidence if there were any unexpected problems in providing inputs
		Documents which explain how the problems were solved if any
	Are there any other inputs and activities which need to be introduced in order to produce the outputs specified in the PDM in a more effective and efficient manner?	Perception of JICA experts in the needs of any other inputs and activities
		Perception of Indonesia counterpart in the needs of any other inputs and activities
<b>Impact</b>		
Prospect of achievement the overall	Same as <b>Achievement of Overall Goal</b> described in (1) Achievement of the Project	Same as indicators of <b>Achievement of Overall Goal</b> described in (1) Achievement of

goal		the Project
Positive and negative effects	Are there efforts being made so as to achieve the Overall Goal? Alternatively, are there plans for such efforts to be made?  Has there been any positive and/or negative impact caused by the implementation of the Project in terms of gender, poverty reduction, and the environment, etc.?	Existence of formal documents which commits the efforts being made so as to achieve the overall goal  List of any positive and/or negative impact caused by the implementation of the Project
<b>Sustainability</b>		
Prospect of project sustainability	From the viewpoint of policy direction as well as institutional setup and commitment, the effects of the Project purpose and overall goal will be sustainable after the completion of the Project	Extent to which JICA institutionalizes the mechanism to sustain the effect of the Project purpose and overall goal
		Extent to which Indonesia counterpart institutionalizes the mechanism to sustain the effect of the Project purpose and overall goal
		Extent to which financial service providers institutionalize the mechanism to sustain the effect of the Project purpose and overall goal
		Extent to which modern market institutionalizes the mechanism to sustain the effect of the Project purpose and overall goal
		Extent to which farmers group institutionalizes the mechanism to sustain the effect of the Project purpose and overall goal
		The Project set up counter measures to address the external factors which may affect its sustainable impact, such as high volatility of market price
	Extent to which JICA perceives counter measures are appropriately set up	
	Extent to which Indonesia counterpart perceives counter measures are appropriately set up	
	Extent to which farmer groups perceive counter measures are appropriately set up	

	The Project will be sustainable from the viewpoint of human resources (including appropriate assignments of personnel, adequate knowledge and skills of the staff, availability of operation manuals and information/ knowledge management systems).	Extent to which key personnel will be involved in the Project activities after the end of the Project
		Level of formal and informal skills and knowledge of the key personnel
	The Project will be sustainable from the viewpoint of financial resources.	Extent to which JICA is identifying budget lines to sustain the effect of the Project purpose and overall goal
		Extent to which Indonesia counterpart is identifying budget lines to sustain the effect of the Project purpose and overall goal
		Extent to which the farmer groups are allocating budget to continue the Project activities
	The equipment and machinery provided by JICA will be properly maintained and managed after the end of the Project.	Level of formal and informal skills and knowledge of Indonesia counterpart to properly maintain and manage the equipment
		Extent to which Indonesia counterpart intend to make use of the equipment after the end of the Project
	Any issues which may influence sustainability of the Project activities.	Description of any issues which may influence sustainability of the Project activities by JICA expert and Indonesia counterpart

Source: Joint Terminal Evaluation Team

## 2.2 Methods of data collection

With regard to the indicators and questions described above, data/information was collected through the following methods.

### 2.2.1 Document Study

Secondary data/information on the Project was collected from the Project's Detailed Planning Survey Report, a series of monitoring sheets, draft completion reports by the Japanese experts, PDM, Plan of Operation and other related documents such as record of inputs and Minutes of Meeting of JCC. In addition, the information on the agricultural sector in Indonesia, i.e. the agricultural policies and strategies of the Indonesian Government, the structure of agricultural cooperatives and farmer's organizations,

market trend was collected from the websites and other secondary sources.

### 2.2.2 Questionnaire/Interview

Primary data/information was collected from the JICA experts of the Project, DGH and DINAS through interview and questionnaire sheet. Also, the evaluation team conducted the interviews with private companies in modern market, financial service providers/fintech.





### 3. Achievement of the Project

#### 3.1 Summary of Inputs

##### 3.1.1 Japan side

##### (1) Dispatch of Experts

In total, ten (10) Japanese experts have been dispatched in the following two (2) managerial positions and ten (10) areas of expertise in the Project.

- Management positions (2): Team leader/ Sub-Team Leader
- Areas of expertise (10): Marketing/Product Development/Farming Technology/Promotion of Farmers' Groups/Public Private partnership/Access to Finance/Post-harvest Management/Product Marketing and Distribution/Capacity Building/Impact Analysis

Total inputs of the human resources of the experts as of 31 August 2020 amounted to 60.78 man-months (M/M)<sup>5</sup> since the beginning of the Project. The list of Japanese experts is as below.

**Table 4. Experts Assigned to the Project (2016, Start-up Phase)**

Responsibilities	Name
Team Leader / Marketing / Product Development	MORI Shinichi
Sub-Team Leader / Marketing	NISHIMURA Tsutomu
Farming Technology	MORITA Tateo
Promotion of Farmers' Groups	MATSUMI Yasuko, KAJITA Mio
Promotion of Farmers' Groups / Public Private Partnership	SHIMIZU Toshihiro
Access to Finance	YONEYAMA Akiko
Post-harvest Management	TANAKA Shunsuke

**Table 5. Experts Assigned to the Project (2017-2020)**

Responsibilities	Name
Team Leader / Product Marketing and Distribution / Capacity Building	NISHIMURA Tsutomu
Public Private Partnership	MORI Shinichi
Farming Technology / Post-harvest Management	MORITA Tateo
Farming Technology	YAMAZAKI Masaru
Promotion of Farmers' Groups / Public Private Partnership	SHIMIZU Toshihiro
Access to Finance	YONEYAMA Akiko
Impact Analysis / Product Marketing and Distribution	SUENAGA Jumpei

##### (2) Training in Japan

Trainings in Japan was held three times in 2016, 2017, and 2018. In total, 32 counterpart (C/P) personnel and 9 representatives of the target farmer groups were trained for two

<sup>5</sup> 1 M/M is equal to 30 working days of one project personnel.

weeks in Japan on the modernized production, marketing, and distribution of high-quality agriculture products (see also 3.2.5). The list of the trainees is attached as ANNEX IV.

### (3) Equipment

Equipment necessary to enhance the function of the Sub-Terminal of Agribusiness (STA) in the first year and to improve the effectiveness of the trial projects were procured for STA and several farmer groups. Major pieces of equipment include fruit and vegetable washer, and brush roller root fruit washer/peeler. As of the Joint Terminal Evaluation, all equipment is being used. A list of equipment is attached as ANNEX V.

### (4) Budget for Operational Cost for the Project Implementation

As of the Joint Terminal Evaluation, about 31.6 million yen (about 8.5 billion IDR) has been spent for local cost including renovation of building and procurement of equipment, JICA owned equipment, and handover equipment. Local cost also includes other expenses such as hiring field staff. A total of 10 field staff were recruited in the course of the Project implementation, including one project coordinator, one secretary, two field coordinators, and six field staff. A detailed list is attached as ANNEX VI.

## 3.1.2 Indonesia side

### (1) Assignment of Counterpart Personnel

A total 59 personnel were assigned to the Project including from DG Horticulture, Secretariat of DG Horticulture, DG Fruits and Floriculture, DG Horticulture Protection, DG Horticulture Seedling, DG Processing and Marketing of Horticulture Product, DG Vegetables and Medicinal Plants, DINAS of West Java Province, Bogor District and City, Sukabumi District and City, Bandung District, West Bandung District, Cianjur District, and Garut District. A detailed list is attached as ANNEX VII.

### (2) Budget for Operational Cost for the Project Implementation

As of the Joint Terminal Evaluation, about 5.6 million yen (787 million IDR) has been spent for local cost including the expenses for JCC and travel cost for the counterpart personnel to go monitoring or attend meeting. A detailed list is attached as ANNEX VIII.

### 3.2 Achievement of Outputs

#### 3.2.1 Output 1-1

Output 1-1: Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers.

#### The Project achieved the target set out for Output 1-1.

For Output 1-1, the Project conducted two rounds of trial projects annually (one in the dry season and the other in the rainy season), during which time farmers learned and practiced improved cultivation techniques for the selected commodities introduced by the Project. The fields for the trial projects were in principle set to be 100m<sup>2</sup> within the selected farmer groups' farms, and most of the necessary inputs such as seed, fertilizer, and pesticide were provided by the Project. At the time of the Joint Terminal Evaluation, six rounds of trial projects were completed from 2017 to 2019 with a cumulative total of 1,392 participating farmers<sup>6</sup>.

The Project introduced improved cultivation techniques for selected fruits and vegetables to participating farmer groups, which contributed to increase quality and quantity of the target farmer groups yields and meet the demands from both traditional and modern markets. Table 6 presents examples of the farming techniques introduced by the Project. A set of technical guidebooks for each commodity which visualized the cultivation techniques were produced by the Project and these technical guidebooks supported the farmer groups to use the newly introduced techniques in their fields to improve the production. It was also mentioned by some DINAS extension workers that the technical guidebooks may be utilized to provide technical guidance to farmers who have not participated in the Project.

The Project also implemented the farming techniques which uses less pesticides for selected vegetables (i.e. Paprika) aiming to increase the food safety and reduce environmental burden in the farms of the target farmer groups.

**Table 6. Example of Introduced Techniques**

Improved Technique	Expected Outcomes
<b>Nursery management (most commodities)</b>	
With a pot-up method, grow plants in the nursery for a longer period of time and transplant only good seedlings.	<ul style="list-style-type: none"><li>• The plants grow uniformly in a healthy condition.</li><li>• The plants become more disease</li></ul>

<sup>6</sup> One more round of trial projects is planned in 2020 with a participation of around 25-30 farmers are planning to participate.



	tolerant at a later stage.
<b>Fertilization (most commodities)</b>	
Apply compost together with fertilizers. Top-dress fertilizer where root tips grow so that the roots become wide and strong.	<ul style="list-style-type: none"> <li>The plants absorb necessary nutrients even at later stages and grow longer.</li> </ul>
<b>Rain shelter (tomato, broccoli, and lettuce in rainy season)</b>	
Utilize locally available materials (plastic tunnels) to cover plants for efficient rain protection to produce adequate quality vegetables during rainy season without greenhouse facilities.	<ul style="list-style-type: none"> <li>Rain-caused diseases are controlled by the application of plastic tunnels.</li> <li>Vegetables of adequate quality can be harvested during rainy season.</li> </ul>
<b>Net (Bean, Kyuri)</b>	
Introduce net training methods with proper pruning in order to increase growing space efficiency.	<ul style="list-style-type: none"> <li>Quantity as well as quality of fruit is improved by the application of the techniques.</li> <li>A healthy growing condition is ensured for a longer harvesting period.</li> </ul>

Source: JICA experts team

A certain number of farmers could increase their yields and quality of the products significantly after participating in several rounds of trial projects. Following the results of the trial projects, the latter half of the Project under this component focused on establishing more solid market linkages for the selected products in collaboration with different market actors, including suppliers, supermarkets, and food industries. After having a series of meetings with suppliers and farmer groups, the Project linked the target farmer groups with new markets, including modern markets in Jakarta. The Project also prepared a planting and shipping plan for each farmers group, customized to the demand of each market, which supported the farmer groups to produce and supply to the market in more stable manner.

Furthermore, with a view to supporting farmers who intended to cultivate new marketable varieties, and considering modern markets' high demand for Japanese vegetables, the Project imported Japanese vegetables' seeds from Japan and registered four varieties of Japanese vegetables (mizuna, Momotaro tomato, nasu, and piman) in Indonesia. Based on the recommendations from the Director of the Directorate of Horticulture Seeds, DGH, the Project decided to work with PT. Tani Murni, an Indonesian seed dealer/importer that had worked as the local agent for Takii Co., Ltd., a Japanese seed company, for many years and had sufficient experience in importing Japanese and Korean vegetable seeds. The Project also supported the cultivation

<sup>7</sup> Japanese cucumber



techniques for the Japanese vegetables which enabled some farmer groups to successfully cultivate Japanese vegetables. These Japanese vegetables were sold in Japanese supermarkets in Jakarta, such as AEON and Papaya Fresh Gallery, and attracted both Japanese and local customers.

The Project also built partnership with a number of private companies, especially Japanese companies, including PT. Calbee Wings Food (CWF), UNITIKA LTD., Asahi Biocycle Co., Ltd., PT. Takiron Indonesia and Shimota Nougei Co., Ltd., introducing new and advanced agricultural techniques and inputs from Japan. In particular, with CWF, 5 trial projects and 1 contract farming were conducted with several farmer groups in Garut District and Bandung District and the market relationship between them still remains as of the Joint Terminal Evaluation.

Achievements by each activity/indicator are as follows;

1-1-1: Trainings on agricultural production are attended by 70% of the target farmers' groups.

Initial target: Trainings on agricultural production are attended by 70% of the target farmers' groups.

Final Result: **Achieved (99%)**

The Project conducted a total of six rounds of trial projects, in which 99% of target farmer groups attended the training provided. Each trial project began with a field demonstration, where the Japanese experts taught farmers about nursery management including procedures for seeding, preparation of a nursery bed, proper fertilization methods for land preparation and transplanting, and proper transplanting methods for seedlings to farmland. Field staff of the Project regularly monitored each farmer's field and the Japanese experts also periodically visited and provided guidance. The details of the farmer groups' attendance at trainings is described in the Table 7 below.

**Table 7. Target Farmer Groups' Attendance at Training**

	2017		2018		2019		Total
	Dry	Rainy	Dry	Rainy	Dry	Rainy	
No. of participating FG	30	30	31	31	34	27	183
No. of FG that attended	30	30	31	30	33	27	181
Rate	100%	100%	100%	97%	97%	100%	99%

Source: JICA experts team



1-1-2: Improved cultivation techniques promoted by the Project are followed through by 80% of the target farmers.

Initial Target: Improved cultivation techniques promoted by the Project are followed through by 80% of the target farmers.

Final Result: **Achieved** (89%)

As of rainy season in 2019, 89% of the participants in the trial projects followed the instruction given by the Project and completed each round of trial projects. Field staff of the Project confirmed that most farmers properly practiced the introduced techniques through regular monitoring of each participant's fields. The rate increased as the Project progressed, which can be attributed to the enhanced capacity of the Project's field staff in terms of monitoring and teaching, as well as to the good relationships established between farmers and the Project.

While high percentage of the participants expressed the high sense of ownership in participating in the Project and followed the improved cultivation techniques, some farmers groups (11%) did not follow due to their limited motivation in implementing the cultivation techniques or they were too busy with other jobs and could not take too much time in their fields.

**Table 8. Target Farmer Groups Following the Techniques Promoted by the Project**

	2017		2018		2019		Total
	Dry	Rainy	Dry	Rainy	Dry	Rainy	
No. of participating FG	289	226	254	235	218	170	1,392
No. of FG that followed	205	217	225	217	211	170	1,245
Rate	71%	96%	89%	92%	97%	100%	89%

Source: JICA experts team

1-1-3: Good product rate is increased for 60% of the target farmers.

Initial Target: Good product rate is increased for 60% of the target farmers.

Final Result: **Achieved** (61%)

In the trial projects up to the 2019 rainy season, more than 60% of farmers succeeded in improving the quality of their harvests by practicing the techniques introduced by the Project. Among those who could not improve quality, most of them failed due to the severe conditions such as long droughts or disease outbreaks, not because of lack of management skills. Even in such cases, some farmers understood the effectiveness of the introduced techniques in improving the products' quality.



**Table 9. Target Farmer Groups Improving Quality of Harvests**

	2017		2018		2019		Total
	Dry	Rainy	Dry	Rainy	Dry	Rainy	
No. of participating FG	202	201	220	235	218	170	1,246
No. of FG that improved quality	95	142	142	156	131	91	757
Rate	47%	71%	65%	66%	60%	54%	61%

Source: JICA experts team

### 3.2.2 Output 1-2

Output 1-2. Capacity to plan and carry out cultivation according to market needs is attained by the target

**The Project partially achieved the target set out for Output 1-2.**

The Project introduced the planting calendar to improve the field management of the target farmer groups. The planting calendar indicates the detailed procedures for the cultivation (i.e. seed sowing, seedling sterilization, land preparation, pesticide application, fungicide application) and the timing for each process. This practice was new to most of the farmer groups and they introduced the planting calendar for the first time. The planting calendar contributed to the effective field management by the farmer groups and contributed to improve quality and quantity of the production.

Achievements by each activity/indicator are as follows;

1-2-1: Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique.

Initial Target: Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique.

Final Result: **Achieved** (87%)

87% of the participants who completed their rounds of trial projects recorded activities conducted in their fields, including sowing, transplanting and pesticide application, in the planting calendar, and the ratio increased as the Project progressed. Farmers found the recording to be useful for managing their fields and to maintain quality, and many farmers responded to the Joint Terminal Evaluation Team that they will continue using the planting calendars after the end of the Project. Some farmers groups, however, found that it was challenging to keep recoding the planting calendars due to limited skills or understanding on the importance of the planting calendars.

**Table 10. Target Farmers Recording the Planting Calendar**

	2017		2018		2019		Total
	Dry	Rainy	Dry	Rainy	Dry	Rainy	
No. of FG that competed trail projects	205	217	225	217	211	170	1,245
No. of FG that recorded the planting calendar	160	176	192	193	201	164	1,086
Rate	78%	81%	85%	89%	95%	96%	87%

Source: JICA experts team

Although the target stipulated in the indicator was met, there are also some challenges in fully achieving the objectives set out in output 1-2. The indicator "1-2-1. *planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique*" may not necessarily reflect the level of capacities to plan and carry out cultivation according to market needs, as set out in Output 1-2. In order for farmers to be able to plan and carry out cultivation according to the market needs, it is essential for farmers to have capacities to fully understand the market demands and plan the harvest times and the expected production volumes accordingly. This requires not only skills to analyze market but also skills to accurately conduct the cost-benefit analysis. While planting calendars could be a useful tool in efficient field management, it may not directly link to the skills in analyzing the market demands. In this regard, the Project activities that started in 2019 to teach farmers on how to develop planting plans, which support farmers to plan their cultivation based on the market demands, have potential to improve their capacities as expected in Output 1-2. While the Terminal Evaluation Team understands that efficient field management was given a higher priority for the first half of the Project and the planting calendars were more suitable for this purpose, it is expected that the farmers' capacities in planning and cultivating according to the market needs will be further enhanced by the introduction of planting plans.

### 3.2.3 Output 1-3

Output 1-3. Target farmers' groups' marketing channels are developed.
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#### **The Project partially achieved the target set out for Output 1-3.**

Connecting farmer groups to the market was another pillar of the Project. The Project, together with the DGH, held four business forums inviting private companies (supermarket chains, food service industries, and major exporters and traders, etc.), farmer groups and financial institutions in order to promote dialogues and exchange of information on market channels. The activities to connect farmer groups to the market



was intensified in the second half of the Project, as the Project focused on improving agricultural techniques in the first half of the Project. For many farmer groups, it was higher priority to increase productive capacities first so that they could produce quality products which was prerequisite to find markets.

Achievements by each activity/indicator are as follows;

1-3-1: Events to promote linkages between modern markets and farmers are participated by 80% of the target farmers' groups.

Initial Target: Events to promote linkages between modern markets and farmers were participated by 80% of the target farmers' groups.

Final Result: **Achieved** (80%)

1-3-2: Business negotiation with modern markets is made by 50% of the target farmers' groups.

Initial Target: Business negotiation with modern markets is made by 50% of the target farmers' groups.

Final Result: **Achieved** (55%)

In total, 80% of the target farmer groups participated in the business forums and 55% of the target farmer groups conducted business negotiations with modern markets, both of which met the target indicators.

**Table 11. Summary of the Business Forums**

	No. of Participated FGs	Target FGs	%	No. of FGs which made business negotiations	Target FGs	%
First Forum (Apr 2017)	20	30	67%	-	-	N/A
Second Forum (Jan 2018)	26	30	87%	20	30	67%
Third Forum (Aug 2018)	27	31	87%	15	31	48%
Fourth Forum (Feb 2019)	24	31	77%	16	31	52%
Total	97	122	80%	51	93	55%

Source: JICA experts team

During the business forums, the farmer groups had active discussions with representatives from modern markets, exchanging information on market demands and quality requirements for specific products. Many of them started business negotiations at the business forums. In the first business forum, a plenary session for business negotiation was held. Some representatives from suppliers and supermarkets underlined the importance of continuous supply of vegetables throughout the year, since

most farmer groups did not have the capacity to deliver the sufficient amounts of products that modern markets required. The Project tried, through the business forum, to link suppliers or supermarkets with multiple farmer groups in different districts so that buyers could make necessary arrangements with several farmer groups to procure required amounts. By the time of the Joint Terminal Evaluation, the Project assisted the linkage between farmer groups and PT. Greenlife Indonesia, PT. AEON Indonesia, Super Indo, Papaya Fresh Gallery, and more. Examples of some activities related to the marketing are as follows:

#### (1) Promotion of Kuroda Carrot

Based on the high demand for the cylinder-type carrots in modern markets, the Project recommended target farmer groups to produce Japanese Kuroda carrots. The Project also facilitated the business meetings with PT. Greenlife Indonesia, PT. AEON Indonesia, and Super Indo. to sell Kuroda Carrots in these supermarkets. In the course of business meetings, PT. AEON Indonesia expressed its interest in introducing Kuroda carrot as a special product that could attract high-end customers, apart from the Brastagi variety commonly sold in supermarkets. Through the business meetings assisted by the Project, AEON decided to procure Kuroda carrots from Al Ittifaq, one of the target farmer groups. Al Ittifaq started shipping Kuroda carrots to AEON in March 2019, followed by the promotional event, which was attended by the DGH, President Director of AEON Indonesia, the leader of Al Ittifaq and officials of the Embassy of Japan and JICA Indonesia.

Although initial sales of the Kuroda carrots were very successful, it decreased over time due to severe competition with Brastagi carrots. To ensure the market, Al Ittifaq diversified its market and started to trade with local major middle-class supermarket, Super Indo. In order to meet the growing demand, the Project facilitated discussions among Al Ittifaq, Mujagi in Cianjur and Hikmah Farm in Bandung to establish an effective supply chain for Kuroda carrots to Super Indo. Three farmer groups made a joint cultivation plan and produced Kuroda carrots according to the plan with Al Ittifaq collecting and packaging Kuroda carrots for all farmer groups.

#### (2) Connecting farmer groups to E-commerce

The Project discussed with Sayurbox, a local start-up company which focuses on E-commerce of fresh fruits and vegetables, on possibility of exploring E-commerce market for three farmer groups in Cianjur and West Bandung. To check the quality requirement, the Project delivered samples of Japanese vegetables, including Kuroda carrot, Momotaro tomato, nasu and mizuna, to Sayurbox and all sample vegetables met their expectations. The Project and representatives of the farmer groups discussed with

Sayurbox on the detailed arrangements for the shipping of Japanese vegetables. Under the global outbreak of COVID19, the demand of E-commerce has been increasing and the Project's activities to connect farmer groups to the E-commerce present high potential for future expansion.

### (3) Utilization of STA

The Project examined the possibility of effectively utilizing the existing four STAs, Sukabumi STA, Cianjur STA, Bogor STA and Garut STA, through the implementation of a trial project. As one of the notable examples, Sukabumi City DINAS decided to use existing facilities at Sukabumi STA to collect horticultural products and ship them to modern markets. Following the consultation with Sukabumi DINAS, the Project provided Sukabumi DINAS in April 2017 with the necessary equipment for washing, weighing, packaging and labeling of products to be shipped to modern markets. In August 2017, the Project proposed to Sukabumi City DINAS three management options: i) sublease to a third party; ii) operate under the current management system via committee; or iii) operate via an association for farmers' market. Sukabumi City DINAS decided to sublease the STA's post-harvest unit to a local company/trader, a businessperson, or a capable farmer groups. The Project also presented draft lease terms for the STA's post-harvest unit in September 2017. Sukabumi City DINAS and the Project tried to find a capable local trader who would be willing to operate the Sukabumi STA, but were not successful. Thus, up until now, Sukabumi City DINAS has been directly managing the Sukabumi STA and holding a farmers' market every Sunday.

Another example is the utilization of Cianjur STA as a collection and shipping center for carrots promoted by the trial project. Cianjur STA had a serious problem controlling garbage disposal that deteriorated the STA's sanitary condition. Through the discussion with the Project, Cianjur DINAS restructured and revitalized the Cianjur STA with STA's management responsibility being transferred from the STA management committee to DINAS' UPTD (Regional Technical Implementation Unit). The renovation of the Cianjur STA was conducted from 2018 to early 2019. Cianjur STA is now operated as a collection, selection and distribution center for local traders and collectors. In relation to the problem with the disposal of vegetable wastes, the waste was cleaned up by Cianjur DINAS and it was decided that users must dispose of their waste on their own.

While the indicators suggest that the market channels have been developed, many farmer groups still face challenges in creating long-term business relationships with the market. The main reasons for this is the difficulties in supplying quality vegetables in a steady manner. Some farmer groups face difficulties in negotiating business terms with the suppliers/supermarkets. It was also challenging for some farmer groups, especially

those who produce Japanese vegetables, to find markets other than Japanese supermarkets in Jakarta. To address these challenges, it is important to further enhance farmer groups capacities in producing vegetables following the market demand. Marketing skills, including business negotiation and quality control, are also required to establish long-term business relationships.

Since there are still some issues in ensuring the sustainability in marketing channels, the achievement of Output 1-3 was found to be partially achieved.

#### 3.2.4 Output 1-4

Output 1-4. Target farmers' groups' access to finance is improved.
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#### **The Project did not achieve the target set out for Output 1-4.**

One of the Project's targets is to improve farmers' independence by facilitating the access to finance. The project targeted *Kredit Usaha Rakyat* (KUR), a small scale finance scheme provided by the Government, which most farmers accept due to its subsidized lower interest rate. The Project facilitated the financial service providers and farmers groups to access KUR, however, both successful cases and unsuccessful cases were found.

The Project collaborated with Bank BTPN and supported farmer groups to have KUR from BTPN, and a total of 50 farmers received a total amount of IDR 853 million through two rounds of applications. Initially, the Project together with BTPN explored a supply chain financing scheme. After discussions with suppliers, however, BTPN decided not to provide the supply chain financing due to potential credit risks. The Project and BTPN instead agreed to work together to provide KUR loans to farmers, many of whom expressed the need for financing agricultural inputs. The Project investigated all target areas and determined Cianjur to be the area where KUR loans would be most required. Three farmer groups (Mujagi, Utama and Mandiri) were selected as applicants for the first application.

The KUR loan for the first application amounting to IDR 413 million was disbursed to 24 farmers in Cianjur in October 2017. The second application targeted a wider area: Cianjur, Sukabumi, and Bogor. From late 2017 to early 2018, the details of application for KUR loans and its prerequisites were explained to farmers in three districts. Then, the Project supported the farmers in preparing necessary documents, including a statement that promises the farmers in the same farmer groups will take over the repayment if any members have difficulties in paying back. Since it was mandatory for

all KUR loan recipients to open an account in BTPN's mobile banking service called "Wow" (the loan must be repaid through the Wow account), BTPN also helped farmers with the process and held sessions to explain how to manage various transactions using the Wow service. In three districts, 26 farmers received the loan (IDR 440 million in total) in September 2018.

After the second application, BTPN and the Project prepared for the third application. To streamline the administrative work, a fintech company, HARA, was invited to collect the necessary data for the application. Applications of 220 farmers in all six target districts were submitted to BTPN by January 2019. However, BTPN could not move on to the credit assessment of the applicants due to the management decision to stop additional disbursement of KUR as part of its corporate restructuring process. At the beginning of the project, it was confirmed by the Project team that the financial performance of KUR in BTPN was in good shape and its overall organizational strengths could sustain the expected project output. However, such change in the management decision was not foreseen by the Project. As a replacement of BTPN, the Project contacted with Bank Negara Indonesia (BNI) and had a series of discussions to continue the financial support to the farmers. However, since the repayment mechanism the Project proposed was new to BNI branches, it did not materialize. With limited time until the end of the Project, the Project decided to cancel the third application KUR.

Achievements by each activity/indicator are as follows;

1-4-1 Briefing on financial services is attended by 300 members of target farmers' groups.

Initial Target: Briefing on financial services is attended by 300 members of target farmers' groups.

Final Result: **Achieved** (528 members)

More than 500 farmers attended the briefing on KUR for the second and third application. Briefing for the first application was conducted only to farmers selected by the Project beforehand since it was the first attempt for the Project.

The briefing of the KUR was conducted by the staff from BTPN for the 2<sup>nd</sup> round of application. For the 3<sup>rd</sup> round of application, briefing was conducted also by the staff from Tani Fund and HARA to explain about their finance scheme, in addition to the BTPN staff. During the briefing, issues such as the procedure for the application and the required document, as well as the repayment period and methods were explained to the farmers. BTPN also explained the repayment method using Wow system. Many farmers

were interested in the repayment period and the methods, and many of them asked how to deal with the situation if one member of the farmer groups could not pay back (whether it will be a collective responsibility). The briefing was useful to improve awareness and knowledge about access to finance by farmers.

**Table 12. Number of Farmers who Attended Briefing**

	KUR (2 <sup>nd</sup> Round)	KUR (3 <sup>rd</sup> Round)	Total
No. of farmers	223	305	528

Source: JICA experts team

1-4-2 Financial services such as loans and savings are used by 150 members of the target farmers' groups.

Initial Target: Financial services such as loans and savings are used by 150 members of the target farmers' groups.

Final Result: **Not achieved** (50 members)

In collaboration with Bank BTPN, the Project supported farmers in receiving a loan through two rounds of KUR. Under the Project, JICA aimed to improve target farmer groups access to finance, by facilitating the linkage with the private financial institutions as well as the public financial schemes namely KUR. The Project arranged with BTPN and designed KUR in a way that is easier for the farmer groups to repay. For example, the repayment period was set according to the harvesting cycle. The repayment period was also set to be two years, which allows farmers to have longer period to repay the loans. The collective obligation was also introduced, so if one of the farmers cannot repay the loan, other farmers in the group will share the debt.

However, as explained previously, since the third round did not materialize, the number of farmers who received the loan totaled to 50, not reaching the target. This result was mainly due to the unforeseeable change in the business operation by BTPN.

**Table 13. Number of Farmers who Received KUR**

	KUR 1 <sup>st</sup> Round	KUR 2 <sup>nd</sup> Round	Total
No. of farmers	24	26	50

Source: JICA experts team



### 3.2.5 Output 2

Output 2. Managerial capacity of government officials who promote modernized production & distribution systems is strengthened.

#### **The Project partially achieved the target set out for Output 2.**

As described below, the Project contributed in strengthening the capacities of government officials, especially in designing and implementing programs related to modernized production and distribution for horticultural products.

While the Project contributed to increase capacities of the government officials, the Joint Terminal Evaluation Team assessed that Output 2 is partially achieved because managerial capacities in promoting modernized production and distribution systems require not only capacities to support farmers with agricultural techniques, but also capacities for disseminating market information or facilitating linkages between farmer groups and markets. Though officers of DGH, International Cooperation Bureau, General Secretariat of Ministry of Agriculture, and DINAS attended several key activities in project implementation, it is difficult to conclude that they have already attained these capacities and institutionalized the mechanism to develop their own activities.

Achievements by each activity/indicator are as follows;

2-1: 24 events related to agricultural distribution and marketing are organized by government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS).

Initial Target: 24 events related to agricultural distribution and marketing are organized by government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS).

Final Result: **Achieved** (45 events)

A total of 45 events related to agricultural distribution and marketing have been organized by the DGH and DINAS during the course of the Project period. It was a positive development observed during the Project implementation period with increased engagement by the government officials. Most of the events are farmers' markets, "pasar tani" festivals or exhibitions to promote and sell farmers' products either weekly, monthly or on special occasions. Organization of the farmers market offered the alternative markets to the farmers groups, which contributed to diversify their sales activities. Organization of the farmers market were especially useful in the time of COVID-19, where demands from modern markets including restaurants and catering

are decreasing. Though not all of these events were directly associated with the Project activities, they share the same objectives or ideas as the Project (such as business forum).

2-2: Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officials.

Initial target: Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officials.

Final Result: **Achieved** (32 government officials)

From 2016 to 2018, the Project implemented three trainings in Japan on modernized production, marketing, and distribution of high-quality agriculture products, including cooperative system of Japan Agriculture (JA), by inviting Indonesian government officials and representatives of the target farmer groups. A total of 32 government officials and nine representatives of selected farmer groups participated in the training in Japan for two weeks.

The first training in 2016 was attended by the officials from the Ministry of Agriculture and senior officers of DINAS while the second training in 2017 was mainly attended by technical officers of DINAS and the Ministry of Agriculture. The third training in 2018 targeted representatives from the target farmer groups and technical officers of DINAS. At the end of the training courses, participants prepared action plans based on what they have learned through the trainings.

In the original project design, participation of the representatives of farmer groups was not foreseen. However, as the Project team realized the demands for such opportunities for farmer groups, it adjusted the program and prepared some slots for the selected farmers by reducing slots for the government officials. As a result, farmers who attended the trainings in Japan were strongly motivated and became active participants of the Project. They still remain as the Project's core members.

Some participants from the government officials also showed their higher motivation and stronger engagement in the Project activities after participating in the training in Japan. For example, one of the participants in Cianjur DINAS took a lead in restructuring and revitalizing the Cianjur STA as mentioned previously.





**Table 14. Participants in the Training in Japan**

	Central/Local Government				Farmers	Total
	Ministry of Agriculture	West Java Province	City/District DINAS	Subtotal		
First Training (2016)	6	1	4	11	0	11
Second Training (2017)	5	1	6	12	3	15
Third Training (2018)	2	1	6	9	6	15
Total	13	3	16	32	9	41

Source: JICA experts team

2-3: 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented.

Initial Target: 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented.

Final Result: **Achieved** (33 projects)

Thirty-three projects that can contribute to the modernization of production and distribution systems were proposed or implemented by DGH and DINAS during the Project period. All items counted for this indicator were “projects” not policies. These projects were conducted mainly through the DGH and each DINAS based on the experience from the project implementation. Only when necessary, the Project provided technical support to the DGH and DINAS. Most DINAS planned or implemented farmers' field schools, demo fields, training on cultivation techniques or crop protection. These projects were conducted with a view to modernizing production and supply chain systems and improving efficiency of farm business and productivities using new cultivation techniques.

Among six partner DINAS, Sukabumi City DINAS actively implemented the follow-up activities for the three farmer groups engaged in the Project's trial project in 2017, using DINAS budget. In this follow-up activities, Sukabumi City DINAS supported farmer groups to re-implement a trial project for chili, cabbages, tomatoes and beans, in 200m<sup>2</sup> of each farmer's field using cultivation techniques introduced by the Project, such as keeping cultivation records in the planting calendar and harvest records. For this trial project, DINAS provided the necessary inputs for production.

Bandung District DINAS also followed up on the Project activities by providing the seeds of Kuroda carrots to four target farmer groups engaged in the Project's trial project in 2019 to 2020, using DINAS budget. It was followed by the provision of the post-harvest equipment to two target farmer groups which could be used to strengthen these farmer



groups' sales to modern markets.

DGH also supported target farmer groups through provision of agricultural equipment. In the dry season of 2019, many farmer groups in the target sites were affected by drought. The Project expert team reported the situation to DGH through the weekly meetings and DGH coordinated within the Ministry of Agriculture to provide necessary support to affected farmer groups. Following the DGH's initiative, the Project expert team supported DINAS to make proposals to the DGH on their equipment needs. Equipment such as water pumps were provided to the target farmer groups in Bandung, West Bandung, and Sukabumi City, based on their proposals.

In order to ensure the stable production and supply of high-quality vegetables, including Japanese varieties of vegetables, it would be important to have policies which enables farmers to have access to high-quality seeds, whether imported or locally produced. It is thus important for the Government to support the development of domestic seed industry while allowing the access to the imported seeds which is in accordance with the government regulation.

### 3.3 Prospect for Achievement of Project Purpose

Project Purpose: Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province.

#### **The Project partially achieved the target set out for Project Purpose.**

The following section will observe the prospect for achieving the Project Purpose by the end of the Project, by analyzing the indicators.

The target indicator of the project purpose in PDM was sufficiently met. Nonetheless, it is still difficult to say that the project purpose will be fully achieved by the end of the Project. As described in the section 4.2. on the Project's effectiveness, while a certain level of improvement in production techniques was observed, the marketing capacities of the target farmers still need to be strengthened to realize stable and continuous business relationships with modern markets and achieve the project purpose.

Achievements by each indicator are as follows;

**Indicator 1: Improved production and management techniques are applied by 70% of the target farmers at their own field(s).**



Initial target: Improved production and management techniques are applied by 70% of the target farmers at their own field(s).

Final Result: **Achieved (77%)**

The Project focused on improving cultivation techniques of target farmers. The assessment was done by comparing the cultivation techniques of farmers groups before and after joining the Project's trial project.

Out of 388 farmers who participated in the trial project in 2019, 300 farmers or 77% of participating farmers applied the introduced cultivation techniques at their own fields. The introduced cultivation techniques include: nursery management including use of proper nursery soil, proper cultivation management (such as effective land preparation, spacing, pest and disease control, thinning of fruits, and pruning of branches for crystal guava), and use of new materials and facilities such as nets for bean and kyuri and temporary rain shelter for tomato and broccoli in rainy season. These introduced techniques were easily applied by the farmers and led to positive results in both quantity and quality, which allowed the target farmers to fulfill the quality requirements of modern markets.

77% of the participants in the 2019 trial projects applied the techniques introduced by the Project to their own fields. At the beginning, some farmers had difficulties in changing their cultivation practice, since they hesitated to put higher production cost by the application of the newly introduced techniques such as rain shelter, or they assumed that the productivity may not improve as seen in the case of pruning method of crystal guava which was completely new to them. However, many of them employed the cultivation techniques introduced by the Project, with understanding that they lead to a higher survival rate for seedlings and healthier growth at later stage. Some examples of good practices applied outside the trial project are also observed during the Terminal Evaluation.

**Table 15. Target Farmers Applying the Introduced Techniques to Their Own Fields**

	2019 Dry Season	2019 Rainy Season	Total
No. of target farmers	218	170	388
No. of farmers applying the introduced techniques at their own field	166	134	300
Rate	76%	79%	77%

Source: JICA experts team



Indicator 2: Distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups.

Initial Target: Distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups.

Final Result: **Achieved** (74%)

One of the main objectives of the Project is improving the supply chain by facilitating access to modern market. After two years of focusing on improving farmers' cultivation techniques to produce quality and stable supply of vegetables to meet market demand, in 2019, the Project intensified the activities to link farmer groups with different actors in modern markets. In order to access modern market, farmers must be able to fulfill market requirements, both in terms of quality and quantity, as well as ensuring continuity. Many farmers groups spent first two years of the Project improving on their cultivation techniques, since it was the precondition for many of them to access to the modern market. As a result of the Project support, more than 70% of the participating farmer groups in 2019 supplied vegetables to modern markets.

Some success stories of accessing modern markets are as follows:

Working as a core farmer groups in Cianjur, Mujagi collected Japanese vegetables (Kuroda carrot and Momotaro tomato) from other farmer groups in the district and sold them to Papaya Fresh Gallery, a high-end Japanese supermarket in Jakarta. Those farmers in Cianjur established a cooperative called Koperasi Maju Berkah Mandiri (KMBM), through which four farmer groups in Cianjur sold several vegetables to a supplier, PT. Sayuran Siap Saji for processing. Furthermore, most farmer groups who joined the trial project in 2019 in Garut and a few in Bogor also started shipping to Sayuran Siap Saji.

Al Ittifaq has been selling Kuroda carrots to AEON in Jakarta and Super Indo, a local supermarket chain. Since the demand from Super Indo was high, the Project introduced to Al Ittifaq other Farmer groups in Cianjur, Bandung and Garut producing Kuroda carrots in the trial project. Through Al Ittifaq, those Farmer groups sold Kuroda carrots to Super Indo.

In Sukabumi, the Project worked with a supplier HSI that has regular shipments to supermarkets in Jakarta. All of the participating farmer groups in Sukabumi supplied beans or tomatoes to HSI in the 2019 rainy season.



**Table 16. Target Farmer groups Selling to Modern Markets**

	2019 Dry Season	2019 Rainy Season	Total
No. of target FGs	34	27	61
No. of FGs selling to modern markets	22	23	45
Rate	65%	85%	74%

Source: JICA experts team

However, there were still some obstacles faced by the farmers, such as difficulties in continuously supplying to the modern market, size of the products are not uniform yet, and non-acceptance rates of some commodities were still high. Furthermore, delivery cost is still considered as high due to the specific orders by the modern market, and the payment period by the modern market is often too long for many farmers (more than 2 weeks).

In this regard, it is recommended that farmers groups should be fully aware of the requirement by the modern markets and consider how they could fulfil such requirement to establish long-term business relationship.

### **3.4 Prospect for Achievement of Overall Goal**

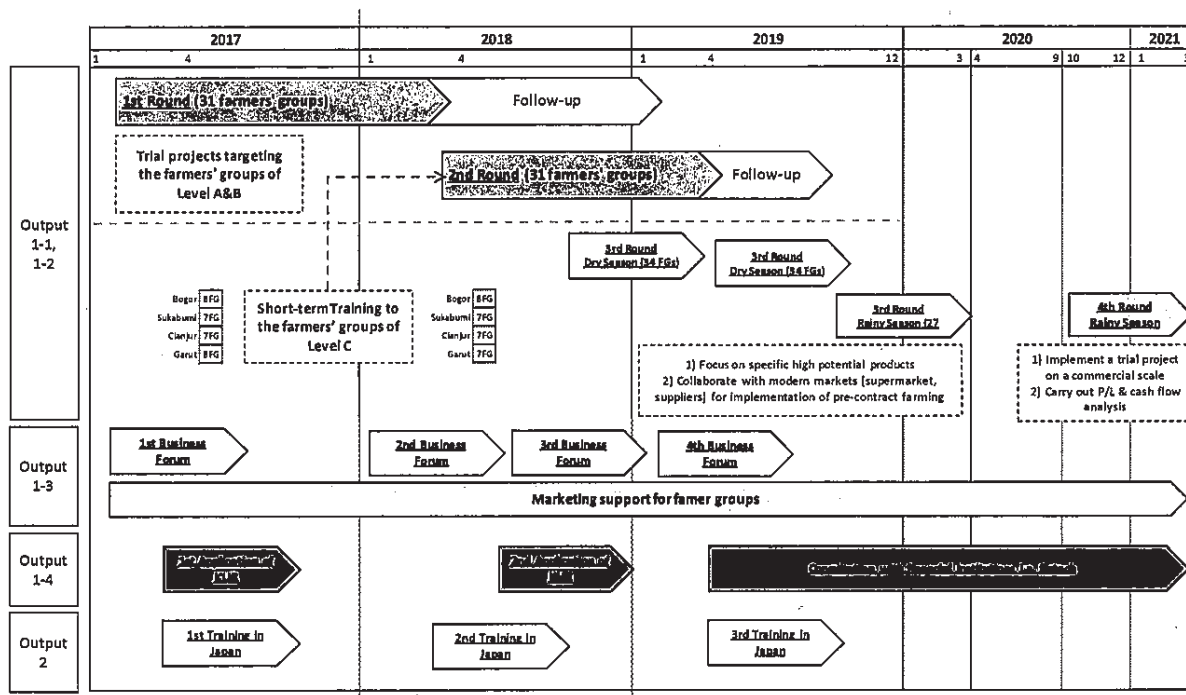
The achievement of the Overall Goal is referred to in 4.4 Impact section of the Five Evaluation Criteria.

### **3.5 Examination of Project Implementation Process**

#### **3.5.1 Implementation of activities**

The implementation of the Project activities are summarized in the Figure 4.

**Figure 4. Implementation Process of the Project Activities**



Source: JICA experts team

As discussed in the previous sections, the Project's activities were implemented with adequate inputs, both in terms of human resources and budget. The timing and the volume of both Japanese and Indonesian sides' inputs were reviewed as appropriate.

The Project team monitored many farmers groups across the large areas of the Project sites by introducing well-structured monitoring system. Three levels of local staff were deployed, by allocating field staff in each district level, area coordinators to cover three districts, and project coordinator based in Jakarta Project office with the Japanese experts (also refer to Figure 3). Monitoring was frequently conducted by the Project staff who have adequate skills and capacities, which contributed to the effective and efficient project implementation.

In light of the global outbreak of COVID-19, Japanese JICA experts had to return to Japan in the middle of the field activities in March 2020 following the JICA's decisions to call back all Japanese experts working in partner countries. Despite of this challenge, JICA expert team efficiently implemented the activities on the ground, including the trial project for 2020 dry season, in close cooperation with the Project's field staff. Efficient project monitoring structure as explained previously have proved its effectiveness under the limitation of pandemic. Furthermore, JICA expert team continued to have close

communication with DGH and other stakeholders using online meetings. While COVID-19 posed unprecedented challenges for project management, the Project expert team adjusted activities with flexibility to realize the Project purpose. In this regard, it could be said that the project implementation process was highly efficient even under the influence of COVID-19.

### 3.5.2 Ownership of the Project Counterparts

It was observed that DGH has sufficient ownership of the Project as seen in its level of commitment and contribution to the project implementation, including its continued participation in the weekly meetings. The weekly meetings led to efficient communication and helped to harness the sense of ownership among the Project stakeholders. In the regional level, while some DINAS also showed the strong sense of ownership by replicating the Project's activities, it was not observed in all DINAS, especially where there was a turnover of officers or limitation in budget.

### 3.5.3 Communication among the Project Stakeholders

No issues in communication was observed among the Project experts team, DGH, and DINAS. The weekly meetings were held every Monday for more than 140 times throughout the Project period, which contributed to the effective and efficient project implementation. The reports of the weekly meetings were also shared with DINAS so that DINAS are also aware of the progress of the Project. The communication between the Japanese experts and the Project field staff also had no issues or problems.

### 3.5.4 Important assumption

Among the important assumptions stipulated in PDM, "Market on agricultural products does not drastically change" may not be fulfilled due to the expansion of COVID-19. Nonetheless, it did not significantly affect the achievement of project output.

## 4. Evaluation Results by Five Criteria

The Joint Terminal Evaluation Team evaluated the Project using the DAC five evaluation criteria. Overall results are summarized in the Table 17.

**Table 17. Results of the Joint Terminal Evaluation**

Criteria	High	Relatively high	Moderate	Relatively Low	Low
Relevance	V				
Effectiveness		V			
Efficiency	V				
Impact			V		
Sustainability			V		

Source: Joint Terminal Evaluation Team

### 4.1 Relevance

Relevance of the Project is high in light of the following factors:

#### 4.1.1 Relevance to the policy of the Indonesian government

Indonesia's Long-Term Development Plan (RPJPN 2005-2025) aims to establish a solid economic structure in which the agricultural sector will become the base of the economy to produce efficient and modern products. Based on the Long-Term Development Plan, the National Medium-Term Development Plans (RPJMN) of 2015-2019 and 2020-2024 were developed as the third and fourth medium-term plans during the Project period. RPJMN 2015-2019 specifically indicates the importance of developing agribusiness, strengthening village-level organizations for commodity production, and strengthening logistics. The Project's basic policies were aligned with RPJMN. Based on RPJMN 2015-2019, the Agriculture Strategic Policy 2015-2019, was formulated by the Ministry of Agriculture, included 5 main target areas:

- Maintenance of national food security
- Increase in competitiveness
- Maintain agro-resources and availability of agriculture facilities and infrastructure
- Increase agro-human resources and improve quality/capacity of resource persons
- Realize efficient, effective, and primary service-oriented bureaucracy

The Project mainly addressed to increase competitiveness of the farmer groups in target areas by introducing cultivation techniques and supporting production of quality vegetables. Hence, the Project is relevant to the priorities set out in the Agriculture



## Strategic Policy 2015-2019.

The current RPJMN 2020-2024 makes “strengthening of economic resilience for high quality growth” as the national priority. The Agriculture Strategic Policy 2020-2024 prioritizes “increased availability, access and quality of food consumption”. The main target areas are as follows:

- Improved consumption quality through safety, fortification, and bio-fortification of food
- Increased availability of agro-product food
- Increased productivity and welfare of agricultural human resources
- Increased productivity and continuity of agricultural human resources
- Improved management of national food system

By aiming to improve the agricultural products’ marketing and distribution systems, the Project was relevant to the national agricultural strategies of the Indonesian government. In particular, development of the high value-added agricultural products including fruits and vegetables was in line with the policy priorities of the Ministry of Agriculture, DINAS in West Java Province and target Districts, as seen in a series of programs implemented by DGH and DINAS in target areas.

### 4.1.2 Relevance to the policy of the Japanese government

In Japan’s Country Assistance Policy (September 2017), one of the priority areas (medium goals) is to provide “support for safe and fair society through the balanced development”, which encourages improvement of quality of life by supporting not only major cities but also rural development. As the Project targets the establishment of agriculture product marketing and distribution systems by linking the farmers in West Java Province to the modern market in Jakarta and other large cities, it is relevant to the Japan’s Country Assistance Policy.

In addition, the Global Food Value Chain Strategy, formulated by the Ministry of Agriculture, Forestry and Fisheries of Japan in June 2014, supports the development of food value chains, which include agricultural production to manufacturing and processing; distribution, and consumption, in partner countries including Indonesia by utilizing Japan’s strengths through industry-academic-government cooperation. The Project is contributing in modernized agricultural production and distribution system and thus in line with the Japan’s Global Food Value Chain Strategy.

With regards to the cooperation strategies of JICA, the "JICA Country Analysis Paper for Indonesia" states that priority should be given to the cooperation in areas where

broad benefits can be expected, such as institutional development and the improvement of distribution networks, in comparison to the assistance focused on "production improvement" as was the case of the previous strategy. Hence, the Project is relevant to the JICA's strategic direction as well.

#### 4.1.3 Relevance to the Needs of the Target Regions and Groups

In terms of the relevance to the needs of the target regions and groups, as described in the previous section of "background of the Project", many farmer groups in the target region face difficulties in producing agricultural products which meet the increased demands of the market. The food market, including fresh and processed foods, continues to expand along with the rapid growth in imports as consumers diversify their diets and change their food preferences due to raising income level. Consumers, especially those living in large cities such as Jakarta and Bandung, are more concerned about food safety and quality. The Project tried to address this gap by introducing cultivation techniques and developing marketing channels, which would contribute to the stable supply of safe and quality horticultural products to the growing markets.

## 4.2 Effectiveness

**Effectiveness of the Project is relatively high in view of the following reasons:**

#### 4.2.1 Level of achievement of outputs

As described in the previous section, the Project achieved the targets of output 1-1, 1-2, 1-3 and 2. It was confirmed by the Terminal Evaluation Team that many farmers expressed their satisfaction on the improvement of production techniques, which resulted in higher yields and/or improved quality of the commodities.

On the increased cultivation techniques (Output 1-1), it was observed that technical assistance provided by Japanese experts with high agricultural skills contributed to the significant improvement of the cultivation techniques of target farmer groups. Working closely with the private sector, especially from Japan, also enabled Indonesian farmers to have access to new and advanced agricultural inputs. Furthermore, through frequent field visits and monitoring, the Project expert team had built trust with target farmer groups, which led to the high acceptance rate of the cultivation techniques introduced by the Project. While Indonesian farmers are generally not very keen to introduce new techniques in their fields, the Project's approach in showcasing successful cultivation techniques and building trust with farmer groups was highly effective to achieve the Output 1-1.

On farmer groups' capacity to plan and carry out cultivation according to market needs (Output 1-2), the Terminal Evaluation Team found that the implementation of planting calendars contributed to the improved the field management of the farmer groups. Further support in using the planting plan by the end of the Project is expected to strengthen the planning capabilities of farmer groups to meet market demand.

On developing marketing channels (Output 1-3), the Project was effective in connecting farmer groups to modern markets in Jakarta, especially linking farmer groups with Japanese supermarkets to sell Japanese vegetables. The Terminal Evaluation Team observed that markets channels were diversified through the Project, shifting from predominantly traditional markets to modern markets, including E-commerce. The Project's support in facilitating business networking, including through business forums and negotiating several business meetings together with farmer groups, was also found effective to achieve output 1-3. At the same time, developing and maintaining marketing channels were mentioned as the biggest challenges which target farmer groups face at the time of the Terminal Evaluation. It is thus essential for the Project to continue addressing the marketing capacities of the farmer groups, including ensuring stable supply, quality management, and basic skills such as cost-benefit analysis, market identification, negotiating skills, and/or paralegal training (basic course on legal documents and procedures and business negotiations), to realize the solid and long-term relationship with the target markets.

On enhanced capacities of government officials (Output 2), it was pointed out that training in Japan strongly encouraged the participants to be proactively involved in the Project activities. The Project's support led to the numerous programs initiated by the Indonesian partners in both central and regional level.

While the above-mentioned outputs made considerable achievements, the component of financial access, Output 1-4, was not achieved as only 50 target farmers used financial services facilitated by the Project, as opposed to the target of 150 members. While the difficulties in achieving the Output 1-4 was mainly due to the unforeseeable changes in the business operations of BTPN, the following could be considered for the future activities to minimize such risks:

First, some areas for improvement were observed in the selection process for partner financial service providers (FSPs). Generally speaking, there are two points to consider when selecting an FSP partner: 1) understanding and commitment by the FSP on the Project goal and purpose, and 2) financial stability of the FSP. Regarding the former issue, it is essential to confirm the commitment to the Project with the entire institution,

starting with the board of directors. Signing of a Memorandum of Understanding (MoU) between the Project and partner FSP is a common procedure in many projects. The MoU should be reviewed and approved by the board, and ideally signed by the chairperson, although the CEO/executive director can also sign on behalf of the institution.

Second, the Project could map out all FSPs operating in the target areas, not limiting itself to the FSP providing KUR, before determining which FSPs are best suited to be the Project's partners. Then, the selection could be done with a fair comparison using the above-mentioned criteria. For the future project, the above points should be considered when selecting the financial service providers.

#### 4.2.2 Appropriateness of project indicators

As explained in the section 3, several points could be improved for the indicators stipulated in the PDM, specifically indicators for the project purpose, output 1-2, and output 2.

For the project purpose, the Terminal Evaluation Team observed that the logic on how the project purpose could lead to the overall goal was not clearly defined. The only difference between the project purpose and the overall goal is the scalability – increasing the number of beneficiary farmers in the target areas. The overall goal aims that the achievement of the project purpose goes beyond the “target” farmer groups at the model sites, although the scope of the expansion is not clearly defined in the indicators. The achievement of the project purpose is defined by two indicators: “*improved production and management techniques are applied by 70% of the target farmers*” and “*distribution and marketing channels that allow agricultural products to be sold to modern market are developed at 70% of the target groups*”. It is difficult to say that, by achieving only these two indicators, the beneficiaries of the Project will expand beyond the target farmer groups in the model sites. The same question applies to the linkage between the overall goal and the super goal.

In order to achieve overall and super goals, additional mechanism would be required to disseminate the Project activities to other areas. It may include strengthening capacity of government officials especially at the regional level (DINAS). This point could be included as one of the indicators of the project purpose. It is expected that the Project's achievements will spread to other farmer groups to some extent without additional intervention by the government if the farmer groups could proactively learn from the “good models” developed by the Project and by entering into supply chains initiated by the leading/core farmer groups. However, this still requires certain mechanisms,

especially at the district level, to achieve the overall and super goals within its timeframe.

In addition, regarding the indicator on “increase of farmers' incomes” in the project purpose, the original PDM had an indicator to measure the farmers' income. However, it was deleted in the process of the second revision of PDM because of the following reasons: 1) It was not realistic to increase income of target farmer groups by the Project intervention due to the limited land size of trial projects (100m<sup>2</sup>), and 2) some farmers have multiple sources of income in addition to the agricultural activities, and increase in agricultural income may not necessarily lead to the increase of total household income. While these are valid reasons, the impact of the Project activities on the farmers' income could have been measured using other indicators, such as “increase in productions/yield using newly introduced agricultural techniques”; bearing in mind the vulnerability of horticulture products to extreme weathers and pests. Furthermore, it was not clear if the project purpose stipulated in the PDM targeted on agricultural income, household income, or even net income/profit, since the English version of PDM used the word “farmers' income”, while the Japanese version mentions it as net income or profit (所得). It was necessary to use clear terminology so that all stakeholders have same understanding on the project purpose.

With considerations above, effectiveness of the Project is regarded as relatively high.

### 4.3 Efficiency

**Efficiency of the Project is high because of the following reasons:**

#### 4.3.1 Project Implementation Structure

The quality, quantity, and timing of inputs by both Japanese and Indonesian sides were appropriate to accomplish project activities. In particular, the Project implementation structure, which placed the field staff in three layers, contributed to high efficiency of project implementation to cover a large project area with limited resources. Also, the quality of technical assistance by the Japanese experts was perceived to be satisfactory by the target farmer groups. On the Indonesian side as well, there were no issues in the capacity of the focal points in DGH. Rather, they were highly committed and had a deep understanding of the Project throughout its implementation. The continuity of regular and frequent meetings for four years also contributed to high efficiency of project implementation.

#### 4.3.2 Cost of Input

In terms of cost, the total inputs of human resources from the Japanese side was

approximately 70MM. The budget from the Indonesian counterpart was mainly for the cost of JCC and monitoring (travel cost) for DINAS staff. In addition, DGH and DINAS allocated separated budget to conduct additional activities and programs to ensure sustainability of the Project. For instance, Sukabumi City DINAS conducted its own program similar to the trial projects of the Project, by making use of the Project deliverables such as cultivation manuals to disseminate the Project output. In this regard, the input from the Indonesian side is also considered as appropriate.

#### 4.3.3 Effects of COVID-19

With regard to the “important assumptions” for the process connecting project activities to project outputs, emergence of COVID-19 since early 2020 was clearly an unexpected challenge. Still, the Project amended the R/D to extend the Project period and adjusted the activities accordingly, which resulted only in some operational delay but not in significantly negative impacts.

### 4.4 Impact

**Impact of the Project is moderate because of the following reasons:**

#### 4.4.1 Positive Impact

Following positive impacts of the Project are observed at the Terminal Evaluation.

##### (1) Ripple effect to other farmer groups

Several cases of ripple effects were reported, in which non-target farmers learned from the target farmer groups or DINAS about the cultivation techniques transferred by the Project. With additional support from DINAS, it could be expected that the number of the impacted farmers will gradually increase. At the same time, as mentioned previously under the Project’s effectiveness, in order to achieve the overall goal by 2023, additional mechanism to disseminate the outputs of the Project would be required. Such mechanisms could be established in the district level in partnership with DINAS, or by lead farmer groups who have capacities to mobilize other farmer groups. To support the dissemination of the Project outputs, the Project could also identify some good practices, which could be used as the models when replicating successful cases by other farmer groups.

##### (2) Enhanced resilience of farmer groups

While the outbreak of COVID-19 posed unprecedented challenges to farmers in Indonesia, the Terminal Evaluation Team could observe some examples of the Project’s contribution in increasing resilience of target farmer groups. Through the Project, many



target farmer groups have increased their capacity to produce quality vegetables, and some groups even started to brand their products and started to work with E-commerce companies. When COVID-19 hit Indonesia, many supermarkets and restaurants were closed due to the large scale social restriction imposed by the Government to contain the pandemic. Under this situation, many households started to use E-commerce to buy food and the demands for the fruits and vegetables to supply E-commerce market expanded rapidly. Some target farmer groups supported by the Project actively worked with the E-commerce companies to sell their products online. In order to meet the growing demands of the E-commerce market, the lead farmers group connected other farmer groups in the region to ensure the large supply of vegetables. Although majority of farmers are severely impacted by the shrinking demands of the modern markets, there are a few farmer groups who increased their sales by capturing the opportunities of E-commerce under the COVID-19 situation.

### (3) Increased visibility of Japan-Indonesian Partnership

The Project attracted media attention and it was reported in both Indonesian and Japanese media over the course of the implementation period. The Project was reported around six times in Indonesia, including by the Jakarta Post, CNN Indonesia, Kompas, Beritasatu TV, Sinar Tani, NNA Asia, and Jakarta Shimbun, which contributed to the increased visibility of the Japan-Indonesian partnership. The Project also supported organization of the press tour in March 2020, which was attended by ten media from Indonesia and Japan.

Furthermore, the Project conducted a joint activity with the ASEAN Secretariat to disseminate good practices on horticulture production. Ms. Melody, a former member of the singer group JKT 48, was appointed as the Japan-ASEAN Goodwill Ambassador on Food and Agriculture in February 2018 to enhance relationships between Japan and ASEAN. Ms. Melody joined the Project activities and visited target farmer groups in Cianjur, including Utama and Mujagi farmer groups. She visited the farmer groups every two weeks from May – September 2019, and experienced some agricultural activities such as sowing and harvesting of Kuroda carrots and Momotaro tomatoes. The Project shot a series of short videos of the activities as well as filmed interviews of Ms. Melody with farmers. These videos were posted on her SNS such as Instagram and YouTube, and contributed to increase interests and awareness of young Indonesian people on the agriculture and horticulture value chain in West Java province. The videos got more than 20,000 views as of March 2020, and contributed to raise visibility of the Japan-Indonesian Partnership.

Furthermore, the Project together with Ms. Melody conducted a lecture on supply chain development for horticultural products at the National University of Laos on 25 October

2019, and shared the experience of the Project. This program was conducted under the initiative of “the Human Resource Development Project in Food-related Areas through Partnership with Universities in ASEAN Region” organized by the ASEAN secretariat.

#### 4.4.2 Negative Impact

No negative impact on gender, environment, etc. were observed.

### 4.5 Sustainability

Sustainability of the Project is assessed by perspectives of 1) sustainability at policy level, 2) sustainability at institutional level, 3) sustainability at technical level, 4) financial sustainability. **Overall, sustainability of the Project is moderate because of the following reasons:**

#### 4.5.1 Policy Sustainability

**Policy sustainability of the Project is high:** As described previously, enhancing capacity of farmer groups and improving quality of horticultural products are in line with the policy priorities of the government of central, provincial, and district level. Therefore, the sustainability at policy level is regarded as high.

#### 4.5.2 Institutional Sustainability

**Institutional sustainability of the Project is relatively high:** DGH has continuously shown a sense of ownership throughout the project implementation. As seen in the commitment towards the phase 2 of the Project, including the allocation of budget and human resources, it is expected that DGH will continue to make efforts in ensuring activities implemented in the Project will be continued as national initiatives. Furthermore, some DINAS such as Sukabumi or Bandung actively followed up on the Project, including initiating programs by allocating budget to provide continued support for farmers. However, not all DINAS has shown its responsiveness, especially where the original staff was replaced by new staff. Since the changes in human resources are common in both central and regional governments, it is important for the Project to support the counterparts to establish a structure to enhance institutional sustainability.

With regards to the farmers' institutions, including farmer groups, associations, or cooperatives, additional capacity building is required to ensure project sustainability. It was found that managerial capacities are still limited in many farmer groups, except for large scale cooperatives. If the capacity of farmer groups were enhanced they may include functions such as credit and savings or technical support to smaller farmers in the membership. Although it was not directly addressed in the Project activities, it is ideal for the Project to support institutional capacity building of the farmer groups.





### 4.5.3 Technical Sustainability

#### **Technical sustainability of the Project is moderate:**

##### (1) Dissemination of Project Output

Due to the limited numbers and availability of extension workers, the Project decided to arrange their own field staff to provide technical advises to target farmers. While extension workers attended some key activities according to their time availability, it was the Project field staff who were mainly in charge of technical assistance and regular monitoring. Nonetheless, the well-written manuals produced by the Project could enable extension workers and other DINAS staff to provide the same or similar technical assistance even after the Project ends.

##### (2) Production

The farmers group, especially those with large scale will be able to continue the newly learned techniques in a sustainable manner. However, as mentioned above, there is a gap among the farmer groups. Relatively smaller scale groups may not be able to keep up the production techniques learned through the Project. It was mentioned at the interviews that some of the smaller farmer groups could not follow the instruction provided by the experts, which resulted in limited or no increase in yield. To address the gap, it would be important to avoid possible disengagement of those smaller scale farmers by supporting the institutional capacity of the farmer groups which enables farmers to support each other within the groups.

##### (3) Marketing

As discussed in the previous section, technicality on marketing side still needs to be addressed. The target farmer groups still have some areas for improvement in marketing skills, including market analysis and business negotiations. To ensure the Project technical sustainability on both production and marketing sides, further capacity development of the target farmer groups is required.

### 4.5.4 Financial Sustainability

**Financial sustainability of the Project is moderate:** In line with the National Medium-Term Development Plan (RPJMN) 2020-2024 which states the supply chain project as one of its priority, the DGH and DINAS have allocated the budget for continuous implementation of project and project-related activities. It would contribute to the financial sustainability of the Project.

With regards to financial sustainability among farmers, many farmer groups expressed



their intention to continue their newly learned agricultural practices at their own cost after the Project ends. However, due to capacity differences among farmer groups, some farmers have enough resources to purchase sufficient inputs but others do not. Establishment of market linkages based on the financial self-sufficiency is essential for farmers to continue the Project deliverables. To figure out the actual financial situation, cost-benefit analysis considering all related costs needs to be done.

Also, the challenge of late payment when selling the products to modern markets, which almost all the target farmer groups mentioned, need to be further addressed. As of the Joint Terminal Evaluation, the Project could not develop stable and continuous relationship with financial service providers (FSPs) on this matter. In the sense, financial stability is considered as moderate.

#### **4.6 Conclusion**

The Project has contributed significantly to improve the productive capacities of the target farmer groups in the model sites in West Java Province. The Project covered a large area with various farmer groups, diverse in their size, organizational capacities, and agricultural techniques. The Project took a flexible and efficient approach to address various capacity gaps presented by the farmer groups. During the six trial projects that were implemented, advanced agricultural techniques were introduced by the Japanese experts which led to the increased yields and productivity of target farmer groups. Close monitoring by the Project expert team enabled farmer groups to have frequent consultation with the Project field staff and Japanese experts on the cultivation techniques, thus reducing the risks of poor harvest. The trust built between the Project expert team and the farmer groups led to the high acceptance rate for the newly introduced cultivation techniques in their own fields.

During interviews conducted for the Terminal Evaluation, without exception all farmer groups stated that the Project has helped them to increase their capacities in producing good quality vegetables. Many farmer groups also found new markets, especially modern markets in Jakarta, and diversified their market channels.

The remaining challenges of the Project include strengthening the marketing capacities of the farmer groups. While many farmer groups acquired skills and confidence in producing high quality fruits and vegetables, many of them still have difficulties in cultivating crops according to the demands from the market and in supplying to the market in a stable manner. During the terminal evaluation, the need to strengthen marketing skills, such as cost-benefit analysis, effective planning for cultivation, market analysis, and business negotiation were confirmed. These needs will be reflected in the

designing of the Project's Phase 2, which has been requested by the Government of Indonesia and approved by the Government of Japan and planned to start in 2021.

To ensure the sustainability of the Project, it is expected that Indonesian partners, including DGH and DINAS in target sites, take a proactive role in disseminating good practices obtained through the Project. It is also expected that some leading farmer groups will take active role in disseminating the agricultural techniques acquired during the Project to other farmer groups, in order to strengthen the horticultural value chain in West Java Province.

## **5. Recommendations and Lessons Learnt**

### **5.1 Recommendations**

Based on the findings of the Joint Terminal Evaluation, the Terminal Evaluation Team (hereinafter referred to as “the Team”) would like to make the following recommendations to be implemented by the end of the Project with a view to ensuring the Project’s sustainability and achieving the overall goal.

#### **(1) Categorize the Project’s target farmer groups by their characteristics and identify patterns and good practices**

The target farmer groups of the Project were very diverse in their size, markets and productive capacities. To analyze the activities of the Project, the Team requests the Project experts team to categorize the Project’s target farmer groups, especially those who participated in the trial projects in 2019-2020, by their size, geographical advantages/disadvantages (i.e. proximity to the market, topography, altitude), organizational structures (i.e. cooperatives, associations, farmer groups), cultivation capacities (i.e. appropriate use of agricultural techniques/inputs/skills), total production and sales structures, and target markets (i.e. selling their products to suppliers to supermarkets, food industries, traditional markets). This information will be a useful guidance to identify good practices and lessons learned from the Project.

#### **(2) Support farmer groups in conducting cost-benefit analysis on agricultural inputs**

It is important for farmer groups to acquire skill to conduct accurate cost-benefit analysis in order to make production and marketing strategies according to the market needs. In this regard, the Team suggests the Project expert team to support farmer groups in conducting cost-benefit analysis of each crops based on the current level of production. Cost-benefit analysis could be introduced especially when expanding the size of the production beyond the sites of trial projects (100 m<sup>2</sup>).

#### **(3) Jointly with DINAS, review and propose the indicators for the overall goal and specify the target farmer groups**

An overall goal is to be achieved by the Indonesian side after three years from the end of the Project. As explained previously, the only difference between the project purpose and the overall goal of the Project is the scalability – scope of the beneficiary farmers in the model sites. However, since the indicators of the overall goal do not define the scope of the target farmer groups, they could be read as to empower the “entire” farmer groups at the model sites. Therefore, the Team suggests that the Indonesian side and the Project expert team propose more clear indicators, if necessary.

#### **(4) Establishing a plan to disseminate good practices to other farmer groups**

It is expected that DGH and DINAS will take a leading role in disseminating good practices identified through the implementation of the Project to other farmer groups who did not participate in the Project. Continued implementation of the follow-up activities such as supporting farmer groups' trial projects would be a valuable support to expand the impacts of the Project beyond the target farmer groups. The Team suggests, especially to DINAS, to consider creating a plan, with budget allocation, to disseminate good practices to achieve overall goal of the Project.

#### **(5) Considering key points for further dissemination**

Through the implementation of the Project, some important points were identified to increase the productive capacities and the marketing skills of farmer groups. The Team recommends DGH and DINAS to take into consideration the following points when implementing their own activities.

- 1) Successful cultivation techniques by some farmer groups should be showcased to other farmers to increase their motivation. Many farmers will only be convinced to try new techniques after confirming the results of such techniques.
- 2) Close monitoring of farmer groups by field staff/extension workers is required to increase their skills. One of the reasons for the success of the Project was the close monitoring conducted by the field staff, which contributed to the increased communication between the farmer groups and the Project team and resulted in quick responses to troubles such as pests and diseases. While limited number of extension workers is the common challenges in all DINAS, effort should be taken to mobilize the extension workers as much as possible.
- 3) Technical support to the farmer groups should be customized as much as possible since each farmer group has different capacity and needs for the assistance. Group trainings will be efficient but may not address diverse needs of farmer groups. In this regard, it would be useful to assess the capacity of the farmer groups and tailor the technical support to extent possible to maximize the impact. Categorization of the farmer groups mentioned in the recommendation (1) will be useful inputs for such assessment.
- 4) Partnership with private sector should be explored not only for the marketing component but also for the cultivation techniques and access to finance. It would be useful to support leaders and selected members of relevant farmer groups to strengthen negotiation and financial skills such as accounting, since many farmers face difficulties in agreeing business terms with the private sector.
- 5) Cropping patterns and/or planting plans based on the market demands should be developed by farmers groups to supply products in continuous manner. The Project's activities in supporting target farmer groups to develop planting plans

could provide useful inputs to DGH and DINAS to continue this activities in their own programs.

## **5.2 Lessons learnt**

### **(1) Taking comprehensive approach to address both productive and marketing capacities**

Since horticultural products face significant price fluctuation and frequent changes in market demands, horticultural farmers should improve their skills in business management and market development, in addition to the cultivation techniques. This would allow farmer groups to adjust their production and the sales based on the market demands. Necessary skills also include capacities in preparing well-planned planting patterns, which would enable farmers to have more predictable and stable production. In this regard, it is necessary to take comprehensive approach to address both productive and marketing capacities when supporting the horticultural farmers.

### **(2) Creating Win-win relationships with private sector**

The Project worked closely with the private sector, especially from Japan, and introduced new and advanced agricultural techniques to the target farmer groups. Working with Japanese companies also provided opportunities for those companies to explore possibilities of doing business in Indonesia by trying their agricultural inputs/equipment in Indonesian context. Stable relationships could be built only when a project offers mutual benefits and create win-win situations between farmers and the private sector.

### **(3) Analyzing market demands when selecting the products**

Information on the market demands is extremely important when selecting crops for cultivation, especially when crops are new to the target market. The Project introduced new products, Japanese vegetables, to Indonesian markets given the growing demand for the value-added vegetables by the emerging high- and middle-income population. While Japanese vegetables brought high potential to the farmer groups to differentiate their products, issues such as consumer education, socialization of buyers, and marketing strategies become key factors for the successful introduction of such special crops.

### **(4) Working closely with various departments in the counterparts**

The Project worked closely with the various departments in DGH for the implementation of the activities. For example, the Project worked with the Directorate of Horticulture Seedling in DGH and the seeds for selected Japanese vegetables were smoothly registered. When a project has a plan to introduce new crops, it is effective to involve a

seed-related department from the beginning since obtaining quality seeds is essential for the sustainable production. By working with the various partners within the main counterparts, the Project could increase effectiveness and efficiency of the Project.

## ANNEX

- ANNEX I: Schedule of the Joint Terminal Evaluation
- ANNEX II: Project Design Matrix (PDM) ver. 3 (used for evaluation)
- ANNEX III: Evaluation Grid for the Joint Terminal Evaluation
- ANNEX IV: The List of the Trainees in Japan
- ANNEX V: List of Equipment
- ANNEX VI: Budget for Operational Cost on the Japanese Side
- ANNEX VII: List of Assigned Counterpart Personnel
- ANNEX VIII: Budget for Operational Cost on the Indonesian Side



## Annex I Schedule of the Terminal Evaluation and Detailed Planning Survey for Phase II

Date		Time (Jakarta)	Meeting Schedule*
31-Aug	Mon	8:00-9:30	Preparatory meeting with Indonesian Join Evaluation Team
		10:00-12:00	Meeting with MOA DG Horticulture
1-Sep	Tue	8:00-9:30	Meeting with Bogor District/City DINAS officers
		9:30-11:00	Meeting with Bogor District/City Farmer Groups
		14:00-15:30	Meeting with Sukabumi District/City DINAS officers
		15:30-17:00	Meeting with Sukabumi District/City Farmer Groups
2-Sep	Wed	8:00-9:30	Meeting with Cinajur District/City DINAS officers
		9:30-11:00	Meeting with Cianjur District/City Farmer Groups
		N/A	Interview with the Project Expert team
		14:00-15:30	Meeting with Bandung District Farmer Groups
3-Sep	Thu	15:30-17:00	Meeting with Bandung District DINAS
		8:00-9:30	Meeting with West Bandung District DINAS officers
		9:30-11:00	Meeting with West Bandung District Farmer Groups
		14:00-15:30	Meeting with Garut District Farmer Groups
4-Sep	Fri	15:30-17:00	Meeting with Garut District DINAS officers
		9:00-10:30	Meeting with West Java Province DINAS
		-	Meeting among Japanese evaluation team (initial evaluation results) 1
		-	Meeting with ICNET (on Phase 2)
5-Sep	Sat	-	Meeting among Japanese evaluation team (initial evaluation results) 2
		-	
6-Sep	Sun		
7-Sep	Mon	-	Meeting among Japanese evaluation team (initial evaluation results) 3
		8:30-9:30	Meeting with Papaya Fresh Gallaly (Supermarket)
		10:00-11:00	Meeting with Calbee Wings Food (Food industry)
		11:30-12:30	Meeting with Sayurbox (E-commerce)
8-Sep	Tue	7:30-8:30	Meeting with Penny Growing (investor)
		9:00-10:00	Meeting with AEON (Supermarket)
		11:00-12:00	Meeting with Sayuran Stap Saji (supplier for food industry)
		14:00-15:00	Meeting with CROWDE (fintech)
9-Sep	Wed	10:00-12:00	Meeting with Indonesian Centre for Agricultural Training (on Phase II)
10-Sep	Thu	N/A	Meeting among Japanese evaluation team (on Phase II)
		PM	Drafting report for the terminal evaluation
11-Sep	Fri	8:30-10:00	Meeting with MOA DG Horticulture / Indonesian Centre for Agricultural Training (on Phase II)
12-Sep	Sat		
13-Sep	Sun		
14-Sep	Mon	N/A	Drafting report for the terminal evaluation
		14:00-15:30	Meeting among Joint Evaluation team on the results of the evaluation
15-Sep	Tue	N/A	Drafting report for the terminal evaluation
16-Sep	Wed	AM	Internal consultation within MOA / Drafting reports by Japanese team
		PM	Internal consultation within MOA / Drafting reports by Japanese team
17-Sep	Thu	9:00 - 10:30	Meeting with ADB (on Phase II)
		13:30-15:00	Meeting with Lembang Training Centre (on Phase II)
18-Sep	Fri	8:30 - 10:30	6th Joint Coordinating Committee (JCC)

\* Meeting for the Detailed Planning Survey for the Project Phase II was conducted during the same period.

**Annex II: Project Design Matrix**

**Project Title:** Public-Private-Partnership Project for the Improvement of the Agriculture Product Marketing and Distribution System  
**Implementing Agency:** DG of Horticulture, MOA, DINAS of West Java Province, Cianjur District, Garut District, Bogor City, Sukabumi City, Bandung District, and West Bandung District  
**Target Group:** Agricultural farmers' groups in the Model Sites  
**Period of Project:** Four (4) years and three (3) months  
**Project Site:** Project Site: Jakarta, West Java Province (Cianjur District, Garut District, Bogor City, Sukabumi City, Bandung District, and West Bandung District)  
**Model Site:** Cianjur District, Garut District, Bogor City, Sukabumi City, Bandung District, and West Bandung District

**Version 3**

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<b>Super Goal</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups in West Java Province	The number of the farmers' groups who sell safe & high-quality agriculture products in West Java in 2030	Government statistics	The Government implements policies to disseminate outputs of the project to the entire area of West Java Province
<b>Overall Goal</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Java Province	1. The number of the farmers' groups who sell safe & high-quality agriculture products at the model sites in West Java in 2023 2. The number of farmers at the model sites (excluding the members of the trial project of the target farmers' groups at the model sites) who apply at their own farms in 2023 (improved production and management techniques introduced by the Project)	1) Government statistics 2) Sample survey	
<b>Project Purpose</b> Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province.	1. Improved production and management techniques are applied by 70% of the target farmers at their own field(s)  2. Distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups	1) Project monitoring sheets and interviews with target farmers 2) End-line survey  1) Interviews with non-target farmers in the group 2) End-line survey	The agricultural policy does not change drastically.
<b>Outputs</b>			
1-1. Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers	1-1-1. Trainings on agricultural production are attended by 70% of the target farmers' groups  1-1-2. Improved cultivation techniques promoted by the project are followed through by 80% of the target farmers  1-1-3. Good product rate is increased for 60% of the target farmers	1) List of training attendees 2) Project monitoring sheet 3) Harvest record	Massive natural disasters (such as drought and flood) do not occur.
1-2. Capacity to plan and carry out cultivation according to market needs is attained by the target farmers	1-2-1. Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique	1) Planting calendar	Market on agricultural products does not drastically change.
1-3. Target farmers' groups' marketing channels are developed	1-3-1. Events to promote linkages between modern markets and farmers are participated by 80% of the target farmers' groups  1-3-2. Business negotiation with modern markets is made by 50% of the target farmers' groups	1) List of event participants 2) List of business negotiations	Market on agricultural products does not drastically change.
1-4. Target farmers' groups' access to finance is improved	1-4-1. Briefing on financial services is attended by 300 members of target farmers' groups  1-4-2. Financial services such as loans and savings are used by 150 members of the target farmers' groups	1) List of financial service briefing participants 2) List of financial service users	Financial market and banking system does not drastically change
2-1. Managerial capacity of government officials who promote modernized production & distribution systems is strengthened	2-1. 24 events related to agricultural distribution and marketing are organized by government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS)  2-2. Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officials  2-3. 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented.	1) List of events 2) Policy papers, List of government support projects or activities 3) List of training participants	Drastic transfer of human resources that leads to a loss of accumulated knowledge does not occur.

Activities	Inputs		Important Assumption
	The Japanese Side	The Indonesia Side	
<p>1-1-1. Identify farmers' groups with high potential for producing safe and high-quality products.</p> <p>1-1-2. Taking into account the capacity of the identified farmers' groups, develop trial projects.</p> <p>1-1-3. Carry out training to the target farmers' groups on improved production methods through 2 trial projects/year.</p>	<p>1 Dispatch of Experts - Chief Advisor / Marketing &amp; Distribution - Other experts as necessary (e.g. Cultivation Technologies / Extension, Financing Scheme, Training Management /Coordinator)</p> <p>2. Training in Japan</p> <p>3. Provision of equipment : As necessary.</p> <p>4. Budget for operational cost for the Project implementation.</p>	<p>1 Allocation of Counterpart Personnel (Project Director, project coordinator, project manager, operational manager, district level counter points, and other government officials)</p> <p>2 Space and building for Project Office</p> <p>3 Budget for operational cost for the Project implementation (electricity, water, internet access and travel allowance for Indonesian counterparts)</p> <p>4 Supply or replacement of equipment and any other materials other than the equipment provided by JICA</p>	
<p>1-2-1. Investigate modern markets such as supermarkets and restaurants, and their suppliers, to analyze market needs.</p> <p>1-2-2. Based on the market needs, help the target farmers' groups develop cultivation plans.</p> <p>1-2-3. Carry out training to the target farmers' groups on production management based on the cultivation plans through 2 trial projects/year.</p>			
<p>1-3-1. Encourage target farmers' groups to join the farmer and modern market networking events.</p> <p>1-3-2. Support marketing activities which allow target farmers' groups to build linkages with modern markets at 2 trial projects/year.</p> <p>1-3-3. Support establishing market channels using STA.</p>			
<p>1-4-1. Investigate target farmers' groups' financial needs and existing financial services in the market.</p> <p>1-4-2. Share information on financial services with target farmers' groups.</p> <p>1-4-3. Support farmers in need of financing to use financial services.</p>			
<p>2-1-1. Regularly share project status and progress with government officials from the Directorate General of Horticulture and district Department of Agriculture (DINAS)</p> <p>2-1-2. Gather international and local best practices on production and distribution of high-quality agricultural products which will contribute to the modernization of production and distribution systems.</p> <p>2-1-3. Conduct training on modernized production, marketing, and distribution of high-quality agricultural products for government officials.</p> <p>2-1-4. Support the development of policies/action plans/ projects that contribute to the modernization of production and distribution of agricultural products.</p>			

**Annex III: Terminal evaluation on Public-Private-Partnership Project for the Improvement of the Agriculture Product Marketing and Distribution System Project in Indonesia**

Major criteria	Sub-questions	Specific criterion	Needed info/data	Sources	Means of info/data collection
1) Implementation Process					
Implementation of activities	All of the activities listed in the PDM have been implemented as planned without delay.	<p>Timeline is being maintained</p> <p>Description of the situation and reasons for the delay, if any</p> <p>Workloads for JICA experts and Indonesia counterpart are manageable and sustainable</p> <p>Budget is in line with original estimation</p>	<p>- PO</p> <p>- Record of actual timeline of activities</p> <p>- Results of hearing with stakeholders</p> <p>- Results of hearing with stakeholders</p> <p>- Original and actual budget information</p>	<p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- Financial report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p>	<p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p>
Ownership	The Indonesia side has been engaged in the project with a strong sense of ownership.	<p>The Indonesian government appointed liaison persons with capacity and resources to support the project.</p> <p>Volumes of the inputs provision by Indonesian side</p> <p>The Indonesia counterpart understands the project background, purpose, approaches, etc.</p> <p>Overall impression from main stakeholders</p>	<p>- Description of liaison persons</p> <p>- Record of inputs provision</p> <p>- Results of hearing with stakeholders</p> <p>- Results of hearing with stakeholders</p>	<p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p>	<p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p>
Collaboration and communication with relevant institutions	Collaboration and communication among JICA Experts, DGoH, DINAS, STA, private companies, and other relevant institutions have been effective for project implementation.	<p>Evidence of open communication channels among stakeholders</p> <p>Level of collaboration with relevant stakeholders</p> <p>Overall impression from main stakeholders</p>	<p>- Description of communication channels</p> <p>- Record of collaboration</p> <p>- Results of hearing with stakeholders</p>	<p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p>	<p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p>
Technology Transfer	The methods of technology transfer from JICA Experts to the Indonesia counterparts are appropriate.	<p>Extent to which the Indonesia counterpart is cognisant of the technology transferred in the project</p> <p>Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs</p>	<p>- Results of hearing with stakeholders</p> <p>- Results of hearing with stakeholders</p> <p>- Perception of Indonesia counterpart</p>	<p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p> <p>- Project report</p> <p>- JICA experts</p> <p>- DGoH, DINAS</p>	<p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p> <p>- Documents review</p> <p>- Interview</p> <p>- Questionnaires</p>

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Project management system	How and how often has project monitoring (the Project as a whole) been undertaken? (e.g. A monthly meeting was held to check the progress of the activities)	Evidence that the project monitoring was undertaken	- Record of monitoring	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires	
	The above-described monitoring was appropriate in terms of its method and frequency.	Extent to which JICA expert perceive the methods to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires	
	How and how often has project monitoring specific to your duty and responsibility been undertaken? (e.g. A monthly meeting was held to check the progress of the activities)	Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires	
	The above-described monitoring was appropriate in terms of its method and frequency.	Evidence that the project monitoring was undertaken	- Record of monitoring	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires	
	Revisions of activities you made as a result of project monitoring if there are such cases.	Extent to which JICA expert perceive the methods to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires	
	The communication among the Indonesia counterparts has been effective in implementing project activities.	Extent to which Indonesia counterpart perceive the methods to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires	
	Communication	The communication between the counterpart personnel and JICA Experts has been effective in implementing project activities.	Description of revisions of activities JICA expert and/or Indonesia counterpart made	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
			Evidence of open communication channels among the Indonesia counterpart	- Description of communication channels	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
			Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
			Extent to which JICA experts perceive their communication to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
	Evidence of open communication channels between the Indonesia counterpart and JICA experts	- Description of communication channels	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires		
	Extent to which Indonesia counterpart perceive the communication to be appropriate to their needs	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires		
	Extent to which JICA experts perceive the communication to be appropriate to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires		

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	<p>Were the selected Project approach and target regions appropriate in order to strategically and effectively address the Indonesia's development issues?</p>	<p>Methods used for selecting project approach and target regions</p> <p>Extent to which JICA perceives the project approach and target regions relevant to their needs</p> <p>Extent to which Indonesia counterpart perceives the project approach and target regions relevant to their needs</p> <p>Methods used for selecting target group</p>	<p>Record of D/D</p> <ul style="list-style-type: none"> <li>- Perception of JICA experts</li> <li>- Perception of Indonesia counterpart</li> <li>- Record of selecting target group</li> <li>- Results of hearing with stakeholders</li> <li>- Results of hearing with stakeholders</li> <li>- Record of activities</li> <li>- Perception of target group</li> <li>- Perception of JICA experts</li> <li>- Perception of Indonesia counterpart</li> <li>- Perception of target farmers</li> <li>- PDM</li> <li>- PDM</li> <li>- Results of hearing with stakeholders</li> <li>- Revised PDM</li> <li>- Record of monitoring and analysis</li> <li>- Results of hearing with stakeholders</li> <li>- Results of hearing with stakeholders</li> </ul>	<p>Report of D/D</p> <ul style="list-style-type: none"> <li>- Project report</li> <li>- JICA experts</li> <li>- Project report</li> <li>- Indonesia counterpart</li> <li>- Project report</li> <li>- JICA experts</li> <li>- DGoH, DINAS</li> <li>- Target farmers</li> <li>- Project report</li> <li>- JICA experts</li> <li>- DGoH, DINAS</li> <li>- Target farmers</li> <li>- Project report</li> <li>- JICA experts</li> <li>- DGoH, DINAS</li> <li>- Target farmers</li> <li>- Project report</li> <li>- JICA experts</li> <li>- Project report</li> <li>- JICA experts</li> <li>- Project report</li> <li>- Indonesia counterpart</li> <li>- Project report</li> <li>- Target farmers</li> <li>- PDM</li> <li>- PDM</li> <li>- Project report</li> <li>- JICA experts</li> <li>- DGoH, DINAS</li> <li>- Project report</li> <li>- JICA experts</li> <li>- DGoH, DINAS</li> <li>- JICA experts</li> <li>- DGoH, DINAS</li> <li>- Target farmers</li> </ul>	<p>Documents review</p> <ul style="list-style-type: none"> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> </ul>
<p>Was the target group selection appropriate?</p>	<p>Level of involvement of the target group in project activities</p> <p>Extent to which the target group perceive the selection processes and results to be appropriate to their needs</p>	<p>Extent to which JICA perceives ripple effects beyond the target group</p>	<p>Extent to which JICA perceives ripple effects beyond the target group</p>	<p>Documents review</p> <ul style="list-style-type: none"> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> </ul>	
<p>Did the Project have ripple effects beyond the target group?</p>	<p>Were overall goal, project purpose, output, activities and inputs on PDM appropriately and logically related and determined?</p>	<p>Evidence that PDM was appropriately and logically formulated</p>	<p>Evidence that PDM was appropriately and logically formulated</p>	<p>Documents review</p> <ul style="list-style-type: none"> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> </ul>	
<p>Were Objective Viable Indicators of overall goal, project purpose and output appropriate? (including the aspects of "too high" or "too low")</p>	<p>Evidence that PDM was appropriately revised</p>	<p>Evidence that PDM was appropriately revised</p>	<p>Evidence that PDM was appropriately revised</p>	<p>Documents review</p> <ul style="list-style-type: none"> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> </ul>	
<p>Was the PDM revised in an appropriate timing with logical relevance in responding to the needs of the target area?</p>	<p>Evidence of JICA and DGoH's willingness to vocalise challenges and failures, and changes in measures taken towards those doing so</p>	<p>Evidence of JICA and DGoH's willingness to vocalise challenges and failures, and changes in measures taken towards those doing so</p>	<p>Evidence of JICA and DGoH's willingness to vocalise challenges and failures, and changes in measures taken towards those doing so</p>	<p>Documents review</p> <ul style="list-style-type: none"> <li>- Documents review</li> <li>- Interview</li> <li>- Questionnaires</li> </ul>	

Preconditions	The precondition "The agricultural policy does not change drastically", "Massive natural disasters (such as drought and flood) do not occur", "Market on agricultural products does not drastically change", "Market on agricultural products does not drastically change", "Financial market and banking system does not drastically change", "Drastic transfer of human resources that leads to a loss of accumulated knowledge does not occur" were fulfilled. (If unfulfilled, what were the effects to the project?)	Evidence that show the (un)fulfilment of the precondition	- Record of the (un)fulfilment	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
	Extent to which the Indonesia counterpart perceive the fulfilment of the preconditions	- Perception of Indonesia counterpart	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires	
	Extent to which JICA experts perceive the fulfilment of the preconditions	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires	

2) Relevance	Did the Project respond to the needs of the target regions/societies?	Extent to which the project reflected the needs of the target region/societies	- Information of needs assessment	- Report of D/D	- Documents review
		Evidence of the project activities being applied at the project sites	- Record of the project activities	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
		Extent to which JICA perceive the project to be relevant to their needs	- Perception of JICA expert	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart perceive the project to be relevant to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires
		Extent to which target farmers has been consulted / involved in designing the activities within the project	- Results of hearing with stakeholders - Record of consultation	- Target farmers - Report of D/D	- Documents review - Interview - Questionnaires
		Evidence of the project activities being applied by the farmers at the project sites	- Results of hearing with stakeholders - Record of activities	- Project report - JICA experts - DGoH, DINAS - Target farmers	- Documents review - Interview - Questionnaires
		Extent to which the target farmers perceive the project to be responsive to their needs	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires
		Evidence that the target farmers are cognisant of the project activities and its values	- Results of hearing with stakeholders	- Project report - Target farmers	- Documents review - Interview - Questionnaires
		Evidence that the project is consistent with the Indonesia's development plan	- Indonesia's development plan	- Indonesia's development plan	- Documents review
		At the time of the Terminal Evaluation, is the Project still consistent with the Indonesia's Development Plans?	- Japanese ODA Policy and JICA's Country Planning for Indonesia	- Japanese ODA Policy and JICA's Country Planning for Indonesia	- Documents review
Priority	Is the Project consistent with the Japanese ODA Policy and JICA's Country Planning for Indonesia?	Evidence that the project is consistent with the Indonesia's development plan	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires
		Evidence that the project is consistent with the Indonesia's development plan	- Indonesia's development plan	- Indonesia's development plan	- Documents review

<p>3) Effectiveness</p> <p>Level of achievement of the project purpose</p>	<p>The Project has achieved its project purpose, "Modernized production &amp; distribution systems of safe &amp; high-quality agricultural products that lead to an increase of farmers' incomes are developed for the target farmers' groups at the model sites in West Java Province." by the end of the project period.</p> <p>Was there coordination with other projects/assistances provided by JICA or collaboration with other donors' projects so as to create synergy?</p>	<p>Evidence that improved production and management techniques are applied by 70% of the target farmers at their own field(s)</p> <p>Evidence that distribution and marketing channels that allow agricultural products to be sold to modern markets is developed at 70% of the target farmers' groups</p> <p>Existence of coordination or collaboration with other JICA or other donor's projects</p> <p>Evidence that those coordination or collaboration created synergy</p>	<p>- A set of data to measure the achievement</p> <p>- A set of data to measure the achievement</p> <p>- Results of hearing with stakeholders</p> <p>- Results of hearing with stakeholders</p>	<p>- Project report - JICA experts - DGoH, DINAS</p> <p>- Project report - JICA experts - DGoH, DINAS</p> <p>- Project report - JICA experts - DGoH, DINAS</p> <p>- Project report - JICA experts - DGoH, DINAS</p>	<p>- Documents review - Interview - Questionnaires</p> <p>- Documents review - Interview - Questionnaires</p> <p>- Documents review - Interview - Questionnaires</p> <p>- Documents review - Interview - Questionnaires</p>
<p>Hindering and contributing factors to achieving the project purpose</p>	<p>The important assumptions which would influence the production of the outputs and achievement of the project purpose have been fulfilled so far.</p> <p>Any factors which promoted or hindered the achievement of the project purpose, if any.</p> <p>Was successful delivery of Project Outputs sufficient to achieve Project Purpose? Was the logic "successful delivery of Project Outputs will lead to achievement of Project Purpose" valid?</p>	<p>Documents which show the (un)fulfillment of the important assumptions</p> <p>Description of any factors which promoted or hindered the achievement of the project purpose</p> <p>Level of achievement of project outputs which causes successful delivery of project purposes</p> <p>Evidence that the logic "successful delivery of project outputs will lead to achievement of project purpose" was valid</p>	<p>- Record of (un)fulfillment</p> <p>- Results of hearing with stakeholders</p> <p>- Information on linkage between output and project purpose</p>	<p>- Project report - JICA experts - DGoH, DINAS</p> <p>- Project report - JICA experts - DGoH, DINAS</p> <p>- Project report - JICA experts - DGoH, DINAS</p> <p>- Project report - JICA experts - DGoH, DINAS</p>	<p>- Documents review - Interview - Questionnaires</p> <p>- Documents review - Interview - Questionnaires</p> <p>- Documents review - Interview - Questionnaires</p> <p>- Documents review - Interview - Questionnaires</p>



Level of achievement of the project output	The Project has achieved its output 1-1, "Technique to produce and cultivate safe and high-quality agricultural products is acquired by the target farmers" by the end of the project period.	1-1-1. Trainings on agricultural production are attended by 70% of the target farmers' groups	- A set of data to measure the achievement	1) List of training attendees	- Documents review	
		1-1-2. Improved cultivation techniques promoted by the project are followed through by 80% of the target farmers			2) Project monitoring sheet	- Interview
		1-1-3. Good product rate is increased for 60% of the target farmers			3) Harvest record	- Questionnaires
	The Project has achieved its output 1-2, "Capacity to plan and carry out cultivation according to market needs is attained by the target farmers" by the end of the project period.	1-2-1. Planting calendar is recorded by 60% of the target farmers who have completed the trial project on cultivation technique	- A set of data to measure the achievement	1) Planting calendar	- Documents review	
		1-3-1. Events to promote linkages between modern markets and farmers are participated by 80% of the target farmers' groups			1) List of event participants	- Interview
		1-3-2. Business negotiation with modern market is made by 50% of the target farmers' groups			2) List of business negotiations	- Questionnaires
	The Project has achieved its output 1-3, "Target farmers' groups' marketing channels are developed" by the end of the project period.	1-4-1. Briefing on financial services is attended by 300 members of the target farmers' groups	- A set of data to measure the achievement	1) List of financial service briefing participants	- Documents review	
		1-4-2. Financial services such as loans and savings are used by 150 members of the target farmers' groups			2) List of financial service users	- Interview
		The Project has achieved its output 1-4, "Target farmers' groups' access to finance is improved" by the end of the project period.		2-1. 24 events related to agricultural distribution and marketing are organized by government officials from the DGOH and DINAS	- A set of data to measure the achievement	1) List of events
	2-2. Training on modernized production, marketing, and distribution of high-quality agricultural products is participated by 30 government officers		2) Policy papers, list of government support projects or activities	- Interview		
	2-3. 10 policies including related projects that contribute to modernization of production and distribution system are proposed or implemented		3) List of training participants	- Questionnaires		

4) Efficiency							
Adequacy of inputs: its quantity, quality and timing	The inputs by the Japanese side, i.e. dispatch of the JICA Experts, provision of machinery and equipment, operational expenses covered by JICA, training in Japan are appropriate in terms of quality, quantity, cost and timing for producing the outputs specified in the PDM.	Evidence that the inputs by the Japanese side were appropriate	- Planned and actual inputs	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires		
		Extent to which JICA perceives the inputs by the Japanese side adequate to their needs	- Perception of JICA experts	- Project report - JICA experts	- Documents review - Interview - Questionnaires		
		Extent to which the Indonesia counterpart perceives the inputs by the Japanese side adequate to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires		
		Extent to farmers group perceives the inputs by the Japanese side adequate to their needs	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires		
		Evidence that the inputs by the Indonesia side were appropriate	- Planned and actual inputs	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires		
		Extent to which JICA perceives the inputs by the Japanese side adequate to their needs	- Perception of JICA experts	- Project report - JICA experts	- Documents review - Interview - Questionnaires		
		Extent to which the Indonesia counterpart perceives the inputs by the Japanese side adequate to their needs	- Perception of Indonesia counterpart	- Project report - Indonesia counterpart	- Documents review - Interview - Questionnaires		
		Extent to which farmers group perceives the inputs by the Japanese side adequate to their needs	- Perception of target farmers	- Project report - Target farmers	- Documents review - Interview - Questionnaires		
		Evidence if there were any unexpected problems in providing inputs	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires		
		Documents which explain how the problems were solved if any	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires		
	Perception of JICA experts in the needs of any other inputs and activities		- Project report - JICA experts	- Documents review - Interview - Questionnaires			
	Perception of Indonesia counterpart in the needs of any other inputs and activities		- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires			

5) Impact	The overall goal, "Modernized production & distribution systems of safe & high-quality agricultural products that lead to an increase of farmers' incomes are developed for the farmers' groups at the model sites in West Java Province" will be achieved 3 years after the Project is completed.	1. The number of the farmers' groups who sell safe & high-quality agriculture products at the model sites in West Java in 2023 2. The number of farmers at the model sites (excluding the members of the trial project of the target farmers' groups at the model sites) who apply at their own farms in 2023 improved production and management techniques introduced by the Project	- Level of institutionalization of mechanism to make the overall goal achieved 3 year after the project is completed	- Project report - JICA experts - DGOH, DINAS	- Documents review - Interview - Questionnaires
Prospect of achievement the overall goal	Are there efforts being made so as to achieve the Overall Goal? Alternatively, are there plans for such efforts to be made?	Existence of formal documents which commits the efforts being made so as to achieve the overall goal	- Results of hearing with stakeholders	- Project report - JICA experts - DGOH, DINAS	- Documents review - Interview - Questionnaires
Positive and negative effects	Has there been any positive and/or negative impact caused by the implementation of the Project in terms of gender, poverty reduction, and the environment, etc.?	List of any positive and/or negative impact caused by the implementation of the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGOH, DINAS	- Documents review - Interview - Questionnaires

6) Sustainability					
Prospect of project sustainability	From the viewpoint of policy direction as well as institutional setup and commitment, the effects of the project purpose and overall goal will be sustainable after the completion of the Project	Extent to which JICA institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which financial service providers institutionalize the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - Financial service providers	- Documents review - Interview - Questionnaires
		Extent to which modern market institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - Suppliers & Retailers	- Documents review - Interview - Questionnaires
		Extent to which farmers group institutionalizes the mechanism to sustain the effect of the project purpose and overall goal	- Description of the mechanism	- Project report - Target farmers	- Documents review - Interview - Questionnaires
		Extent to which key personnel will be involved in the project activities after the end of the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Level of formal and informal skills and knowledge of the key personnel	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which JICA is identifying budget lines to sustain the effect of the project purpose and overall goal	- Results of hearing with stakeholders	- Project report - JICA experts	- Documents review - Interview - Questionnaires
		Extent to which Indonesia counterpart is identifying budget lines to sustain the effect of the project purpose and overall goal	- Results of hearing with stakeholders	- Project report - DGoH, DINAS	- Documents review - Interview - Questionnaires
		Extent to which the farmers groups are allocating budget to continue the project activities	- Results of hearing with stakeholders	- Project report - Target farmers	- Documents review - Interview - Questionnaires
The equipment and machinery provided by JICA will be properly maintained and managed after the end of the Project.	Level of formal and informal skills and knowledge of Indonesia counterpart to properly maintain and manage the equipment	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires	
	Extent to which Indonesia counterpart intend to make use of the equipment after the end of the project	- Results of hearing with stakeholders	- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires	
Any issues which may influence sustainability of the Project activities.	Description of any issues which may influence sustainability of the project activities by JICA expert and Indonesia counterpart		- Project report - JICA experts - DGoH, DINAS	- Documents review - Interview - Questionnaires	

ANNEX IV The List of The Trainees in Japan

No.	研修員氏名		受入期間		分野・コース名		研修内容		受入機関		当時の役職		現在の役職/離職年月	
	Name of Trainee	Duration	Field/Name of the Course	Contents	Training Institute	Position	Current Position	Date of turnover						
1	Mr. Ahmad Widodo Heru	28 November - 9 December 2016	the Knowledge	Observe and learn	JICA Tokyo Center	Deputy Director of Directorate of Fruits and Floriculture, DGoH	Head of Plan Division, Secretariat of DGoH	March 2017						
2	Mr. Guruh Gempita Dawoed	Ditto	Ditto	Ditto	Ditto	Head of Finance and Equipment Section, Secretariat of DGoH	Pension	August 2017						
3	Ms. Anastasia Promosiana	Ditto	Ditto	Ditto	Ditto	Senior Policy Advisor, DGoH	Pension	January 2017						
4	Ms. Yuliasuti Purwaningsih	Ditto	Ditto	Ditto	Ditto	Head of Sub-Directorate Marketing and Investment, Directorate of Processing and Marketing, DGoH	Head of Section of Climate Change Mitigation, Sub-Directorate of Climate Change Impact and Natural Disaster, Directorate of Horticulture Protection, DGoH	06 June 2018						
5	Ms. Mutiara Sari	Ditto	Ditto	Ditto	Ditto	Head of Shallot and Tuber Vegetable Area Development Section, Directorate of Vegetables and Medicinal Plants, DGoH	same as left	n/a						
6	Ms. Prilliani Setyaningsih	Ditto	Ditto	Ditto	Ditto	Contact Point of International Cooperation Bureau, MoA	same as left	n/a						
7	Mr. Sukma Pahlawan Tanra	Ditto	Ditto	Ditto	Ditto	Head of Marketing Section, Business Guidance Division, Provincial Agricultural Office of West Java	same as left	n/a						
8	Mr. Azrin Syamsudin	Ditto	Ditto	Ditto	Ditto	Head of Agricultural Office, Bogor City	Expert Staff for Bogor City Government	01 January 2020						
9	Mr. U. Supriatna Hasan	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Division, Agricultural Office of Cianjur District	Head of Empowerment and Institutional Division, Maritime, Fisheries and Livestock Office of Cianjur District	November 2019						
10	Ms. Kardina Karsoedi	Ditto	Ditto	Ditto	Ditto	Head of Food Security, Agriculture and Fisheries Office, Sukabumi City	same as left	n/a						

11	Ms. Rasmanah Sri Rahayu	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Processing and Marketing of Horticulture Product Section, Agricultural Office of Garut District	Pension	2018
12	Ms. Novida Siti Jubaedah	3-9 September 2017	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Sub-Division of Cooperation, Secretariat of DGoH	same as left	n/a
13	Mr. Langgeng Muhono	6-16 September 2017	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Sub-Division of Seed Quality Control, Directorate of Horticulture Seedling, DGoH	Head of Seed Production Section, Sub-Directorate of Seed Production and Institution, Directorate of Horticulture Seedling, DGoH	March 2019
14	Mr. Irpan Sugandi	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Staff of Sub-Division of Marketing & Investment, Directorate of Processing and Marketing, DGoH	Head of Sub-Division of Equipment, Secretariat of DGoH	March 2019
15	Ms. Fajar Anggraeni	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Staff of Shallot and Tuber Vegetable Area Development Section, Sub-Directorate of Shallot and Tuber Vegetable, Directorate of Vegetables and Medicinal Plants, DGoH	same as left	n/a
16	Ms. Dina Rosita	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Staff of Sub-Directorate of Citrus, Shrubs and Trees, Directorate of Fruits and Floriculture, DGoH	same as left	n/a
17	Mr. Herniningsih	3-16 September 2017	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Ornamental and Medicinal Plants Section, Provincial Agricultural Office of West Java Province	same as left	n/a
18	Ms. Siti Nurianty	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Food Crops, Horticultures, and Plantations Office, Bogor District	same as left	n/a
19	Mr. Kuswaya	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Coordinator of Agricultural Extension Office, Sukabumi City	same as left	n/a
20	Mr. Mamad Nano	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Agricultural Office, Cianjur District	same as left	n/a
21	Mr. Rieza Fauzani	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Fruits and Ornamental Plants Section, Agricultural Office of Garut District	Head of Seasonal Plants and Spices Section, Plantations Division, Agricultural Office, Garut District	January 2019

22	Ms. Renny Yuniasari	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Facility and Protection of Horticulture Plants Section, Agricultural Office of Bandung District	Head of Processing and Marketing of Horticulture Products Section, Agricultural Office, Bandung District	November 2017
23	Ms. Patmawati	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Seedling, Production and Protection of Horticultural Plants Section, Agricultural Office of West Bandung District	Passed away	16 December 2019
24	Mr. Suhendar	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Mujagi Farmer Group, Cianjur District	same as left	n/a
25	Mr. Teten Rustendi	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Cikandang Agro Farmer Group, Garut District	same as left	n/a
26	Mr. Wilarto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Gerbang Emans Farmer Group, West Bandung District	same as left	n/a
27	Ms. Irma Siregar	21 October - 2 November 2018	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Section of Fruits and Floriculture Pest and Disease Controlling Facilities, Directorate of Horticulture Protection, DGoH	same as left	n/a
28	Mr. Aprizal	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Plants Seeds Supervisor, Seed Certification Section, Sub-Directorate of Seed Quality Control, Directorate of Horticulture Seedling, DGoH	same as left	n/a
29	Ms. Chakrawati	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Post-Harvest of Horticulture Plants Section, Provincial Agricultural Office of West Java	same as left	n/a
30	Mr. Robert	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Division of Food Crop and Horticulture, Agricultural Office of Bogor City	Pension	01 January 2019
31	Mr. Deni Ruslan	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Production Section, Agricultural Office of Sukabumi District	same as left	n/a
32	Mr. Iwan Setiawan Asep	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Division of Agribusiness and Extension, Agricultural Office of Cianjur District	Secretary, Agricultural Office of Cianjur District	19 November 2019
33	Mr. Deni Herdiana	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Division, Agricultural Office of Garut District	Head of Resources Division, Agricultural Office of Garut District	22 February 2019

34	Mr. Jumhana	Ditto	Ditto	Ditto	Ditto	Ditto	Head of Horticulture Division, Agricultural Office of Bandung District	same as left	n/a
35	Mr. Wiwin Darwin	Ditto	Ditto	Ditto	Ditto	Ditto	Coordinator of Extension Worker, Agricultural Extension Office Lembang, Agricultural Office of West Bandung District	same as left	n/a
36	Mr. Dede Supria	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Tunas Tani Pangrango Farmers Group, Bogor District	same as left	n/a
37	Mr. Amin Hermawan	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Pandan Arum Farmers Group, Sukabumi District	same as left	n/a
38	Mr. Acep Sofyan Hadi	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Saluyu Farmers Group, Cianjur District	same as left	n/a
39	Mr. Ucu Sumiarsa	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Barokah Karunia Tani Farmers Group, Garut District	same as left	n/a
40	Ms. Riswati Wahyuni	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Hataki Farmers Group, Bandung District	same as left	n/a
41	Mr. Muhamad Taufik	Ditto	Ditto	Ditto	Ditto	Ditto	Leader of Sinar Mukti Farmers Group, West Bandung District	same as left	n/a



**ANNEX V List of Equipment**

No.	Purpose of Use	Arrival Date	Name of Machinery	Product No.	Maker	Price (IDR)	Installation Place	Procurement Place
1	To enhancing function of STA in Sukabumi	05 April 2017	Wrapping Machine (2 Unit)	HW-450	PT. WIJAYAMAS TEKNINDO	2,200,000	Sukabumi STA	Indonesia
2	To enhancing function of STA in Sukabumi	05 April 2017	Digital Weight Scale (2 Unit)	KK-SW1	PT. Kenko Elektrik Indonesia	3,500,000	Ditto	Indonesia
3	To enhancing function of STA in Sukabumi	10 April 2017	Analog Weight Scale (1 Unit)	TERA 06-581	Krisbow	2,659,000	Ditto	Indonesia
4	To enhancing function of STA in Sukabumi	05 April 2017	Water Tank (1 Unit)	TB 110	Penguin	2,200,000	Ditto	Indonesia
5	To enhancing function of STA in Sukabumi	05 April 2017	Plastic Container (30 Unit)	2210L	Green Leaf	6,000,000	Ditto	Indonesia
6	To enhancing function of STA in Sukabumi	05 April 2017	Chairs (6 Unit)	n/a	Green Leaf	540,000	Ditto	Indonesia
7	To enhancing function of STA in Sukabumi	05 April 2017	Stainless Sink	SS304	Jaya Stainless	4,850,000	Ditto	Indonesia
8	To enhancing function of STA in Sukabumi	05 April 2017	Stainless Table (2 Unit)	SS 201 HL	CV. BENUA TEHNIK	7,500,000	Ditto	Indonesia
9	To wash root fruits (especially carrot) for improving quality of products	03 September 2018	Fruit & Vegetable Washer, Brush Roller Root Fruit Washer/Peeler	QX-608	Getra	68,200,000	Taman Teknologi Pertanian (TPP), Garut District	Indonesia
10	To sort washed carrot for improving quality of products	03 September 2018	Small Container (50 Unit)	2212L	Greenleaf	5,500,000	Ditto	Indonesia
11	To sort washed carrot for improving quality of products	03 September 2018	Large Container (30 Unit)	2210L	Greenleaf	6,600,000	Ditto	Indonesia
12	To wash root fruits (especially carrot) for improving quality of products	22 February 2019	Fruit & Vegetable Washer, Brush Roller Root Fruit Washer/Peeler	QX-608	Getra	70,400,000	Pondok Pesantren Al-Ittifaq, Bandung District	Indonesia
13	To wash root fruits (especially carrot) for improving quality of products	28 November 2019	Fruit & Vegetable Washer, Brush Roller Root Fruit Washer/Peeler	QX-608	Getra	71,500,000	Tani Multi Tani Jaya Giri Association (Mujagi), Cianjur District	Indonesia
<b>Summary</b>						<b>251,649,000</b>		

**ANNEX VI Budget for Operational Cost on the Japanese Side**

No.	Year	Unit	Jan. -Dec. 2016	Jan. -Dec. 2017	Jan. -Dec. 2018	Jan. -Dec. 2019	Jan. -Dec. 2020	Total Amount
1	Local Cost including renovation of building and procurement of equipment	IDR	1,164,343,000	2,569,482,000	2,147,165,000	2,446,841,000	-	8,327,831,000
		JPY	-	14,414,000	7,812,000	9,381,000	-	31,607,000
		USD	-	-	-	-	-	-
2	JICA Owned Equipment Cost	IDR	-	-	-	70,400,000	71,500,000	141,900,000
		JPY	-	-	-	-	-	-
		USD	-	-	-	-	-	-
3	Handover Equipment	IDR	-	29,449,000	80,300,000	-	-	109,749,000
		JPY	-	-	-	-	-	-
		USD	-	-	-	-	-	-
4	<b>TOTAL</b>	IDR	1,164,343,000	2,598,931,000	2,227,465,000	2,517,241,000	71,500,000	8,579,480,000
		JPY	-	14,414,000	7,812,000	9,381,000	-	31,607,000
		USD	-	-	-	-	-	-

ANNEX VIII List of Assigned Counterpart Personnel

No.	Institution	Name	Position	Area of Speciality	Assigned Period	Name of Expert in Charge	From	To
<b>Directorate General of Horticulture</b>								
1	Directorate General of Horticulture	Dr. F. Rihasto Selyanto, M.Sc.	General Director	Management	July 2019 - Present	Nishimura, Mori, Shimizu, Suenaga	April 2017	Present
2	Secretariat of DG of Horticulture	I. Pr. Likat, Sile Utami, M.Sc.	Executive Secretary	Management	March 2018 - June 2020	Nishimura, Mori, Shimizu, Suenaga	1991	June 2020
3	Secretariat of DG of Horticulture	Dr. F. Rihasto Selyanto, M.Sc.	Executive Secretary	Management	June 2020 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2020	Present
4	Secretariat of DG of Horticulture	Armed Widodo Heru	Head of Plan Division	Activity Planning	March 2017 - Present	Nishimura, Mori, Shimizu, Suenaga	March 1991	Present
5	Secretariat of DG of Horticulture	Novida Sri Juandah, STP, M.A, M.SE	Head of Sub-Division of Cooperation, Plan Division	Cooperation	23 January 2017 - Present	Nishimura, Mori, Shimizu, Suenaga	December 2003	Present
6	Secretariat of DG of Horticulture	Rico Sempajani, S.P., M.P.	Head of Sub-Division of Cooperation, Plan Division	Cooperation	18 August 2020 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2018	Present
7	Secretariat of DG of Horticulture	Nesyahta Rolles	Staff, Sub-Division of Cooperation, Plan Division	Cooperation	2016 - Present	Nishimura, Mori, Shimizu, Suenaga	May 2010	Present
8	Secretariat of DG of Horticulture	Sinda	Staff, Sub-Division of Cooperation, Plan Division	Cooperation	2016 - Present	Nishimura, Mori, Shimizu, Suenaga	2009	Present
9	Directorate of Processing and Marketing of Horticulture Product	I. Yasid Taufik, IM	Director	Management	2016 - Present	Nishimura, Mori, Shimizu, Suenaga	March 2015	Present
10	Directorate of Processing and Marketing of Horticulture Product	I. Bambang Sugianto, M.Eng.Sc.	Director	Management	June 2020 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2020	Present
11	Directorate of Vegetables and Medicinal Plants	I. Tommy Nugraha, MM	Director	Management	June 2020 - Present	Nishimura, Mori, Shimizu, Suenaga	1993	Present
12	Directorate of Processing and Marketing of Horticulture Product	I. Andi Anida Mursugangan, M.Sc.	Deputy Director for Marketing and Investment of Horticulture Products	Marketing, Investment	13 March 2019 - Present	Nishimura, Mori, Shimizu, Suenaga	January 2016	Present
13	Directorate of Processing and Marketing of Horticulture Product	Yuliasud Purwaningsih	Head of Sub-Division of Marketing and Investment	Marketing, Investment	2016 - 6 June 2019	Nishimura, Mori, Shimizu, Suenaga	January 2016	Present
14	Directorate of Processing and Marketing of Horticulture Product	Nurhayati	Head of Investment Section, Sub-Division of Marketing and Investment	Investment	5 June 2018 - Present	Nishimura, Mori, Shimizu, Suenaga	1995	Present
15	Directorate of Horticulture Seeding	Fitri Hendra Budianti	Head of Seed Certification Section, Sub-Division of Seed Quality Control	Quality control and certification for seed	13 March 2019 - Present	Nishimura, Mori, Shimizu, Suenaga	December 2003	Present
16	Directorate of Horticulture Seeding	Aprial	Plant Seed Supervisor, Seed Certification Section, Sub-Division of Seed Quality Control	Quality control and certification for seed	1 September 2016 - Present	Nishimura, Mori, Shimizu, Suenaga	September 2016	Present
17	Directorate of Horticulture Seeding	Yudi	General Functional, Seed Certification Section, Sub-Division of Seed Quality Control	Quality control and certification for seed	2019 - Present	Nishimura, Mori, Shimizu, Suenaga	April 2011	Present
18	Directorate of Horticulture Protection	Irene Singar	Head of Section of Fruits and Horticulture Pest and Disease Controlling Facilities, Sub-Division of Fruits and Horticulture Pest and Disease Controlling	Plant pests and disease control	2016 - Present	Mori, Yamazaki	1996	Present
19	Directorate of Vegetables and Medicinal Plants	Mullars Sari	Head of Shaliki and Tuber Vegetable Area Development Section, Sub-Division of Shaliki and Tuber Vegetables	Production area formation	2016 - 2018	Nishimura, Mori, Shimizu, Mori, Tanaka	January 2005	Present
20	Directorate of Vegetables and Medicinal Plants	Fajar Anggrani	Technical Staff, Shaliki and Tuber Vegetable Area Development Section, Sub-Division of Shaliki and Tuber Vegetables	Production area formation	2016 - Present	Nishimura, Mori, Shimizu, Mori, Tanaka, Yamazaki	2003	Present
21	Directorate of Vegetables and Medicinal Plants	Hani Sultri	Head of Section of Technology Application for Medicinal Plants and Empowerment, Sub-Division of Medicinal Plants	Cultivation technology (medicinal plants)	2016 - Present	Mori, Tanaka, Yamazaki	1995	Present
22	Directorate of Vegetables and Medicinal Plants	Akma	Staff for Potential Data Provider	Data analysis	2016 - Present	Shimizu, Yoneyama, Suenaga	January 2005	Present
23	Directorate of Fruits and Floriculture	Dina Rosita	Staff, Sub-Division of Citrus, Shrub and Trees	Cultivation technology (perennial fruits)	2016 - Present	Mori, Tanaka, Yamazaki	April 2006	Present
24	Directorate of Fruits and Floriculture	Okia Aulen	Analyst for Agriculture Cultivation Policy	Data analysis	2016 - Present	Shimizu, Yoneyama, Suenaga	2000	Present
25	Provincial Agricultural Office of West Java	Henry Jatika	Head of Office	Management	29 December 2016 - Present	Nishimura, Mori, Shimizu, Suenaga	June 2016	Present
26	Provincial Agricultural Office of West Java	Lita Istantingih	Head of Horticulture Division	Management	July 2019 - Present	Nishimura, Mori, Shimizu, Suenaga	July 2019	Present
27	Provincial Agricultural Office of West Java	Hendriyati	Head of Fruits and Ornamental Plants Section	Cultivation technology (fruit and horticulture)	20 February 2018 - Present	Mori, Tanaka, Yamazaki	2011	Present
28	Provincial Agricultural Office of West Java	Chakrawati	Head of Post-Harvest of Horticulture Plants Section	Post-harvest	20 February 2018 - Present	Mori, Yamazaki	April 1990	Present
29	Food Security and Agricultural Office, Bogor City	Robert	Head of Business Development of Food Crops and Horticulture Products Management Division	Business development	2016 - December 2019	Nishimura, Mori, Shimizu, Mori, Yoneyama, Suenaga	1984	December 2019
30	Food Security and Agricultural Office, Bogor City	H. Dito Herdawan	Division Head, Food Crops and Horticulture		August 2020 - Present		2019	Present
31	Food Security and Agricultural Office, Bogor City	Karlita	Staff Food Crops and Horticulture Division	Food security	2016 - Present	Nishimura, Mori, Tanaka, Yamazaki, Suenaga	September 2014	Present

32	Food Security and Agricultural Office, Bogor City	Hasen	Head of Processing and Marketing of Agriculture Products Division	Processing and marketing	February 2018 - 2 January 2020	Nishimura, Mori, Shimizu, Suewaga	February 2018	Present
33	Food Crops, Horticulture, and Plantations Office, Bogor District	Siti Nurkasya	Head of Office	Management	2016 - Present	Mahmura, Mori, Shimizu, Suewaga	2013	Present
34	Food Crops, Horticulture, and Plantations Office, Bogor District	Ida Shidwiningih	Head of Horticulture Division	Cultivation technology	31 December 2016 - Present	Mori, Tanaka, Yamazaki	October 1991	Present
35	Agricultural Office, Cianjur District	Marned Neno	Head of Office	Management	17 December 2016 - Present	Mahmura, Mori, Shimizu, Suewaga	December 2016	Present
36	Agricultural Office, Cianjur District	Irem Solizwan	Secretary	Management	January 2017 - Present	Mahmura, Mori, Shimizu, Suewaga	January 2017	Present
37	Agricultural Office, Cianjur District	Nard Helmi	Head of Horticulture Division	Cultivation technology	21 November 2019 - Present	Mori, Yamazaki	1998	Present
38	Agricultural Office, Cianjur District	Nurdyan	Head of Agribusiness and Extension Division	Business development	21 November 2019 - Present	Nishimura, Shimizu, Mori, Yonoyama, Suewaga	July 2019	Present
39	Agricultural Office, Cianjur District	U. Supriyana Hasan	Head of Horticulture Division	Cultivation technology, Business development	2016 - November 2019	Mori, Tanaka, Yamazaki, Nishimura, Mori, Shimizu, Yonoyama, Suewaga	March 2014	November 2019
40	Food Security, Agriculture and Fisheries Office, Sukabumi City	Kantina Karozadi	Head of Office	Management	2016 - Present	Nishimura, Mori, Shimizu, Suewaga	July 2010	Present
41	Food Security, Agriculture and Fisheries Office, Sukabumi City	Dr. Andi Setawan, MM.	Head of Office	Management	5 February 2020 - Present	Mori, Yamazaki	5 February 2020	Present
42	Food Security, Agriculture and Fisheries Office, Sukabumi City	Riki Annuliah	Head of Food Crop, Horticulture, and Plantation Production Section	Cultivation technology	1 October 2019 - Present	Mori, Yamazaki	January 2009	Present
43	Food Security, Agriculture and Fisheries Office, Sukabumi City	Fendi Rahayu	Junior Extension Worker for Agriculture	Cultivation technology	2016 - Present	Mori, Tanaka, Yamazaki	2006	Present
44	Food Security, Agriculture and Fisheries Office, Sukabumi City	Kurweya	Senior Extension Worker for Agriculture/Coordinator of Extension Worker	Cultivation technology, Business development	2016 - Present	Mori, Tanaka, Yamazaki, Nishimura, Mori, Shimizu, Yonoyama, Suewaga	November 1987	Present
45	Agricultural Office, Subang District	Deni Ruslan	Head of Horticulture Division	Cultivation technology	27 December 2016 - Present	Mori, Tanaka, Yamazaki	January 2005	Present
46	Agricultural Office, Garut District	Beti Yoga Gunasantiika	Head of Office	Management	8 February 2019 - Present	Nishimura, Mori, Shimizu, Suewaga	1998	Present
47	Agricultural Office, Garut District	Deni Hardiana	Head of Horticulture Division	Cultivation technology	2016 - 22 February 2019	Mori, Tanaka	August 2005	Present
48	Agricultural Office, Garut District	Rahmat Jhanka	Head of Horticulture Division	Cultivation technology	22 February 2019 - Present	Mori, Tanaka, Yamazaki	2006	Present
49	Agricultural Office, Garut District	Tiana	Head of Post-Harvest, Processing and Marketing of Horticulture Products Section	Post-harvest, Processing and marketing	1 January 2017 - Present	Mahmura, Mori, Shimizu, Mori, Tanaka, Suewaga	2009	Present
50	Agricultural Office, West Bandung District	Isa Muhandis	Head of Office	Management	2016 - 31 December 2019	Nishimura, Mori, Shimizu, Suewaga	2019	Present
51	Agricultural Office, West Bandung District	Nero Budi Purnomo	Head of Office	Management	1 January 2020 - Present			Present
52	Agricultural Office, West Bandung District	Muhammad Fathil Kamaludin	Head of Horticulture Division	Agriculture	July 2020 - Present		July 2020	Present
53	Agricultural Office, West Bandung District	Pahawati	Head of Vegetable Production Section	Cultivation technology	2017 - 16 December 2019	Mori, Tanaka	1998	December 2019
54	Agricultural Office, West Bandung District	icri	Head of Horticulture Seedlings, Protection and Production Section	Agriculture	January 2020 - Present		June 2012	Present
55	Agriculture, Fishery & Forestry Extension Worker Agency (BP2A), West Bandung District	Winda Dandi	Coordinator of Extension Workers for Lembang Sub-district	Cultivation technology	25 December 2017 - Present	Mori, Tanaka, Yamazaki	January 2009	Present
56	Worker Agency (BP2A), West Bandung District	Mia	Coordinator of Extension Workers for Cisaras Sub-district	Business development	1 January 2018 - Present	Nishimura, Shimizu, Mori, Yonoyama, Suewaga	August 2012	Present
57	Agricultural Office, Bandung District	Tiana Urwan	Head of Office	Management	2016 - Present	Mahmura, Mori, Shimizu, Suewaga	June 1905	Present
58	Agricultural Office, Bandung District	Jurnama	Head of Horticulture Division	Cultivation technology	2017 - 2020	Mori, Tanaka, Yamazaki	1992	2020
59	Agricultural Office, Bandung District	Renny Yuliasari	Head of Processing and Marketing of Horticulture Products Section	Processing and marketing	2017 - Present	Mahmura, Mori, Shimizu, Suewaga	2000	Present

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**ANNEX VIII Budget for Operational Cost on the Indonesian Side**

No.	Date	Item	Location	Cost (IDR)
1	21 April 2016	1st JCC	Bogor	149,000,000.00
2	25 October 2016	2nd JCC	Bogor	242,200,000.00
3	12 December 2017	3rd JCC	Bogor	148,800,000.00
4	13 December 2018	4th JCC	Bogor	147,044,000.00
5	12 September 2019	5th JCC	Bogor	100,000,000.00





